

'Challenges of DSM'

**What societal challenges
especially in developing countries and on small islands?**

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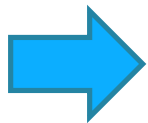
- CNRT -

National Centre for Technological Research

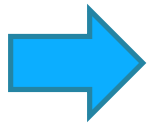
Agency for Applied Research & Technological Development
dedicated to Mining Sector

overall mission: promoting the rational use of mineral resources while respecting the exceptional natural heritage and human environment of New Caledonia

« *Better knowledge, better mining and less impact* »



interface between **public authorities**, **research agencies** & **professionals** in mining and metallurgy



platform for discussion, sharing resources and disseminating knowledge between the various mining sector stakeholders in NC

GIP
Public-Private funds

1/3 Mining companies
1/3 NC institutions
1/3 French State

Means

Pooling financial, logistic and human (research task force) means for the development of applied research and technological programs related to the **natural environment**, **technology** and the **social environment**

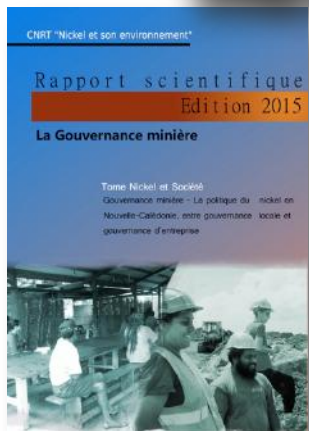
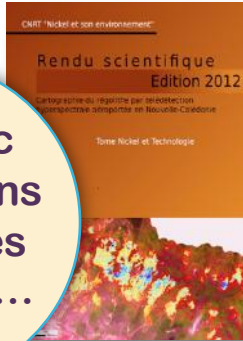
Fill the
Knowledge
Gaps

Improve Tools
& Practices

Share/
Disseminate
Information/
Knowledge

Increase
Competitivity
Reduce Negative
Effects

Scientific publications
Guidelines
Trainings...



Ni & Technology

Improve knowledge, initiate innovative techniques & methods for exploration and exploitation of raw materials to optimize the development of mineral resources in NC and increase productivity

Ni & Environment

Promote biodiversity & natural heritage conservation, improve methods & practices for env. monitoring, ecological restoration of sites, remediation of damaged areas

Air Water Biodiversity

Ni & Society

Investigate Inter-relations between local communities and mining companies, societal changes and adaptive strategies, conditions for a better project acceptability, increase corporate social responsibility and social innovations

Economy - Health – Sociology

Geological mapping 2D-3D

Mineral resource (Ni and others)

Mining technology

Natural environment

Environmental quality and monitoring of impacts

Offsets programs (residual impacts and biodiversity damages)

Biodiversity conservation

Technics and practices for Remediation and Ecological Restoration

Physical environment

Mining watersheds / solid transport & silting
Surface & underground fresh waters

Risk assessment for human health (Asbestos and Metals)

Climate Change - Mitigation CO2 capture and storage

Societal Interactions and innovation /Social
Corporate Responsibility Economy



PACE-Net Plus Think Tank
Auckland, December 2014

‘Reconciling mining and the sustainable development in the Pacific countries’

The Association
of Commonwealth
Universities



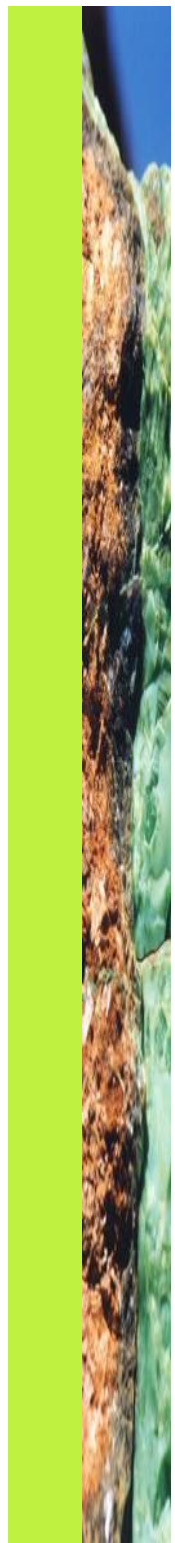
SPC
Secretariat
of the Pacific
Community



CPS
Secrétariat général
de la Communauté
du Pacifique



- **60 experts** (scientists, senior gov officers, lawyers, policy makers, industry, CSO representatives...) **from Pacific countries** (Australia, Fiji, Cook Islands, Solomon Islands, New Caledonia, Federated States of Micronesia, New Zealand, Papua New Guinea, Samoa, Tonga), **Europe** (Germany, France) **& Canada.**
- 2 seed-funding projects (bi-regional teams):
 - *“Risk assessment tools for the better management of ecosystems for the deep sea”*
 - *“Pacific center for social responsibility and natural resources” (PACSen)*



