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# SPC-EU EDF10 Deep Sea Minerals Project Proceedings of the Fiji National Deep Sea Minerals Stakeholder Consultation Workshop Novotel Suva, Lami Bay, Fiji 28 March 2012



July 2012

## SOPAC WORKSHOP REPORT (PR104)

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Minerals Stakeholder Consultation Workshop  
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## EXECUTIVE SUMMARY

The Fiji National Stakeholder Consultation Workshop on Deep Sea Minerals (DSM) was hosted by the SPC-EU EDF10 Deep Sea Minerals Project (the DSM Project) in collaboration with Fiji's Mineral Resources Department (MRD) at the Novotel Hotel in Lami, Fiji on the 28<sup>th</sup> of March 2012. The workshop was a concerted effort to present the Project to in-country stakeholders and collectively discuss national priorities in relation to DSM issues. In attendance were representatives from various government ministries and departments including the MRD, Department of Lands and Survey, Ministry of Finance (MOF), Ministry of Information (MOI), Ministry of Labour, Ministry of I-Taukei Affairs, and the Department of Environment. Other in-country stakeholders such as civil society groups, private sector and educational institutions were also invited to the workshop.

The workshop aligned with the DSM Project's aim to encourage a stakeholder participatory approach: to keep in-country stakeholders informed, propagate sound technical and policy advice, and to provide a forum at which all voices can be heard. Copies of the six information brochures on DSM related issues, including a country specific information brochure highlighting Fiji's DSM potential and other relevant DSM Project information were distributed to participants.

Oral presentations were delivered by the DSM Project Team, as well as the MRD and two mining companies that have been granted exploration licences within Fiji's national jurisdiction; Korea Ocean Research and Development Institute (KORDI) and Nautilus Minerals. Topics covered included an overview of the DSM Project; an overview of DSM potential in the Pacific Islands region; environmental issues for Fiji; past and planned activities of DSM exploration companies; international legal requirements and the DSM Project's regional legislative and regulatory framework (RLRF); and the status of policy and legislation development in Fiji.

It was agreed that a National Offshore Minerals Committee should be established to work with the DSM Project in spearheading the implementation of Project activities in Fiji and to provide appropriate advice on DSM related issues. Additionally, the appointment of the DSM Project focal point for Fiji was agreed and the MRD, as the responsible authority, asked to make the appointment in consultation with other relevant authorities and to advise the DSM Project of the appointment in due course.

The workshop's afternoon session divided participants into two groups: a technical working group, and a policy working group. Each group then presented the outcomes of their discussions for consideration and further deliberation.

Three key action points were identified by participants: (i) to review existing policy and legislation and to remedy any gaps for regulating DSM; (ii) to express interest in participating in the exploration and exploitation of DSM in 'the Area' (the seabed outside of national jurisdiction); and (iii) to build in-country capacity in relevant aspects of DSM and mining to enable Fiji to fully participate in this new industry.

## **ACKNOWLEDGEMENTS**

Much gratitude was extended to Mr Malakai Finau, Director of MRD, for delivering the keynote remarks and opening the workshop, to Mr Netani Sukunaivalu for the prayer service, and to Mr Venasio Nasara (Manager, Mines Division – MRD) for facilitating the workshop. Special thanks also extended to the staff of MRD – Ms Sereima Dovibua and Ms Irene Maud – for their assistance during the workshop.

The DSM Project also wishes to acknowledge KORDI, Nautilus Minerals and MRD for their time and presentations delivered during the workshop. The active involvement of all the participants throughout the workshop is also acknowledged and appreciated.

## 1 – INTRODUCTION

Seabed mineral investigations in Fiji started in the late 1970s initially targeting petroleum, metalliferous sediments, phosphorates and precious corals. Following the discovery of hydrothermal vents in the Lau Basin in 1982, the North Fiji Basin (NFB) has been an area of significant interest in the search for hydrothermal vents and associated Seafloor Massive Sulphide (SMS) deposits. In the last two and half decades, the NFB had been the target of many deep sea minerals prospecting.

Prior to the commencement of the Japan-SOPAC survey programme in Fiji in 1999, the occurrence of hydrothermal deposits in the central spreading ridge of the NFB has been established from previous scientific studies. Reasonably detailed investigations were carried out during the 1999, 2001 and 2004 Japan-SOPAC studies in the NFB, targeting potential sites for SMS deposits along the spreading centres and other areas.

