



**SPC**  
Secretariat  
of the Pacific  
Community

Applied Geoscience and Technology Division (SOPAC)

**SPC-EU EDF10 Deep Sea Minerals Project  
Proceedings of the Solomon Islands National Deep Sea  
Minerals Stakeholder Consultation Workshop,  
Horticulture Centre Conference Room, Hyundai Mall,  
Honiara, Solomon Islands  
23 May 2012**



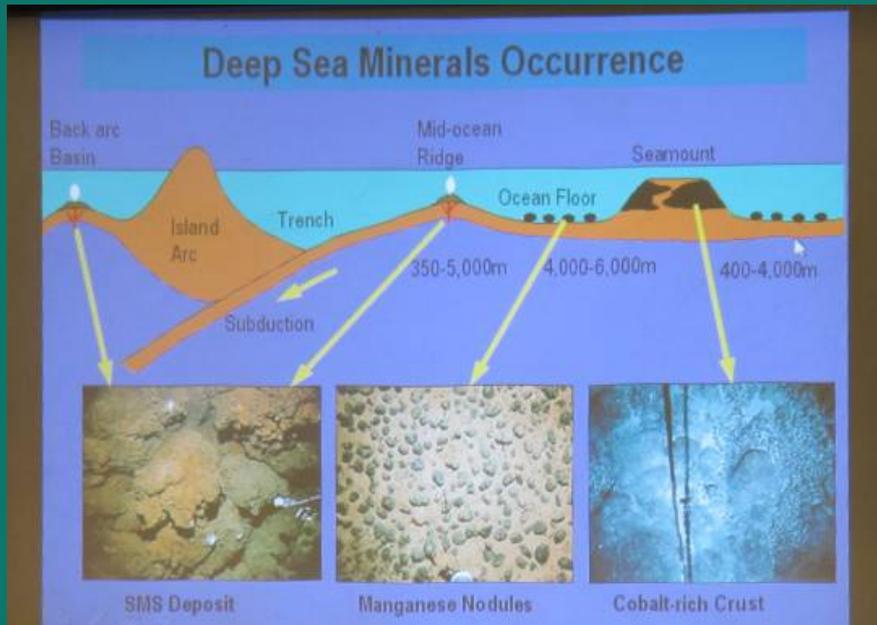
January 2013

## **SOPAC WORKSHOP REPORT (PR151)**

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A slide from Mr Tawake's presentation about the Pacific's deep sea minerals potential

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## CONTENTS

EXECUTIVE SUMMARY .....	4
ACKNOWLEDGEMENTS .....	5
1. INTRODUCTION .....	5
1.1 Participants of the Workshop .....	6
1.2 Objectives of the Workshop .....	6
2. RECORD OF THE WORKSHOP PROCEEDINGS	
2.1 Workshop Introduction.....	6
2.2 Workshop Opening .....	7
2.3 Response to Opening .....	7
2.4 Remarks from the EU .....	9
2.5 Presentations and Discussions .....	9
3. WORKING GROUPS.....	18
3.1 Outcomes of Working Group 1: Law and Policy .....	18
3.2 Outcomes of Working Group 2: Technical Issues .....	21
4. CLOSING OF WORKSHOP .....	23
ATTACHMENTS	
1 Programme.....	24
2 Participants .....	26

## EXECUTIVE SUMMARY

The Solomon Islands National Stakeholder Consultation Workshop on Deep Sea Minerals (DSM) was hosted by the SPC-EU EDF10 Deep Sea Minerals Project (DSM Project) at the Hyundai Mall Conference Centre on the 23<sup>rd</sup> of May 2012. In attendance were representatives from various government departments, the private sector, international agencies, the media, and national civil society.

The workshop was organized to present the Project to in-country stakeholders and collectively discuss national priorities in relation to DSM issues. It provided an opportunity to discuss next steps for the Solomon Islands to be fully prepared for any future engagement with DSM operations within its waters.

The workshop aligned with the DSM Project's aim to encourage a stakeholder participatory approach: to keep in-country stakeholders informed, to disseminate sound technical and policy advice, and to provide a forum at which all voices can be heard. The Project provided copies to workshop attendees of its six information brochures, developed to inform Pacific Island countries about minerals and mining issues, and DSM specifically. Attendees were advised that a Solomon Islands-specific brochure based on previous seabed minerals scientific research and exploration in the Solomon Islands will be prepared. Information known about those deposits was also presented at the workshop. The workshop discussed the necessary development of a regional DSM legislative and regulatory framework. Capacity building requirements and how to operate effective environmental monitoring were also key issues covered.



**The six information brochures produced by the DSM Project**

The workshop was opened by the Permanent Secretary of the Ministry of Mines, Energy and Rural Electrification and the SPC responding remarks were delivered by the Coordinator of the Solomon Islands Country Office. Presentations were delivered by the DSM Project Team Leader, Solomon Islands' Deputy Director of the Mines Division, a representative from Nautilus Minerals (an exploration company who hold licences to prospect for DSM in Solomon Islands' Exclusive Economic Zone), and the DSM Project Legal Advisor. Topics covered included an overview of the Project, and DSM in the Pacific, Solomon Islands' DSM potential, the perspective and experiences of an exploration company working in the region, and international legal requirements.

In the afternoon, participants divided into two groups for the second half of the workshop: a technical working group, and a policy working group. A lively discussion session took place in each group, who then presented in plenary the outcomes of their discussions for consideration and further deliberations.

Four key action points were agreed by the workshop

- (1) The creation of a national DSM policy.
- (2) A review of existing legislation, in conjunction with the current World Bank funded review of the Minerals and Mining Act, and including environmental legislation to check that DSM is appropriately covered.

- (3) Identification of, and participation in, capacity-building initiatives.
- (4) The establishment of a NOMC to work with the DSM Project on these matters; and MMERE to take this, and the appointment of a suitable technical focal point for the DSM project, forward and to advise the DSM Project accordingly.

The DSM Project's assistance with these action points (1)-(3) was requested, and the DSM Project's funding for the establishment and operation of the NOMC was acknowledged.

These agreed outcomes of the workshop will form the basis of the DSM Project's future intervention in Solomon Islands.

## **ACKNOWLEDGEMENTS**

The workshop was funded by the European Union (EU) through the SPC-EU EDF10 DSM Project. Much gratitude is extended to Hefford Panapio and Joseph Ishmael of the Mines Division, and Mia Rimon of SPC for their assistance prior to and during the workshop.

The Project also wishes to acknowledge all the attendees for their active involvement throughout the workshop. The participation of Mr Paul Lahari of Nautilus Minerals and Mr Peter Auga (Director of Mines) is especially gratefully acknowledged.

## **1. INTRODUCTION**

Previous marine scientific research and offshore mineral exploration conducted within the Exclusive Economic Zones (EEZ) of Pacific Island states have confirmed variable potential of mineral occurrence. The high global demand for metals coupled with recent discovery of high grade Seafloor Massive Sulphide (SMS) deposits in Papua New Guinea have led to the recent upsurge in offshore minerals exploration within the jurisdiction of Pacific Island countries, and several other Pacific Islands, including Solomon Islands, have granted licences for exploration within their EEZ. In 2011 Tonga and Nauru also became the first 'developing states' to sponsor commercial entities to explore in the seabed beyond national jurisdiction ('the Area').

Surveys conducted in Solomon Islands over the past 30-40 years identified hydrothermal vent systems with potential for SMS deposits. DSM Exploration Licences for tenements on Solomon Islands' Continental Shelf have been issued by the Solomon Islands' Government, under existing mining legislation.

Due to the lack of specific policy, legislation and regulations for the governance of DSM resources in many Pacific states, the DSM Project, in consultation with the participating countries of the Project and a broad range of stakeholders, is developing a regional legislative and regulatory framework, from which national offshore minerals policy, legislation and regulations can be developed.