DSM IN A PACIFIC CONTEXT

Renewed interest in DSM

- 1st commercial SMS mining venture should start in PNG in **2018**
- Several DSM exploration licenses granted by other P-SIDS
- And other P-SIDS actively seeking foreign investment in this new industry

2013 : exploration contracts signed, or pending signature, for about **1,843,350 km²** of the global seabed (@Jhein)

Half signed by coastal States relating to operations in their respective **EEZs**

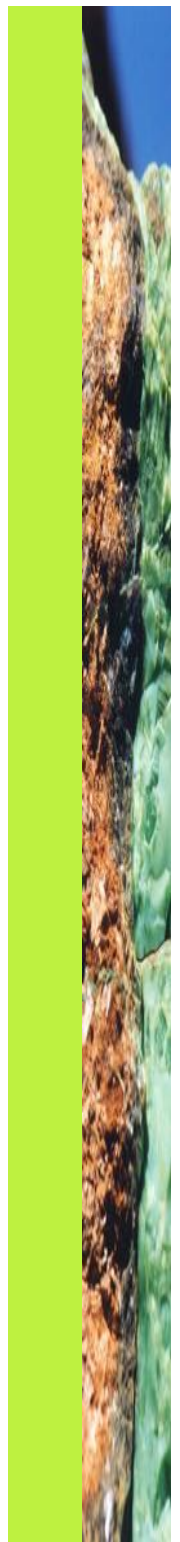
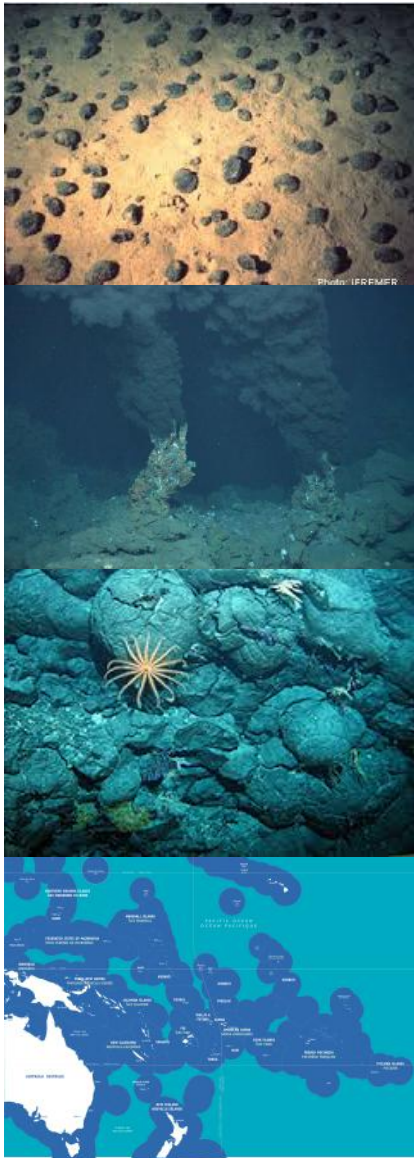
Most of these are P-SIDS