Recently, the Government of Fiji has issued exploration licences within Fiji's EEZ to both KORDI and Nautilus Minerals. Fiji has also expressed interest in sponsoring exploration activities within the international seabed area, commonly known as 'the Area'.

The SPC through the DSM Project, in collaboration with the MRD, hosted the Fiji National Deep Sea Minerals Stakeholder Consultation Workshop that was held at the Novotel Convention Centre in Lami, Suva on Wednesday 28<sup>th</sup> March 2012. It was therefore important to bring together key in-country stakeholders to present the DSM Project, discuss various issues and concerns relating to DSM and mining, and collectively agree on how the Project will be implemented in Fiji.

### 1.1 OBJECTIVES OF THE WORKSHOP

The objectives of the Fiji National DSM Stakeholder Consultation Workshop were to:

- identify key in-country stakeholders and present the DSM Project;
- discuss issues and concerns relating to DSM and mining;
- determine the needs and priorities of Fiji in terms of policy and legislation development, capacity building and other DSM related issues;
- provide guidance for the implementation of the DSM Project in Fiji;
- discuss collaboration with key stakeholders (e.g. government agencies and NGOs), and form a national steering committee or other mechanism, to involve all interested parties in project activities in Fiji;
- identify an in-country technical focal point for the DSM Project;
- obtain stakeholders' answers to the DSM Project's questionnaire to assist the Project staff better understand the situation in Fiji; and
- disseminate DSM Project information brochures to stakeholders.

## 1.2 LIST OF PARTICIPANTS

As well as representatives from nine Government departments, the two companies granted DSM exploration licences by Fiji, and the SPC, the workshop was attended by representatives from various NGOs (Fiji Environmental Law Association, Greenpeace, IUCN, Pacific Conference of Churches and WWF), the US Embassy, the University of the South Pacific, and the media. A full list of workshop attendees can be found at Attachment 3 of this Report.



*Participants of the Fiji National Deep Sea Minerals Workshop*

## 2 RECORD OF THE WORKSHOP PROCEEDINGS

### 2.1 WORKSHOP OPENING

The workshop opening remarks were delivered by Mr Malakai Finau, Director of Mineral Development (Mineral Resources Department (MRD)) on behalf of the Permanent Secretary of the Ministry of Lands and Mineral Resources (MLMR), Mr Filimone Kau who could not make it the workshop.

Mr Finau described that Fiji actively participated in the DSM Project since its launch in 2011. A delegation from the Fiji Government attended both the DSM Project's Inaugural Workshop in Nadi in June 2011; and a smaller meeting of four of the Project countries in October 2011, which focused on legal issues and the international seabed.

Mr Finau commented that while mining experience in Fiji has been concentrated on-land, this has now been extended to the sea with Fiji granting licences to Nautilus Minerals and KORDI for

exploration within its Exclusive Economic Zone (EEZ). A third application for an exploration licence from Bluewater Metals is also under consideration. He mentioned that Papua New Guinea is leading the world in regards to this new industry with an exploitation licence having been granted to Nautilus Minerals, who propose to be running commercial DSM operations by 2013.

Mr Finau highlighted that Fiji is aware of the potential impacts of deep sea exploration and mining and will proceed according to the People's Charter Pillar 5, which states the importance of achieving high economic growth while ensuring sustainability and also the protection of the environment. Like other Pacific Island countries, the people of Fiji depend heavily on the marine resources for their livelihoods hence it is important that Fiji proceed with caution, and also develop and implement the appropriate legal and economic structures for DSM in Fiji.

Mr Finau encouraged participants to participate and engage in the workshop deliberations and declared the Fiji workshop open.

## **2.2 RESPONDING REMARKS ON BEHALF OF SPC**

Dr Russell Howorth, Director of the SOPAC Division of SPC acknowledged the contributions of the Government of Fiji, particularly the Mineral Resources Department, for collaborating with the DSM Project in organising this workshop, and of the European Union, for its financial assistance. He acknowledged the presence of senior government officials, representatives of the private sector and non-governmental organisations.