## 1.1 Participants of the Workshop

The DSM Project gives particular emphasis to in-country stakeholder participation in developing this new industry. The Solomon Islands National DSM workshop was held to bring together key stakeholders in Solomon Islands to discuss the challenges and the benefits of Solomon Islands' potential engagement with the exploration or mining of DSM. This one-day workshop was held at the Conference Centre in the Hyundai Mall on Wednesday 23<sup>rd</sup> May 2012. A range of stakeholders were invited to the workshop. A group photo of participants is shown on the cover page of this report. A full list of participants is attached as Attachment 2.

## 1.2 Objectives of the Workshop

The objectives of the Solomon Islands national stakeholder consultation workshop were to:

- Identify key in-country stakeholders and present the DSM project;
- Discuss various issues and concerns relating to DSM and mining;
- Determine the needs and priorities of Solomon Islands in terms of policy and legislation development, capacity building and other DSM related issues;
- Provide the necessary guidance for the implementation of the DSM Project in Solomon Islands;
- Discuss collaboration with key stakeholders (e.g. government agencies and NGOs), and form a steering committee or other mechanism, to involve all interested parties in project activities in Solomon Islands;
- Identify in-country technical focal point for the DSM Project;
- Obtain from stakeholders answers to the DSM Project's questionnaire to assist the Project staff better understand the situation in Solomon Islands; and
- Disseminate DSM Project information brochures to stakeholders.

## 2. RECORD OF THE WORKSHOP PROCEEDINGS

### 2.1 Workshop Introduction by Mr Peter Auga, Director of Mines

Mr Peter Auga, Director of Mines, within the Ministry of Mines, Energy and Rural Electrification (MMERE) commenced the day by welcoming participants to the Solomon Islands DSM Stakeholder Consultation Workshop. He acknowledged the DSM Project Team, and others who are visiting Honiara for the workshop. He highlighted that it is the first ever workshop to be held in the Solomon Islands on DSM. Participants were encouraged to make the most of the day, to mingle and to ask questions. Mr Auga introduced the Permanent Secretary of MMERE, Mr Rence Sore.



**Mr Peter Auga, Director of Mines**

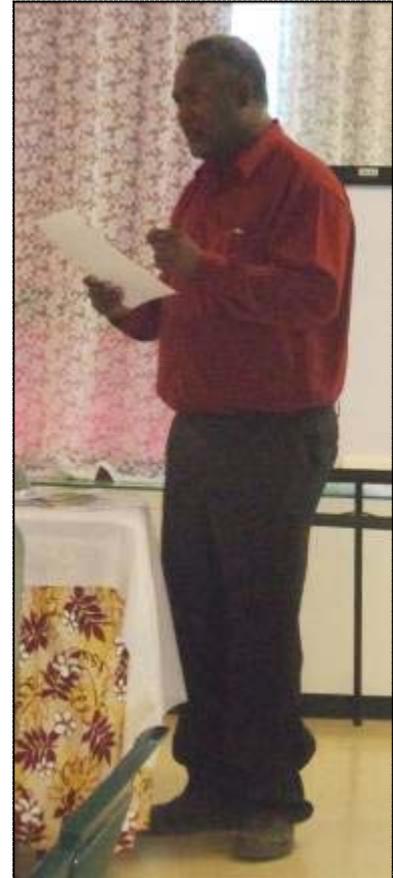
## 2.2 Workshop Opening by Mr. Rence Sore, Permanent Secretary of MMERE

Mr Sore thanked the Director, and welcomed the private sector, government officials, the DSM Project Team and other attendees.

He highlighted that the Solomon Islands has DSM potential, and noted that the DSM Project is assisting participating States to put in place legislative and regulatory framework for DSM. He stated that the Solomon Islands does not yet have that legislative framework, or a policy on DSM, in place; and expressed the hope that through the workshop we will create a way forward for developing Solomon Islands' policy and law for DSM.

Solomon Islands have issued 45 exploration licences within its waters. Owing to the absence of specialised law, those licences were issued under the existing terrestrial mining legislation framework. There is a clear disconnect. Therefore we need to work together to develop the framework of policy, legislation and administrative measures for DSM in Solomon Islands.

The Solomon Islands is pleased to be a member of the DSM Project. Mr Sore described the convening of the workshop as timely. It is important for Solomon Islands to know the importance of its seafloor in terms of mineral resources. This is why the MMERE and the Ministry of Foreign Affairs are working on demarcating the Continental Shelf boundaries with the Solomon Islands' neighbours: Fiji, Vanuatu and PNG. It is important to have the boundaries clarified, as it is on the Continental Shelf where DSM are found and where licences for DSM mining will in the future be sought.



Permanent Secretary Sore

## 2.3 Response by Mrs Mia Rimon, Coordinator of the SPC Solomon Islands Country Office, on behalf of the SPC:



Mia Rimon of SPC

Mrs Rimon acknowledged the Permanent Secretary, senior government officials, the Chargé d'Affaires of the EU representation in the Solomon Islands, and representatives of the media, private sector, and civil society.

Mrs Rimon thanked the Permanent Secretary for his words of encouragement and sound advice in opening the Solomon Islands National Deep Sea Minerals Stakeholder Consultation Workshop. She thanked the Government of the Solomon Islands and in particular the MMERE for collaborating with the Project in organising this workshop. She thanked the EU for the financial assistance that enables SPC to implement the DSM Project in 15 Pacific Islands.

Mrs Rimon highlighted the circumstances surrounding the conception of SPC's DSM Project. Some 40 years ago, interest in seabed minerals in the Pacific Ocean (and investigation of associated biological communities) began; and SOPAC at its inception in 1972 was instrumental in seabed mineral exploration (in collaboration with developed countries) which identified potential DSM deposits in the region. At the time it

was not considered feasible by industry to extract these seabed minerals. There has however been a recent rejuvenation of interest – triggered by rises in metal prices and global increase in demand for metals. New discoveries of high grade precious and base metals in Papua New Guinea and Tonga, coupled with the grant of a mining licence to Nautilus Minerals by PNG last year – and Nautilus’ statement that they will commercially mine DSM by the end of 2013: a world first – has re-ignited global interest and put Pacific in the forefront of this emerging industry.

For the Solomon Islands, DSM exploration was reported to have started in 1975, with interest in precious coral. Metalliferous sediment, phosphate and hydrocarbon deposits were also surveyed in the late 1970s and early 1980s, and manganese nodule potential was also investigated at the same time confirming poor occurrence of nodules due to high land-derived sedimentation. SMS exploration in the Solomon Islands commenced with the 1993 Japanese/SOPAC study in the Woodlark Basin followed by a number of surveys that were conducted by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia in the eastern part of the Solomon Islands in the last decade.

The results of these exploration efforts have indicated the presence of hydrothermal mineralisation that triggered recent interests to further explore SMS deposits within the country’s EEZ. The Solomon Islands is situated in a tectonically active region of the south-west Pacific that creates an environment that is conducive to the formation of various types of metalliferous mineral deposits including SMS. With limited knowledge of deep sea environments and biology, prudent decisions are necessary to ensure that environmental impacts are minimized. Mrs Rimon emphasised that DSM is a very new area, and there are many unknowns. As there is very limited scientific information currently about the potential impact of DSM activities, the precautionary approach must be adopted.

In order to build our knowledge-base in the deep sea environment, and given the very high costs of gathering the relevant data, the role of exploration and mining companies – and partnership working – will be key. Collecting relevant data is technologically challenging and the costs are high. So this work must be carried out in partnership with those who can afford and manage the financial risk.