Opportunity to support their economic growth & development

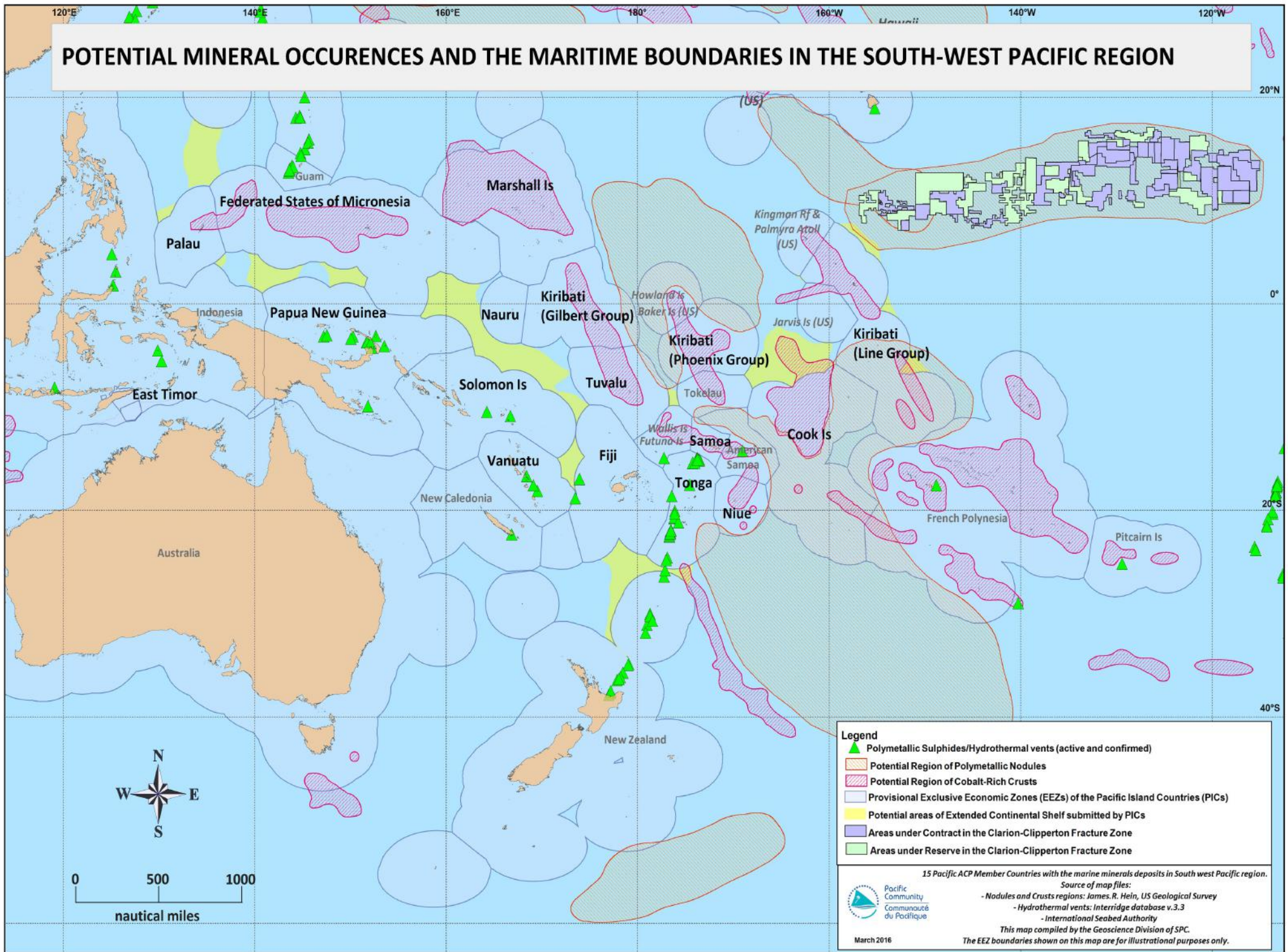
Strengthen self-reliance & limit their dependence on foreign development aid

Regional Political commitment: long-term economic sustainability & social development

- 1999: *Madang Guidelines*
- 2012: Pacific Leaders Forum Communiqué
- 2014: 3rd SIDS Conference – *SAMOA Pathway* (par.53)
- 2015: SDGs (SDG 14)



















POTENTIAL MINERAL OCCURENCES AND THE MARITIME BOUNDARIES IN THE SOUTH-WEST PACIFIC REGION



Legend

- ▲ Polymetallic Sulphides/Hydrothermal vents (active and confirmed)
- Potential Region of Polymetallic Nodules
- Potential Region of Cobalt-Rich Crusts
- Provisional Exclusive Economic Zones (EEZs) of the Pacific Island Countries (PICs)
- Potential areas of Extended Continental Shelf submitted by PICs
- Areas under Contract in the Clarion-Clipperton Fracture Zone
- Areas under Reserve in the Clarion-Clipperton Fracture Zone

15 Pacific ACP Member Countries with the marine minerals deposits in South west Pacific region.
 Source of map files:
 - Nodules and Crusts regions: James.R. Hein, US Geological Survey
 - Hydrothermal vents: Interridge database v.3.3
 - International Seabed Authority
 This map compiled by the Geoscience Division of SPC.
 The EEZ boundaries shown on this map are for illustrational purposes only.

Country (15 P-ACPs + 3 OCTs)	DSM potential	EEZ	International Seabed Area
 Cook Islands	MN	✓	✓
 FSM	CRC/SMS		
 Fiji	SMS	✓	-
 French Polynesia	SMS/MN/CRC	✓	-
 Kiribati	MN/CRC	✓	✓
 RMI	CRC		
 Nauru	-		✓
 New Caledonia	SMS		-
 Niue	CRC		
 Palau	CRC/Phosphate/SMS/(MN)		
 PNG	SMS	✓	
 Samoa	-		
 Solomon Is.	SMS	✓	
 Timor Leste	(MN)		
 Tonga	SMS	✓	✓
 Tuvalu	MN/SMS	✓	
Vanuatu	SMS	✓	
Wallis & Futuna	SMS/CRC	✓	-