Dr Howorth highlighted that scientific research and exploration of DSM and associated biological communities have been ongoing in the Pacific Islands region for the last 40 years. SOPAC, since its establishment in the 1970s had been instrumental in evaluating the seabed minerals that occur within the continental shelves of Pacific Island countries – working together with collaborating partners including the United States of America, Australia, New Zealand, Japan and Germany. Those early surveys led to the discovery of potential seabed mineral resources within the national jurisdiction of many Pacific Island countries like Cook Islands, Papua New Guinea, Tonga, Marshall Islands, Fiji, Kiribati and Federated States of Micronesia. Recent increases in metal prices and sustained rise in global demand have led to a recent resurgence of interest in DSM in the Pacific Islands region.

Dr Howorth mentioned that the Seafloor Massive Sulphide potential of the North Fiji Basin is fairly understood from the results of previous exploration. In addition to that, the part of the Lau Basin that falls within Fiji's EEZ is estimated to be prospective for Seafloor Massive Sulphide deposits due to its proximity to known Seafloor Massive Sulphide deposits in the adjacent Tonga waters. As earlier indicated by Mr Finau, the Fiji Government has issued deep seabed exploration licences within its national jurisdiction to two exploration companies, and is considering a third application. In doing so, Dr Howorth explained that Fiji joins other Pacific Islands Countries such as Papua New Guinea, Solomon Islands, and Tonga that have issued licences to commercial entities to explore DSM within their national jurisdiction.

The International Seabed Authority (ISA) granted an exploration contract to Nauru Ocean Resources Incorporation (NORI – a Nauru-sponsored company) in July 2011 and to Tonga Ocean Mining Limited (TOML – a Tonga-sponsored company) in January 2012, to explore identified areas in the seabed beyond national jurisdiction, commonly known as “the Area”. This is indeed a significant milestone for Nauru and Tonga, the first developing countries to enter the Area. It has surged interest from other Pacific Island Countries such as Kiribati, Tuvalu, Samoa and Fiji to follow a similar path to participate in DSM in the Area.

Dr Howorth emphasised that knowledge of deep sea ecosystems and environments is limited, and therefore prudent decisions are necessary to ensure environmental impacts of DSM exploration and exploitation are minimised or if possible avoided. He said the application of ‘the precautionary approach’ is crucial in ensuring this new industry addresses environmental issues appropriately. Dr Howorth quoted Principle 15 of the Rio Declaration on Environment and Development (1992) on the application of the precautionary approach:

*....“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”.*

He emphasised that in any development where there are threats to environment, lack of scientific information should not prevent measures being taken to prevent environmental degradation – and highlighted the importance of partnership between States and the private sector in this regard, as it will be those conducting deep sea exploration and mining who will have the resources to engage in data collection and other practices that will build current knowledge in the deep sea environment.

Dr Howorth described that DSM Project was designed at the request of SPC countries to give a regional, multi-stakeholder, consultative approach to the governance and management of DSM in the region. He stated that while DSM may present an opportunity for economic development, it must be emphasised that the current status of interest for Fiji is *exploration*, and not yet *exploitation*. Mining projects have long gestation periods, and a decision whether to proceed with mining depends entirely on the results of exploration.

He stated the importance to find a balance between not scaring the public, and not over-promising either. Responsible dissemination of information to the public at large is required. The DSM Project has been disseminating information widely about the Project and about DSM (information brochures). SOPAC through the Project sincerely hopes to work with stakeholders to implement the Project in Fiji.

Dr Howorth hopes that interactive discussions will enable participants to collectively identify DSM issues today and together prepare for a responsible way forward.



Left-Right: Mr Malakai Finau (Director-MRD) delivering the opening remarks and Dr Russell Howorth (Director-SOPAC Division, SPC) with the response.

## 2.3 PRESENTATIONS AND DISCUSSIONS

All presentations that were delivered during the workshop are made available in the **Data CD attached to this report**. The summary of presentations together with questions and comments raised by participants after every presentation is discussed on the following paragraphs.

### 2.3.1 Presentation 1: Overview of the SPC-EU EDF10 Deep Sea Minerals (DSM) Project

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

#### *Summary of Presentation*

This presentation highlighted some of the background information on the goals of the DSM Project. The rationale behind the Projects' implementation was due to requests for assistance by Pacific Islands to SPC and other agencies, and in light of the recent upsurge in offshore minerals exploration in the Pacific region, and the lack of specific policy, legislation and regulations to govern DSM. Following 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 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 supporting the development and implementation of sound and regionally integrated legal frameworks, improved human and technical capacity, and effective monitoring systems.