The DSM Project was initiated by Pacific Island countries, recognizing that a regional and multi-stakeholder, participatory approach is an effective one for developing technical expertise, law and policy for DSM. The SPC through the SOPAC Division (where the DSM Project is situated) is mandated to assist Pacific Island countries in dealing with issues relating to mineral exploration and mining. This regional approach is consistent with the ‘Sustainable Development’ and ‘Governance’ pillars of the Pacific Plan, which intend to strengthen regional cooperation and integration in the development of the minerals sector. Participating countries of the DSM Project are therefore supporting regional partnership, ultimately contributing to this emerging economic development opportunity being realised in the region.

Mrs Rimon, however, cautioned that, while deep sea mining may in the future bring much-needed alternative economic development to countries in the region, we must be careful that we do not create unnecessary fear on one hand, and false hope and expectations on the other to the public. Efforts to date were to *explore* only, rather than to *mine*. Mining projects usually have long gestation periods, and any decision to mine or not to mine hinges on exploration results.

The DSM Project has been actively sharing information with Pacific Islands through media releases, workshops and brochures, and supports a participatory approach. Mrs Rimon looked forward to the outcome of deliberations during the workshop – and hoped that through interactive discussions we will be able collectively to identify an inclusive and precautionary approach in addressing DSM issues.

## **2.4 Remarks by Mr Eoghan Walsh, Chargé d’Affaires of the Solomon Islands Delegation, on behalf of the EU:**

Mr Walsh added a few words of welcome and encouragement. He explained that the EU was happy to be funding the DSM Project in order to assist Pacific Island States to establish equitable systems for exploitation of State-owned natural resources. He emphasised the importance, while developing this important economic resource, of also prioritising environmental responsibility, and the protection of local communities and their livelihoods.

He hoped that the DSM Project may even indirectly serve the interest of EU States, in the event that companies from Europe may one day wish to work in the Pacific to develop DSM resources, and the DSM Project’s work in the region should assist develop a level playing field for that investment. He expressed particular support of the Project’s information-sharing objectives. Transparency and accountability are important for equitable exploitation of DSM. He welcomed the presence of an EITI (Extractive Industries Transparency Initiative) representative at the workshop. He echoed previous speaker’s statements that the gathering of data and conduct of surveys in the deep sea environment is very expensive. Making good use of the data we have, and sharing it with Governments, civil society, and the private sector as much as possible is to be recommended. He wished the DSM Project, and the Solomon Islands, well in its DSM endeavours.

## **2.5 Presentations and Discussions**

All presentations that were delivered during the workshop are available on CD from the Mines Division of the MMERE (contact: Mr Joseph Ishmael).

### **2.5.1 Presentation 1: Overview of the Deep Sea Minerals (DSM) Project**

*Presenter: Akuila Tawake (DSM Project Team Leader)*

Mr Tawake explained in his presentation that a regional approach to DSM had been called for by Pacific Island countries, following the recent upsurge in offshore minerals exploration in the region, and in view of the lack of specific national policy and legislation in place to regulate DSM activities. He explained that, following the submission of a concept note by the SOPAC Division of SPC to the EU, 4.7m Euros funding had been granted to support the implementation of the Project in 15 Pacific ACP Countries over 4 years (2011-2014).

The Project’s overall objective is: to expand the economic resource base of Pacific States by facilitating the development of a viable and sustainable marine minerals industry. The Project aims to do this by strengthening the system of governance and capacity of Pacific States in the management of DSM through the development and implementation of sound and regionally integrated legal frameworks, improved human and technical capacity and effective monitoring systems.

The project has four Key Result Areas:

- (1) Regional Legislative and Regulatory Framework (RLRF) for offshore minerals exploration and mining;
- (2) National policy, legislation and regulations;
- (3) Building national capacities – supporting active participation of Pacific Island nationals in the offshore mining industry; and
- (4) Effective management and monitoring of offshore exploration and mining operations.

The Project's primary beneficiaries, as agreed with the EU, are (1) national governments, and (2) local communities. Other beneficiaries will include the private sector, non-state actors, regional and international agencies, and implementing partners.

Project activities to date for each of the Key Result Areas have included:

(1) An inaugural workshop was held in June 2011 in Nadi; and a draft RLRf was disseminated in January 2012 to a wide range of stakeholders for comments.

(2) Ten national stakeholder workshops have been convened, and National Offshore Minerals Committees are being established. The DSM Project Legal Advisor has prepared drafting instructions for a DSM Bill for Tonga, and is now working with the Solicitor-General of Tonga on preparing a Bill. Similar requests have been received from other countries participating in the Project, and this policy / legislative drafting support will be provided as requested.

(3) Work on a publication to provide an assessment of DSM knowledge is underway, with contributions from a group of leading experts world-wide. This will be published later this year. The Project is also currently gathering data to establish a regional marine minerals database, building on the SOPAC Division's current data derived from the 1985-2005 Japanese survey.

The Project is identifying national candidates for capacity-building opportunities. A candidate from Kiribati is currently on a safety and awareness training course in Australia, before he embarks on a survey later this year with an exploration company; and a candidate each from Cook Islands, PNG and Tonga were sponsored to attend a mining conference in Noumea in November 2011. In collaboration with partners, the production of a DSM documentary is in progress.

There will be three regional training sessions for representatives from all Project countries later this year and in 2013, focusing on technical, legal, and fiscal matters, respectively.

(4) The Project will be developing a regional environmental management and monitoring framework and guideline, and a chapter on environment management is included in the SPC-UNEP/GRID-Arendal partnership report on the state of knowledge of Pacific marine minerals. When the opportunities arise, the Project will collaborate with marine scientific research groups on monitoring the environmental impacts of deep sea mining over the next 2 years – identifying suitable candidates for on-the-job training in this area.

The Project has supported dissemination of information to key in-country stakeholders, including 6-monthly updates, information brochures, and media work. Web-pages dedicated to DSM are now being launched within the SOPAC Division's website. The Project will support National Offshore Minerals Committees to, among other things, conduct DSM public awareness programmes.



**Akuila Tawake, SPC-EU DSM Project**

### **Discussions on Presentation 1:**

Willie Atu, representing Nature Conservancy asked how the Project was interacting with regional organisations like the MSG (Melanesian Spearhead Group), and those who are focusing on fisheries, such as the PNA (Parties to the Nauru Agreement).

Mr Tawake reiterated that the DSM Project came at the request of Pacific Island Governments, and had received clear endorsement from the Pacific Forum at its 2009 review of strategic objectives. He stated that he had been asked to attend the recent MSG Environment Meeting in Nadi, Fiji, and so had the opportunity there to present the Project to the MSG, and to receive their questions and approval. He advised that while the DSM Project has not made direct connection with the PNA, it did count the FFA (Pacific Forum Fisheries Agency) as a stakeholder, who he understood linked in with PNA.

Joe Fardin, a Mining Policy Advisor currently engaged in the Solomon Islands, asked about the 'institutional assessment' work referred to in Mr Tawake's presentation, and enquired whether the findings of this will be made available to interested parties. Mr Tawake clarified that the DSM Project is not carrying out its own independent assessment in this regard, but is asking each Pacific Island country itself to highlight to the DSM Project their capacity gaps and priorities in moving forward with DSM activities, in order for the DSM Project to assess what Project support may be required. Mr Tawake explained that for each country, the institutional framework, and the gaps, will be included in the Proceedings Report of each national workshop. He summarised that from the nine national workshops held to date, a common theme was that most countries identified national capacity-building as a high priority, and requested access to training workshops, on-vessel technical training, and other support to up-skill in-country personnel. The DSM Project questionnaire that is distributed to participants during national consultation workshops is another way of gathering information on capacity building requirements.