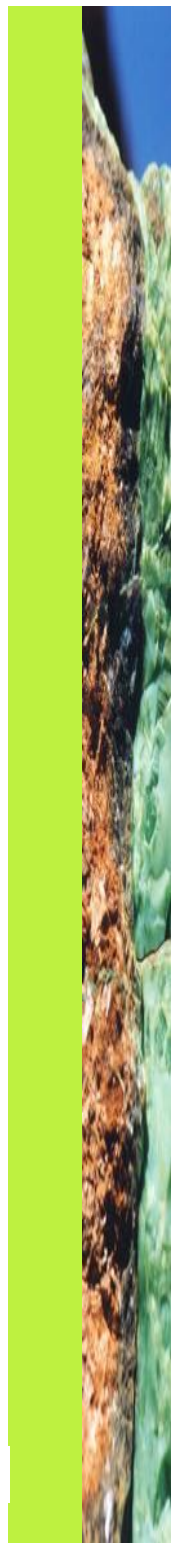
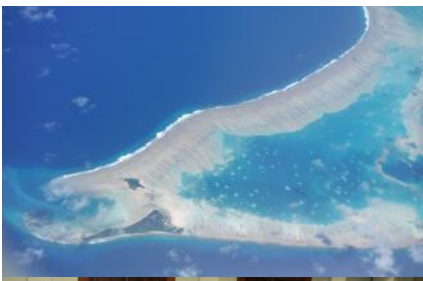
WHAT SOCIETAL CHALLENGES?

1. Suboptimal national governance systems

- Lack of adequate regulatory frameworks in place
- Political instability
- Limited enforcement capacities
- Insufficient transparency
- Weak public revenue management systems

2. Weak institutional capacity

- Lack of training & equipment to support environmental monitoring, compliance, law enforcement
- Weak capacity to negotiate efficiently with mining companies
- Need for financial mechanisms to assure offsets, decommissioning & “after mining” in local economies
- Migration of skilled personnel to Rim countries
- No retention planning to reduce ‘brain drain’ & migration of skilled personnel
- Lack of MSR programmes involving Pacific islanders



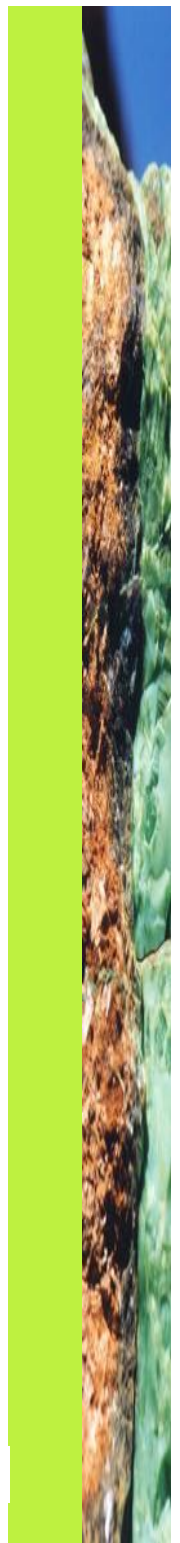


3. Magnitude of the environmental risks

- Further surveys required to better assess DSM potentials
- Additional research needed to understand ecosystems, potential consequences and impacts of DSM activities on competing activities (fisheries, tourism, bioprospecting etc.)
- Shared regional database for natural & human environment
- Specific ecological risk assessment framework (approach, methods and tools) for DSM activities needed

4. Interference with significant cultural values

- Cultural concerns & values at stake
- Lack/weak early project disclosure & public consultation with traditional leaders/local communities
- Lack of integration of communities into the decision-making process during the entire life-cycle of mines (from exploration to mine closure)
- Low public awareness & access to information



CONCLUDING REMARKS – WHERE TO FROM HERE ? –

To provide an environment
that is enabling for the
standards expected by the
industry

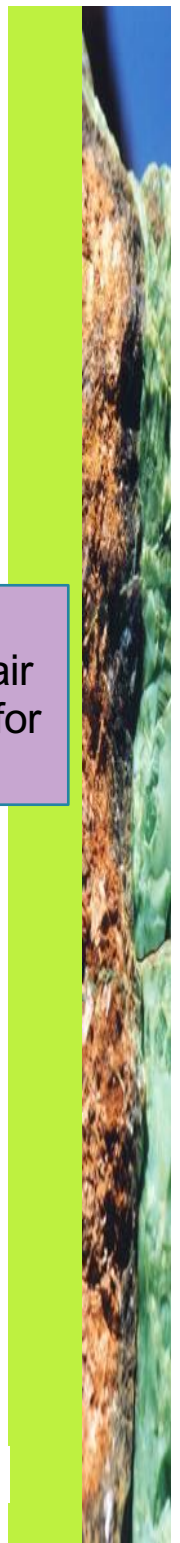
**Strengthening
institutions
&
regulatory
frameworks**
(including for MSR)

To obtain 'social
license' & ensure fair
sharing of benefits for
all citizens

**Expanding
capacity-building
programs
&
training
opportunities**

**Increasing public
participation
&
ensuring
transparency**

To empower
nationals & develop
triangular/South-
South cooperation



Thank you for your attention
Questions ?