The project four Key Result Areas are as follows:

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.
4. Effective management and monitoring of offshore exploration and mining operations.

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

- (1) An inaugural workshop held in June 2011 in Nadi; and the dissemination of the draft RLRF in January 2012 to a wide range of stakeholders for comments.
- (2) Six national stakeholder workshops have been convened, and national offshore minerals committees are being established in those countries to take the Project forward.
- (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 by the Norway based UNEP/GRID-Arendal, with whom the Project is working in partnership. The Project is also currently gathering data to establish a regional marine minerals database, building on the data derived from previous marine scientific research and exploration in the region.
- (4) 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 with an exploration company later in 2012; and a candidate each from Cook Islands, Papua New Guinea 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.
- (5) The Project is developing a regional environmental management and monitoring framework and guideline, in partnership with UNEP/GRID-Arendal. 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.
- (6) 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 under construction to be launched shortly within the SOPAC Division's website. The Project will support national DSM committees to conduct DSM public awareness programmes.

### **2.3.2 Presentation 2: Deep Sea Minerals and Mining in the Pacific Islands Region**

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

#### *Presentation Summary*

This presentation gave a general overview of mining issues and deep sea mineral potential in the Pacific Islands region. Different types of mining in the Pacific were explained as well as the fact that deep sea mining is a new frontier in mineral development. Mr Tawake described the trend of marine mineral exploration which occurred from the 1960s to the mid 2000 and highlighted the potential areas for Manganese Nodules (MN), Sea-floor Massive Sulphides (SMS) and Cobalt-rich crusts (CRC) in the region; the depth at which they occur and the mineral contents.

From 1985 to 2005, the Government of Japan (through JICA) in collaboration with SOPAC conducted surveys within the EEZs of twelve Pacific Island Countries including Fiji. Seabed mineral occurrences and potential within the EEZ of PICs were summarised and explained. Mining companies that are currently involved in offshore exploration in the region were listed, including Nautilus Minerals (exploring in Papua New Guinea, Solomon Islands and Tonga, and recently granted an exploration licence in Fiji), KORDI (exploring in Tonga and recently granted an exploration licence in Fiji), and Bluewater Metals (a subsidiary of Neptune Minerals (US), currently exploring in Papua New Guinea, the Solomon Islands, Vanuatu and Tonga, and has applied for exploration licences in Fiji). Nautilus Minerals is currently developing technology designed for the mining of SMS at their Solwara 1 Project in Papua New Guinea. The benefits and challenges of offshore mining were also discussed together with a comparison between terrestrial and marine mining.

#### *Discussion of Presentation 2:*

With increasing interest in Rare Earth Elements (REE) of some developed countries, a question was posed on the REE contents of Manganese Nodules and Cobalt-rich Crusts as potential by-products.

Mr Tawake replied that the economic viability of mining Manganese Nodules and Cobalt-rich Crusts can be boosted by the extraction of REE; however, this will depend on a number of factors including the REE grades, the prevailing price of each element, and costs of extracting them.

### **2.3.3 Presentation 3: Environment Management Issues for Fiji**

*Presenter: Loona Wong (Senior Scientific Officer – MRD)*

#### *Presentation Summary*

The presentation provided the geological context and marine ecosystem of Fiji. The country comprises 322 islands, with a total land area of 18,000 km<sup>2</sup>, mainly of volcanic origin, and with rich marine life that includes over 390 known species of coral and 12,000 varieties of fish, of which seven are endemic. Fiji has dedicated government departments to manage environmental concerns, and mineral resources. Fiji has an existing Offshore Mineral Policy. Fiji's legislation includes: Environment Management Act (EMA 2005), Mining Act (1978) and a Mineral Exploration and Exploitation Bill (2006). Fiji has approximately 50 mineral exploration licences and three mines (on-shore), and currently has issued 17 DSM exploration licences within its national jurisdiction, as well as declaring its DSM interest in 'the Area'.

Types of deposits observed in the North Fiji Basin include cobalt-rich crusts and polymetallic massive sulphide deposits. Technical issues, maritime boundaries status, the importance and threats to marine resources, and existing international, regional and national laws relating to DSM were also discussed with a way forward for DSM in Fiji.