### **2.5.2 Presentation 2: Deep Sea Minerals in the Pacific Island Countries and the outcomes of the June 2011 Project Inaugural Regional Workshop**

*Presenter: Akuila Tawake (SOPAC Division, SPC)*

Mr Tawake introduced the different types of mining in the Pacific, highlighting the fact that DSM mining is a new frontier in mineral development. He explained how marine mineral exploration had occurred from the 1960s to the 1990s, and that these surveys had shown the potential of Manganese Nodules (MN), Sea-floor Massive Sulphides (SMS) and Cobalt-rich crusts (CRC) in the region. From 1985 to 2005, joint Japan-SOPAC surveys were conducted within the waters of Papua New Guinea, Solomon Islands, Fiji, Tonga, Samoa, Cook Islands, Kiribati, Tuvalu, Federated States of Micronesia and Marshall Islands.

Commercial entities currently involved in offshore exploration in the region currently include Korea Ocean Research and Development Institute (KORDI), Nautilus Minerals, and Bluewater Metals – the latter two companies, who are represented at the workshop, hold the exploration licences granted currently within the Solomon Islands' EEZ. Nautilus Minerals is currently developing the necessary technology to mine SMS deposits in PNG's EEZ.

Mr Tawake described how, where and at what depth deep sea minerals occur and the mineral contents inside MN, CRC and SMS. The potential benefits of offshore mining were explained.

Mr Tawake provided a useful comparison of terrestrial and offshore mining, highlighting the challenges of dealing with water depth, and the limited knowledge of the environment for DSM – but also showing that DSM does not have the same significant overburden, waste disposal, or complex landowner issues that on-land mining encounters.

Mr Tawake highlighted other Pacific Islands' engagement with DSM to date, covering also interest from various Pacific Island States in the Clarion-Clipperton Fracture Zone – i.e. the international seabed beyond national jurisdiction ('the Area') in addition to exploration work currently underway within national jurisdictions.

Finally Mr Tawake informed the Workshop of the regional workshop held in Fiji in June 2011 to launch the Project, which set a mandate for the Project for further work with regard to DSM in the following 18 areas: a regional approach, capacity building, technology development and transfer, maritime boundaries, benefit-sharing, data collation, marine scientific research, community concerns and stakeholder consultation, environmental protection guidelines, environmental conservation and monitoring, information sharing and outreach, fisheries, resource assessment, technical information, legal framework, fiscal regime, sustainable economics, and governance and transparency.

#### **Discussions on Presentation 2:**

Professor James Otto asked whether the law and policy that will be developed by the Project will address all offshore minerals (including shallower deposits in the near offshore e.g. aggregates) or only the metalliferous minerals in the deep sea to which Mr Tawake has referred in his presentation. Mr Tawake clarified that what relevant national policy and legislation will include in its scope is up to each country, but the DSM Project is funded to focus on DSM only. Each State can inform the DSM Project whether they want to amend existing mining legislation, which may already address other offshore work (e.g. aggregates), to extend it to cover DSM, or to amend onland mining legislation to include all offshore work, or to have a standalone piece of legislation focused on DSM only. That's entirely up to each Government. But the DSM Project's specialist advice will focus on DSM.

One participant commented that the slides show the positive side of DSM, but the negatives of this type of activity, and the damage and harm it may cause to the environment, haven't yet been addressed at the workshop. Mr Tawake agreed that this was also an important area. He explained that several studies have been carried out to date to try to understand more about the environment and likely impacts of DSM, including the extensive Environmental Impact Assessment (EIA) performed by Nautilus at the Solwara 1 site in Papua New Guinea, in which they invested a lot of time and energy, and which is now dictating their development of their mining system in an attempt to minimize impact.

It was asked what would happen if deposits were found between national boundaries, or in international waters? Mr Tawake advised that for cross-boundary deposits, the relevant States would need to work together and adopt a collaborative approach to the development of the deposits. This is where the Project's regional approach is valuable: in assisting States to identify these issues, and to have in place harmonised and compatible regulatory regimes, to make joint projects feasible.

Ms Lily, the DSM Project Legal Advisor, added that, where Coastal States' EEZs overlap, treaties are negotiated between the neighbouring countries to agree the coordinates for the boundaries. These treaties include clauses to cover the approach that will be taken to any transboundary deposits.

With regards to the seabed outside of national jurisdiction Mr Tawake explained that the international seabed area (or 'the Area') is regulated by the UN Convention of the Law of the Sea, and falls under the mandate of the body created by that Convention: the International Seabed Authority (ISA), which is based in Kingston in Jamaica. If a State or company wants to explore or mine the minerals in or on the seafloor outside of national jurisdiction, it has to do so through the ISA (following their processes and rules).

A concern was raised about the Solomon Islands' ability to monitor its EEZ, and the effects of DSM, and to enforce the rules properly. It was noted that there was a monitoring regime in place for illegal fisheries already, but DSM is a new area. It was asked whether SPC, as a regional organisation, may have a monitoring scheme in place upon which the Solomon Islands could draw in the future?

Mr Tawake agreed that it is a challenge. However DSM, unlike fish, are not migratory: we know where they are, and a DSM mining operation will require a stationary vessel. Furthermore, DSM cannot be mined surreptitiously and quickly, in the same manner as unlawful fishing – because a DSM operation requires a long duration, including years of exploration and assessment before any minerals are extracted.

Professor Otto added that deep sea impacts are likely to be significantly lesser than nearshore activities. When you bring up the DSM resource, you will create a sediment plume – and this is anticipated to be the major impact. Studies have been carried out to see what the impacts will be on fisheries and bottom-dwellers. These studies (for example conducted by the US National Oceanic and Atmospheric Administration (NOAA) showed that this was actually beneficial for fisheries: as the sediment plume acted as a nucleus on which algae could grow, thus increasing the food in the water. A surprising, but positive impact on fish populations. Surface vehicles also act as a fish disaggregation device, so might even have fishing vessels coming close to DSM operations to take advantage of this! Conversely, if you're pulling out material that has lead or arsenic, then may get bio-accumulation in the higher species, so this should be assessed before a project is licensed.

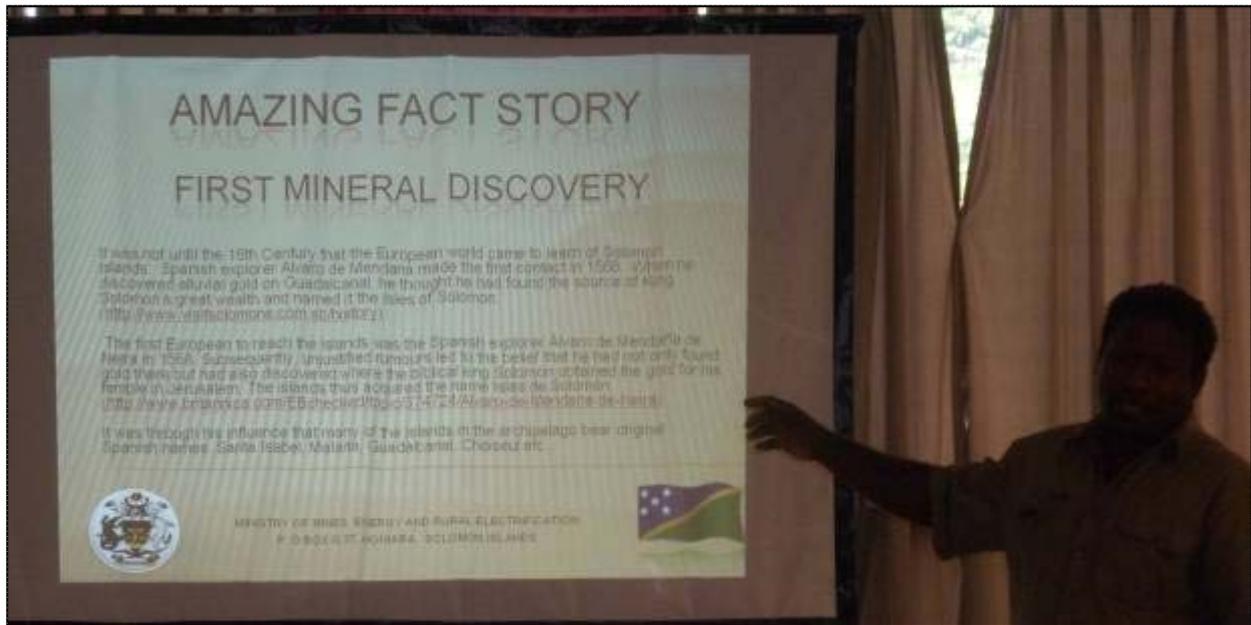
Ms Lily reiterated this point: the importance of having laws and regulation and monitoring in place, to ensure appropriate checks and balances for each individual operation, ongoing monitoring. It is not just a question of giving a green light to DSM activities, and then permitting operations to go ahead without individual and continuing scrutiny as to their impacts.