#### *Discussion on Presentation 3:*

Ms Seni Nabou (Greenpeace) congratulated MRD for delivering a presentation on the environmental management issues in Fiji with regards to DSM. She asked how Fiji plans to conduct environmental monitoring, and what measures are proposed to manage possible degradation to the marine environment for DSM activities offshore, even if its only exploration.

An official from the Environment Unit of the Mines division responded that the Environment Management Act (EMA) covers onland and all offshore resources within the EEZ of Fiji. He stated that MRD could assume some of these responsibilities in offering monitoring activities; however, they had budgetary limitations.

Mr Finau highlighted though that enforcing the precautionary principle is one way in which both Government and mining companies can be expected to be responsible in environmental management of offshore activities. Fiji's exploration licences require mining companies to practice the precautionary principle, as well as to have Fiji nationals on-board the vessel for monitoring purposes. Mr Finau looked forward to hearing the presentations from the two mining companies, Nautilus and KORDI, to apprehend what environmental management programmes they had in place for Fiji. Fiji was keen to move to place the onus on the companies (onland and offshore too).

### **2.3.4 Presentation 4: KORDI – Project for the SMS Development in Fiji EEZ**

*Presenter: Jang Wan Bang (Director – KORDI Minerals/South Pacific Ltd)*

#### *Presentation Summary*

KORDI, whose headquarters are in Korea, and who has local presence in Fiji, employs about 442 personnel, 226 of which are PhD holders. Its motto is: environment-friendly technology for deep-sea mining and sustainable development for future generations. Current exploration activities are in international waters: in the Western Pacific (Cobalt-rich Crusts), the Clarion-Clipperton Zone (manganese nodules) and the Indian Ocean Ridge (seafloor massive sulphides). KORDI was also in 2008 licensed to explore within the EEZ of Tonga, 9 cruises had been conducted between 2008 and 2012 focussing on SMS.

Exploration cruises were also carried out in Fiji in 2002 and 2003, and KORDI is pleased to have received the recent grant by Fiji of an exploration licence for 25 blocks located within its EEZ. KORDI's research vessel, the *RV Onnuri*, is expected to commence surveying in April (2012) within Fiji's EEZ. A newly constructed research vessel will be available in 2014. A video clip of a hydrothermal vent in Tonga was shown. It highlighted that live chimneys can have temperatures up to 300 degrees and therefore current interest was in mining non-active chimneys (when the mining phase is reached), which were less dangerous, and where there appeared to be surprisingly little marine life present compared to live chimneys.

A work plan for the Fiji Project has been developed from 2012 to 2017, with costs plans to spend US\$31M on exploration in Fiji's waters. The work plan has the following components:

- 2012-2013: locating active and inactive SMS deposits (using Research Vessel) – costs US\$7M.
- 2014-2015: identification of subsurface structure (using Remotely Operated Vehicle, imaging) – costs US\$12M.
- 2016-2017: Appraisal of resources potential (using site drilling) – US\$12M.

KORDI is predominantly funded by the Korean Government, but has become joint venture partners with large international companies such as Samsung ship-builders, Daewoo Ship-building Marine Engineering, LS-Nikko Copper, SK Networks and a steel manufacturer in Korea. This enables KORDI to draw in additional funds and also expertise in ship-building, mining, transportation and mineral processing. This private sector investment is intended to increase in 2014 onwards (from USD17.8M to USD400M) when KORDI approaches commercial mining. The expected benefits for Fiji of developing its DSM resources include increased employment, promotion of related industry, Fiji becoming global DSM leaders, income growth, and expansion of cooperation between Fiji and Korea.

### **2.3.5 Presentation 5: Deep Sea Mining – Solwara 1 Project**

*Presenter: Mr Mike Johnston (Vice President Corporate Development – Nautilus Minerals)*

#### *Presentation Summary*

Nautilus is involved in the most advanced DSM Project in the world: Solwara 1 in Papua New Guinea. Construction for the Project is 40 % complete – with a keel having been laid (in Germany) in December 2011 for the new mining vessel, and with the mining tools currently under construction. The initiative to move mining to the sea is due to continuous rise on the demand for metals and because terrestrial mining in Papua New Guinea has left a massive footprint on-land: an example is one Papua New Guinea on-land mining project where about 100 million tonnes of sand and gravel was removed during the mining process.