It was asked whether Fisheries officials had expressed concern about possible impacts on tuna? Mr Tawake confirmed that he was not aware of any such views from the commercial fishing industry, and the DSM Project's engagement with the State (as owner of the fishery resources) had been positive. The data available about likely impacts of planned projects so far (e.g. Solwara 1) does not suggest cause for concern about adverse impact on fishing stocks. It was agreed by all that dialogue about such concerns is important nonetheless. It was reiterated that there hasn't been any DSM anywhere in the world yet. Solwara 1 will be the first. The unknowns can only be verified through actual practice, so the concerns should be aired, and can be checked and monitored as operations commence, and applying the precautionary approach.

Replying to a query about Pacific Islands' capacity to monitor DSM operations, Mr Tawake explained that there seemed to be two options (and that these were being considered by Nautilus and Papua New Guinea now). The first is for the State to have mine inspectors, who on a rotational basis are placed on the DSM operators' vessel for intensive inspection and observation purposes. The second option is to allow mining companies largely to self-monitor with requirements for regular data that is scrutinised by the State, and with the mine inspectors carrying out routine but more sporadic site visits.

### 2.5.3 Presentation 3: Solomon Islands Deep Sea Minerals Potential

Presenter: Joseph Ishmael (Deputy Director, Mines Division)



**Mr Ishmael, Mines Division**

Mr Ishmael commenced the presentation by introducing that the Solomon Islands derived its name originally from its mineral wealth observed by early European explorers.

He explained that the country is situated on the Pacific 'Ring of Fire', which suggested potential to accommodate large mineral deposits like its Melanesian neighbours, Fiji and PNG. Past explorations for mineral potential took place during the period 1960-1980 under the British protectorate. Copper, gold, silver, phosphate, manganese, bauxite and nickel were found on land; and SMS deposits were first discovered on Solomon Islands' seafloor in 1985.

There have been 14 research cruises within Solomon Islands' EEZ between 1975 and 2002, undertaken by 6 different research vessels. These surveys started out looking for precious coral, manganese nodules, and hydrocarbon, but quickly the focus moved to SMS deposits, this being observed to be the only potentially exploitable resource. Current focus is in the Eastern part of the Woodlark basin, and around Santa Cruz Island in the East of the Solomon Islands' EEZ. Mr Ishmael illustrated the key mineral occurrences on a map. He explained that the exploration is currently being carried out in these areas by Nautilus Minerals and Bluewater Metals, presenting a second map, which shows the tenements under licence currently. In comparison to the total 38 tenements granted for onshore exploration to 11 different companies in the Solomon Islands; Mr Ishmael advised that offshore there are 45 tenements held by two companies. He presented some of the metal grades that have been sampled from the Solomon Islands' deposits.

Mr Ishmael concluded that there is apparently great potential to develop the Solomon Islands' DSM potential, but this must be accompanied by a review of the current Mines and Minerals Act. Participation and awareness in partnership with all stakeholders in this process will also be paramount.

He recommended that, in addition to reviewing the current mining legislation, the Solomon Islands also should: find training opportunities to develop a cadre of high quality professional staff, build a strong relationship with the wider geoscience community, and establish a geochemical exploration database project and modern laboratory facilities.

### Discussion on Presentation 3:

Responding to a question, Mr Ishmael clarified that there had been an amendment to the 2008 Minerals and Mining Act to limit the number of prospecting licences to 3 per company, but these licences referred to in his presentation had been given before that amendment. This is one area of the law that may benefit from revision, for DSM purposes.

Professor Otto noted the findings of promising SMS potential, and less promising manganese nodule potential; and queried whether there was any cobalt crust potential? Mr Tawake confirmed that there was not, according to SOPAC's records.

### 2.5.4 Presentation 4: Nautilus Minerals Perspective: Regional Interest and Solomon Islands DSM Activities

*Presenter: Mr Paul Lahari (Principal Geologist – Nautilus Minerals)*

Mr Lahari explained some of the drivers that have encouraged mineral exploration to go to the deep seabed, including the continuous rise of demand for metals, and the massive footprint on-land caused by terrestrial mining. By contrast, seafloor mining for SMS leaves a small footprint, no land owners are affected, infrastructure can be re-used, there is minimal overburden and increased worker safety.



**Paul Lahari of Nautilus**

He explained that Nautilus is involved in the most advanced DSM Project in the world: Solwara 1 in Papua New Guinea.

The Solwara 1 Project involves only a small extraction area of 0.11 km<sup>2</sup>. The minerals are at a depth of 1600m and located 30km from the coast away from coral reefs and fish. The sea is calm in that area. There will be no toxic chemicals or blasting involved, and no land clearance or onland construction is required. There is therefore expected to be very limited impact on local communities. The production system is anticipated to be quite simple: a support vessel and a riser pipe.

Other forms of offshore mining are already happening around the world: phosphates and oil, as well as dredging (in shallow waters) for diamonds and aggregates. DSM is quite different, as the depth is challenging. Engineers are working on solving those problems and developing the equipment. It will combine technologies from mineral and oil and gas industries.

In relation to its relationship with the regulator, Nautilus is looking for State authorisation to three components: disaggregating seafloor material, transporting the material to a ship, and transporting the material to market. Prior to the mining licence being granted by Papua New Guinea, Nautilus took 3-4 years preparing the EIA and Environmental Impact Statement (EIS), and having these peer reviewed by a number of stakeholders (including academics, and experts contracted by the PNG Government).

The Papua New Guinea Government is opting to use/review their existing (onland) legislation and structures to issue licences for DSM, instead of developing new laws specifically for offshore activities. Papua New Guinea has a Mining Act 1992, which vests ownership of all minerals in or below the surface of the land and water to the State, and governs the exploration, development processing and transport of minerals. Nautilus has also been regulated by the rules set out in PNG's Environment Act 2000, which

outlines the environmental requirements of an impact-making activity and which required the EIS, specifying that it must include in its scope social impacts. This led to a series of public hearings (both at exploration licence, and mining lease stage).

The processes followed in PNG under existing law have been fairly rigorous, and have worked well from Nautilus' perspective. Nautilus has been pleased to be involved in transparent and inclusive stakeholder engagement and workshops to raise awareness. Nautilus have spoken to more than 10,000 individuals within communities in PNG, and have sought to reach an even wider audience using the media. Local representatives are available for anyone who wants to come to speak with them. Issues and concerns raised by communities as well as the impacts and benefits of Nautilus presence have been discussed at these events. Nautilus are keen to raise awareness about exactly what the DSM mining will involve, to ensure that they have both a *legal* licence to operate, and a *social* licence to operate.

Mr Lahari presented a flow chart of the environmental regulatory framework, required for a robust decision-making process – which includes gathering baseline data, ongoing monitoring, and post-closure monitoring and reporting. He highlighted what in Nautilus' view makes good minerals policy: clarity, transparency, consistency, simplicity, efficiency, benefits justifying the risk (environmentally and socially responsible, while being economically viable), independent review, agreement from relevant governing bodies and affected stakeholders, and provision for adaptive management.

Mr Lahari showed a graphic representation of how Nautilus proposes to operate the extraction of DSM. He explained what the potential impacts were considered to be and how those impacts were intended to be limited or mitigated by Nautilus. He identified the concerns that were raised during Nautilus' extensive community consultations, including primarily potential impact on fisheries, and explained how Nautilus was making every effort to disseminate accurate information about the Project and mitigation strategies, to try to alleviate these concerns. He explained the anticipated timescale for Papua New Guinea, and introduced the training and up-skilling opportunities that Nautilus offers to the nationals of the countries in which it is working.

The focus to date for Nautilus has been on proving the model in PNG. Once that's achieved, Nautilus will focus elsewhere, including Solomon Islands.

#### **Discussions on Presentation 4:**

Professor Otto asked how Nautilus chose which communities to consult, particularly given that the Project is taking place so far offshore and is not anticipated to impact people onshore. Mr Lahari explained that the nearest coastal communities could see the light from the exploration vessel, and therefore had been interested and had asked questions, which led to Nautilus' first community engagements. Other communities further away started hearing from those nearest coastal communities about Solwara 1, and then were asking why they hadn't been consulted. This led to a decision from Nautilus that it was better to take a comprehensive widespread approach, and to explain their work and listen to concerns from as many people as possible – by going into villages and schools across the country.

Mr Tawake stated his understanding that Nautilus had originally intended to put two mining equipments together to crush the ore, but queries whether they were now proposing to have three? Mr Lahari concurred, that due to concerns about effectiveness of using just the two, Nautilus are now planning to use three separate pieces of equipment. The first to cut a broad path through the SMS deposits, the second to crush this further into smaller particles, and a third to collect the small pieces and turn them into slurry with small enough particles to be taken up through the pipe. There is then a fourth piece of machinery, like a vacuum Hoover, that will suck the slurry up to the vessel.

A participant asked how Nautilus has managed to simplify this technical area to make it more user-friendly when going out to the villages? Mr Lahari agreed with the difficulty of presenting a complex area to a range of audiences. He explained that they travel with a generator and a projector, so they can show video and graphics to explain the processes.

Mr Lahari was asked to explain what might be the more indirect effects of SMS extraction. Mr Lahari explained that Nautilus cannot offer any guarantees, because the mining hasn't commenced yet. At the moment they can give their best knowledge and can do as much preparation and forecasting as they can, but they will need to learn as they go, and there will be a trial period before the full-scale operation commences.

It was asked: what is the capital expenditure requirement to develop mining? Mr. Lahari advised that Nautilus has already spent more than US\$100 million on Solwara 1 – even with the mining support vessel being half-funded by joint partners. Solwara 1 aims to mine 1 million tons per year, over 3 years in total. But currently it has incurred a large cost to Nautilus, and no income yet.

In response to a question posed, Mr Lahari thought that there may be a requirement in Papua New Guinea to pay an environmental bond to the Government, in case of any effects that arise during or after operations, but he wasn't able to confirm that. He agreed that it is important to start thinking about mine closure (even before mining has commenced).

### 2.5.5 Presentation 5: International Law Obligations

*Presenter: Hannah Lily (DSM Project Legal Advisor)*

Ms Lily explained that international law requires States to take all appropriate steps to ensure that DSM exploration and exploitation activities under their jurisdiction or control are appropriately managed, in accordance with international standards. This requires the adoption of laws, regulations and administrative measures.



Hannah Lily, SPC-EU DSM Project

This is necessary to protect Solomon Islands from any potential damages claims that may arise as a result of accidents or pollution from DSM activities. Direct obligations under international law in respect of DSM include (i) the precautionary approach, (ii) best environmental practices and (iii) prior EIA. Legislation is not sufficient on its own. States engaging in DSM will need to identify or create an administering body to receive, assess and decide upon applications, to set the terms of licences for DSM activity, to monitor DSM operators working under such licences or agreements, and to enforce compliance where necessary. This will be a challenge to small countries, with little spare capacity, but options may be available to delegate some functions to a regional body, private contractor or other expert body.

Ms Lily introduced the DSM Project's Regional Legislative and Regulatory Framework (RLRF), which provided some detailed guidance for Pacific Island Governments on DSM law and policy requirements.

#### Discussions on Presentation 5:

One participant raised a concern about the Solomon Islands' implementation of DSM law and policy. Ms Lily replied that it was true that legislation on its own is not sufficient to meet the Solomon Islands' responsibility under international law and to protect the marine environment: there must also be enforcement. Concerns as to Pacific Island States' capacity and willingness to follow and enforce legislation were understandable. She highlighted that the international community are likely to scrutinise the actions of Pacific Island States as DSM progresses in the region, as the South Pacific is leading the way world-wide. Member States of the ISA have already expressed some scepticism as to the ability of small island developing states to control DSM operators, and so the spotlight will be on the

Pacific Islands' regulation in this area. This, combined with the risk of liability for damages if legislation is not in place and implemented, may add an extra layer of incentive to Governments to enforce the law robustly. Some mechanisms may be available to bolster national capacity e.g. hiring external independent consultants or regional bodies to assist with regulatory functions, and also by using cost recovery provisions (charging DSM operators fees for their licence applications, which can then be used to cover costs of regulation, such as obtaining independent expert review of EIAs).

### **2.5.6 Presentation 6: DSM Project Implementation in Solomon Islands: Formation of National Offshore Minerals Committee and Appointment of National Focal Point for DSM**

*Presenter: Hannah Lily (DSM Project Legal Advisor)*

Ms Lily explained that is the SPC-EU DSM Project's recommendation to have (i) a national technical focal point, and (ii) a National Offshore Mining Committee (NOMC) to implement the Project in Solomon Islands. There is financial support from the DSM Project available for this and for in-country activities to be conducted by the focal point and the NOMC. It is open to Solomon Islands to inform the Project who takes these roles, and how it is to be arranged – and this was one matter to be discussed in this afternoon's working groups.

## **3. WORKING GROUPS**

Workshop participants were divided into two groups: (i) a technical and (ii) a law and policy working group, for the discussion session. The technical working group was tasked to discuss technical DSM issues in relation to the needs and priorities of Solomon Islands, whilst the policy working group was mandated to discuss the state of national DSM legal instruments and the necessary requirements to put in place relevant to national policy, legislation and regulation. Each group then presented back in plenary on the outcomes of their discussions for consideration and further deliberations.

### **3.1 Outcomes of Working Group 1: Law and Policy**



**Workshop Working Group 1, discuss law and policy issues**

### ***(1) Development of Offshore Minerals Policy and Legislation and Regulation***

There is no offshore minerals policy, legislation and regulation in Solomon Islands. This is because it's a new area. PNG and the Solomon Islands are at the cutting edge in this area. There are 45 exploration licences already issued within the Solomon Islands' EEZ. There is a need for proper legislation, policy and regulations, owing to the increasing interest now. The Working Group identified two options in that regard: (1) amend the existing Minerals Act to incorporate DSM, or (2) introduce a new Act for offshore mining. It was agreed that amending existing Mining and Minerals Act may be desirable to avoid proliferation of legislation, and the risk of gaps/overlap. It also ensures that MMERE and existing structures can be used to cover both areas, rather than requiring a new body to be established, where there are limited resources for this.

It was highlighted that there is a separate project underway at the moment, funded by the World Bank, with two expert consultants, to review the national mining legislation – so it may be a timely opportunity now to incorporate into that review the DSM Project's work and the introduction of DSM specific provisions into the national legal framework.

### ***(2) Appropriate fiscal regime policies for deep sea mining***

The Working Group noted that the current taxation legislation in the Solomon islands is old, and does not accommodate offshore. It is brief in relation to mining tax, and it is considered to be rather harsh and overly punitive. Again, that component of that Act is under review by the World Bank.

It was recommended by the Working Group that the current taxation regime needs to be amended to include DSM. It was noted that the upfront costs of DSM exploration were vast – for example USD 70,000-100,000 per day. This was being incurred for exploration work, where no profits were being generated yet. Therefore the Working Group considered that tax breaks may be appropriate – while also commenting that the Working Group was comprised half by DSM operator representatives, so the Group's perspective may be slightly skewed in favour of the private sector.

Proper licensing was encouraged, at national Government level, and provincial level if relevant. DSM operators would prefer only to deal with central Government themselves (and for central Government to implement any provincial payments). Currently the revised Mining Act permits only three licences per operator. When the current DSM licences expire, these provisions will apply. This needs to be reviewed and amended for DSM.

### ***(3) Environmental management and monitoring frameworks/guidelines for deep sea exploration and mining***

The current environmental legislation also should be reviewed and amended where necessary for DSM purposes. Sea pollution from mining has not been considered before, so it may not be properly captured by the legislative regime in place in Solomon Islands currently.

A good starting point is to look at what other Pacific countries have in place, or are developing – and also other agencies, such as SOPAC and the ISA.

The Working Group considered that baseline studies are essential, even when only at exploration stage<sup>1</sup>.

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<sup>1</sup> The Bluewater Metals representative explained that their operations in the Solomon Islands' EEZ (close to the boundary of Vanuatu) are already setting sediment traps to assess the seawater and to gather baseline data. Through this work, the biologists Bluewater are working with have identified 15 species of micro-organisms. He explained that at the depths they are working (1600 m) the pressure is so extreme that it doesn't seem that it is possible for sediment to travel upwards. The sites involved with SMS are also very small: 400 m by 1 km for Bluewater. The footprint therefore will be very tiny compared to the vastness of the oceans and the seafloor.

#### ***(4) Offshore Mining Legal Instruments***

The Working Group reiterated that a Mining Policy is needed in this country (including for onland mining), and that should include offshore. It is hoped that this will come out of the World Bank-funded review.

It was noted that the Solomon Islands is a signatory to the Noumea Convention (relating to the protection of the environment and prevention of pollution), and that this and the UN Convention on the Law of Sea requirements should also be reflected in national policy and law.

#### ***(5) Development of Marine Scientific Research (MSR) Policy***

It was not known by the Working Group whether such a policy may already exist in the Solomon Islands – if not it was stated that it should be developed. It is believed that the process currently is to go to the Ministry of Education for a research permit. This may not come to the attention of the Mining Division. This should be re-examined for deep sea minerals research.

#### ***(6) General Issues***

##### *(i) Benefits and adverse impacts of offshore exploration and mining*

The **benefits** to DSM: a major economic benefit is anticipated. It could change the lives of Solomon Islanders altogether.

There are employment benefits too. While it may not employ a great deal of people – maybe a maximum of 500 employees once mining had commenced these will be jobs that will lead to development of specialised skills in-country. Also the vessels will need support, and there will be indirect increased activities in logistics and support, healthcare, infrastructure etc. to service the industry. These improved services will benefit the community too. Training opportunities and sharing of data will also be benefits to the host State.

**Adverse impacts** of DSM: very much remains unknown. Until it is fully tested and operational there is no benchmark or guarantees about impacts. For many Pacific Island communities the sea is the source of livelihoods and food. So there are concerns about the impact on the ocean and fish species, which must be managed.

##### *(ii) Formation of the National Offshore Minerals Committee (NOMC)*

It was agreed that a NOMC should be formed, which should comprise: Government, NGOs, private sector, and women's representatives. It was suggested that it should meet quarterly. It was queried whether it may be combined with the EITI Committee. It was also suggested that the formation and role of the NOMC could be included in the review of the legislation.

Mr Tawake asked for clarification about the current Solomon Islands' Minerals Board established by the Mining and Minerals Act to advise the Minister. Mr Auga agreed that one option may be to expand its remit to be a NOMC – although the Minerals Board doesn't include non-state actors. So a separate committee may be better. MMERE would consider these options. Mr Auga agreed that the MMERE would take this forward, perhaps by way of a Cabinet paper, to obtain the mandate to form and operationalise the NOMC.

*(iii) DSM Project focal point*

It was agreed that the focal point should remain within the MMERE.

*(iv) Other*

A key issue will be **maritime boundaries**. The boundaries at the moment are provision, and it is unclear at the moment where the correct boundary lies. For example between the Solomon Islands and Vanuatu (where Bluewater's tenements are), there is an area of 12 or so miles where it is currently unclear whose jurisdiction it is. This is important as the minerals may lie in boundary areas, and to secure benefits the Solomon Islands needs to be able to show that a mineral deposit falls on their side of the boundary.

### 3.2 Outcomes of Working Group 2: Technical Issues



Working Group 2 consider technical matters

#### ***(1) Technical and technological challenges and recommendations for DSM***

The Working Group identified that there is likely to be a lack of appropriate people in the Ministry to understand and to explain the complex technology that is required for DSM.

There will be concerns about whether this new technology safe, and also environmentally conscious, in its operation.

The Working Group considered that capacity-building opportunities should be pursued, and recommended that information-sharing should be made widely available – not only to government officials but also in schools and to the general population.

#### ***(2) Current institutional capacity and priority areas for capacity building***

Currently there is limited capacity within the MMERE. It was recommended to create an inspectorate function within the Ministry, with personnel with specialised knowledge in DSM. It was also identified that there was a need to have in-country a laboratory for independent evaluation and verification, to enable the State to have independent oversight over the DSM operators.

The Bluewater Metals representative responded on this point that the DSM operators, when they gather samples, as a term of the licence have to give a quarter over for independent assessment. These samples could be included in this 'inspectorate' work.

The Working Group also identified a need for ongoing technical training, and recommended pursuing scholarships, and learning attachment opportunities – including from PNG, as they are more advanced in this area than the Solomon Islands. It was considered that it will be important to find the right people (those who are capable, and who will commit to come back to the nation to use their learning for the State's benefit) for the right training.

### ***(3) Environmental monitoring and management for DSM exploration and mining***

There should be a structure in place for environmental monitoring and management (possibly in committee form). Training should be provided for those implementing, and there should be clarity as to roles and responsibilities.

The Mining Act refers to the Environment Act, and it should be checked that DSM is properly covered.

### ***(4) Stakeholder partnership***

Stakeholder and partnership relations are essential, including academic institutions, private corporations, multilateral and bilateral partners (other countries, SOPAC, EU). The Solomon Islands should follow Nautilus' example with the breadth of their stakeholder consultations.

### ***(5) General Issues***

#### *(i) Benefits and adverse impacts of offshore exploration and mining*

The key benefits to the State will be economic. Other benefits include: educational, political, employment, and security (legislation will protect national jurisdiction). Having national regulation means no 'middle man', but DSM operators dealing directly with the State. This may reduce corruption.

As for potential adverse impacts, the ocean connects islands, and any effect in one country may affect other provinces and countries. If the State gets hit with liabilities for damages, it cannot afford to pay them, and will be bankrupt.

There is also a need to ensure shipping passages and marine routes are not compromised.

Work on DSM is dealing with the unknown: a new industry – this can create psychological feeling of uneasiness.

#### *(ii) Formation of the National Offshore Minerals Committee (NOMC)*

It was recommended to establish a new NOMC which is more inclusive in its membership (the current Mining Board is just the Permanent Secretaries). It was suggested that the NOMC has a coordinator (the DSM Project focal point) to ensure it is active and well-run. It was considered that it was appropriate for it to be chaired by the Government (Permanent Secretary or Director) but that it should have a degree of political independence.

Mr Auga agreed with the creation of a new committee. He undertook to consider further who the members of the NOMC should be and to raise that with the Minister for a mandate to proceed.

(iii) *DSM Project focal points*

It was agreed that the focal point should remain within the MMERE.

(iv) *Other*

It was recommended to have a national initiative to raise public awareness and to obtain a national social consensus to DSM activities.

### **3.3 Conclusion of Working Group Session: Workshop Outcomes**

The following action outcomes were therefore agreed by the workshop:

- (1) The creation of a national DSM policy,
- (2) A review of existing legislation, in conjunction with the current World Bank funded review of the Minerals and Mining Act, and including environmental legislation to check that DSM is appropriately covered,
- (3) Identification of and participation of Solomon Islands' nationals in capacity-building initiatives.
- (4) The establishment of a NOMC to work with the DSM Project on these matters; and MMERE to take this, and the appointment of a suitable technical focal point for the DSM project forward, and to advise the DSM Project accordingly.

The DSM Project's assistance with these action points (1)-(3) was requested, and the DSM Project's funding for the establishment and operation of the NOMC was acknowledged.

## **4 CLOSING OF WORKSHOP**

Mr Tawake thanked all the workshop attendees for their active participation, on behalf of the Director-General of SPC and the Director of SOPAC Division. He looked forward to continuing this collaboration as the Solomon Islands implements DSM Project activities nationally in line with the action points agreed at the workshop.

Mr Auga thanked the DSM Project team, and expressed the view that a lot had been learned in one day. He concluded that an understanding had been reached on the way forward for the Solomon Islands with its work on DSM. He acknowledged that the workshop is very timely: the proposed DSM activities link closely with the current review just commencing into the existing mining laws in Solomon Islands. The two areas can complement each other.

**ATTACHMENT 1:****Workshop Programme**

Solomon Islands Deep Sea Minerals National Stakeholder

Wednesday 23<sup>rd</sup> May 2012

Horticulture Centre Conference Room – Hyundai Mall, Honiara

Time	Activity	Presenter
9:00 – 10:00 am	Official Welcome, Introduction and prayer	Mr Peter Auga (Director of Mines)
	Official Opening	Mr Rence Sore, Permanent Secretary, Ministry of Mines, Energy and Rural Electrification
	Responding Remarks	Mrs Mia Rimon (Coordinator, Solomon Islands Country Office, SPC)
	Overview of the SPC-EU EDF10 Deep Sea Minerals (DSM) Project	Mr Akuila Tawake (DSM Project Team Leader, SPC)
	Group Photo for workshop Participants	
10:00 – 10:15 am	Morning Tea	
10:15 – 12:30 pm	Deep Sea Minerals and Mining in Pacific Islands Region and Outcomes of the Inaugural DSM Project Regional Workshop	Mr Akuila Tawake (SPC)
	Solomon Islands Deep Sea Minerals Potential	Mr Joseph Ishmael (Deputy Director, Mines Division)
	Nautilus Minerals Perspective: Regional Interest and Solomon Islands DSM Activities	Mr Paul Lahari (Principal Geologist – Nautilus Minerals)
	International law obligations and the draft Regional Legislative and Regulatory Framework	Ms Hannah Lily (DSM Project Legal Advisor, SPC)
12:30 – 1:30 pm	Lunch	
	DSM Project Implementation in Solomon Islands: Formation of National Offshore Minerals Committee (NOMC) and Appointment of National Focal Point for DSM	Ms Hannah Lily (SPC)
1:30 – 3:00 pm	<p><b>Stakeholder Discussions</b> Participants will be split into two working groups (policy and technical) and will be required to discuss the issues listed below and provide recommendations:</p> <p><b>Working Group 1: Policy Issues</b></p> <ul style="list-style-type: none"> <li>• Development of Offshore Minerals Policy and Legislation, and Regulation</li> <li>• Appropriate Fiscal Regime policies for deep sea mining</li> <li>• Environmental Management and Monitoring Frameworks/guidelines for</li> </ul>	

	<p>deep sea exploration and mining</p> <ul style="list-style-type: none"> <li>• Offshore Mining Legal Instruments in relation to existing National policies, and Regional and International Conventions (e.g. Noumea convention and UNCLOS)</li> <li>• Development of Marine Scientific Research Policy</li> </ul> <p><b>Working Group 2: Technical Issues</b></p> <ul style="list-style-type: none"> <li>• Technical and technological challenges of seabed mining and recommendations</li> <li>• Determine current institutional capacity and priority areas for capacity building</li> <li>• Ideas for capacity building initiatives (e.g. attachment in offshore exploration and mining, training workshops)</li> <li>• How to implement environmental monitoring and management for seabed exploration and mining</li> <li>• Stakeholder partnership (e.g. Government-Private sector-SPC-NGO partnership)</li> </ul> <p><b>General Issues</b></p> <ul style="list-style-type: none"> <li>• Benefits and adverse impacts of seabed mining</li> <li>• Formation of a National Offshore Committee (NOMC) for delivery of the DSM Project activities in Solomon Islands</li> <li>• Confirmation of the DSM Project technical focal points</li> <li>• Any additional seabed minerals and mining issues</li> </ul>	<p>All Participants</p> <p>[Facilitators: Peter Auga and Akuila Tawake]</p>
3.00 – 3:15 pm	Afternoon Tea	
3:15 – 4:30 pm	Working Groups Report Back and Discussions	[Facilitators: Peter Auga and Akuila Tawake]
4.40 pm	Closure of Workshop	Mr Peter Auga (Mines Division)

**ATTACHMENT 2:****Solomon Islands Deep Sea Minerals National Stakeholder Workshop Participants**

	<b>Name</b>	<b>Job title</b>	<b>Organisation</b>	<b>Contact (email)</b>
1.	Akuila Tawake	Project Team Leader, Deep Sea Minerals Project	SPC-SOPAC	akuila@sopac.org
2.	Hannah Lily	Legal Advisor, Deep Sea Minerals Project	SPC-SOPAC	hannah@sopac.org
3.	Paul Lahari	Principal Geologist	Nautilus Minerals Niugini Ltd	pkl@nautilusminerals.com
4.	Peter Auga	Director of Mines	Mines Division, MMERE	pwauga@gmail.com
5.	James Otto	Mineral Policy Advisor	Mines Division	jim.otto@comcast.net
6.	Joe Fardin	Project Advisor	Mines Division	joefardin@gmail.com
7.	Watson Puiahi	Director	ISSI (Ilukim Sustainability Solomon Islands)	ilukimsustain@gmail.com
8.	Douglas Billy	Director	Geology	orgisia.org@gmail.com
9.	Eoghan Walsh	Chargé d'Affaires	EU	eoghan.walsh@eeas.europa.eu
10.	Mia Rimon	Co-ordinator	SPC, Solomons Country Office	miar@spc.int
11.	Rence Sore	Permanent Secretary	MMERE	
12.	Edward Honiwala	Deputy Director	Ministry of Fisheries and Marine Resources (MFMR)	ehoniwala@fisheries.gov.sb
13.	Charles Tobasala	PFO (Comp)	MFMR	ctobasala@fisheries.gov.sb
14.	Longden Manedika	Programs Manager	Solomon Islands Development Trust	manedikalongden@yahoo.com
15.	Willie Atu	Program Director	TNC (Nature Conservation)	watu@tnc.org
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20.	Ben Rakai	Camera man	One News TV	
21.	Fred Kusu	Reporter	One News TV	
22.	Joseph Ishmael	Deputy Director	Mines Division, MMERE	jezy2011@gmail.com
23.	Katherine Sanga	Project Officer	Solomon Islands Development Trust	governance@sidt.org.sb
24.	Daniel Namosuaia	Reporter	The Solomon Star	dantariafoaev@gmail.com
25.	Joe Horokou	Director	Department of Environment	