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. The Solwara 1 Project involves only a small extraction area of 0.11 km<sup>2</sup>. The minerals are at a depth of 1600 m and located 30 km from the coast away from coral reefs and fish. In Fiji's case, exploration will be 35 km from the nearest coast at depths of about 2000-3000 m. The water column is very structured, and therefore the upper and lower water columns are not expected to mix as a result of DSM exploitation. There are no toxic chemicals or blasting involved – no land clearance or onland construction is required.

It is therefore anticipated to be very limited impact on local communities. The production system is anticipated to be quite simple: a support vessel and a riser pipe. It combines technologies from mineral and oil and gas industries (but it was important to reiterate that there is a different risk profile: the actual deposit isn't under pressure like with an oil or gas well. An accident like the Deepwater Horizon spill wouldn't occur with DSM. The worst scenarios would be either that all the material in the pipe was lost – it would drop and land back on the seafloor where it came from; or sinking of the vessel – these would actually have a small impact).

The Papua New Guinea Government is adopting an approach similar to that planned by Fiji in that they are opting to review their existing legislation instead of developing new laws specifically for offshore activities. Papua New Guinea is reviewing its Mining Act of 1992 and the Environment Act 2000. There has been extensive modelling and independent review conducted for the Solwara 1 Project to assess the possible impacts of exploration and mining. For example, it is anticipated that the plume will barely go outside of the mining licence area (it is therefore highly unlikely that it will travel transboundary, as was queried in an earlier presentation).

Other forms of offshore mining are already happening around the world: dredging (in shallow waters) for diamonds and aggregates. Again this is quite different, as the extreme water pressures of DSM mining are not encountered, and the equipment used is quite different. The large plume developed by dredging is not anticipated to occur with DSM mining.



*Left-Right: Mr Mike Johnston from Nautilus Minerals and Mr Jang Wan Bang from KORDI during their presentations.*

Nautilus have identified that there are three components to DSM extraction: disaggregating seafloor material (cut it into slurry), transporting the material to a ship, and transporting the material to market. Nautilus are keen to raise awareness in Papua New Guinea about exactly what the DSM mining will involve, to ensure that they have both a *legal* licence and a *social* licence to operate. Prior to the mining licence being granted by Papua New Guinea, Nautilus was involved in transparent and inclusive stakeholder engagement and workshops to raise awareness. Issues and concerns raised by communities as well as the impacts and benefits of Nautilus presence were discussed.

### **2.3.6 Presentation 6: Outcomes of the DSM Project Inaugural Workshop and the ISA-SPC Workshop.**

*Presenter: Vira Atalifo (DSM Project Assistant – SPC)*

#### *Presentation Summary*

The presentation covered the two main events for the DSM Project in 2011: the DSM Inaugural Workshop in June and the International Seabed Authority (ISA)-SPC Workshop in December, both held in Nadi Fiji.

The DSM Inaugural workshop captured the importance of DSM for the region and the need for in-depth information sharing. It was a platform for experts to speak on a broad range of issues relating to DSM and mining and for stakeholders to discuss challenges, opportunities, needs and priorities and agree for a way forward for the DSM Project. The workshop was attended by government representatives (from the 15 Project Countries, interested states e.g. China,

Korea), and by a range of international, regional and national agencies, the private sector, and civil society groups.

The eighteen outcomes of the workshop, which covered the following areas, were presented: (1) Regional Approach, (2) Capacity Building, (3) Technology Development and Transfer, (4) Maritime Boundaries, (6) Data and Information, (7) Marine Scientific Research, (8) Community Concerns and Stakeholder Consultation, (9) Environmental Protection Guidelines, (10) Environment Conservation and Monitoring, (11) Information Sharing and Outreach, (12) Fisheries, (13) Resource Assessment, (14) Mining Technical Information, (15) Legal Frameworks, (16) Fiscal Regime, (17) Sustainable Economics, (18) Governance and Transparency.

Also held back-to-back:

1. DSM Project Steering Committee – representatives from participating countries, DSM Team, and EU as donor – meeting to guide Project implementation.
2. Technical Steering Committee – comprising a selected group of world-renowned experts and key stakeholders in the region, meeting to plan the Project’s UNEP-Grid publication about DSM.

The ISA Workshop was held in collaboration with the SPC and the Fiji Government to increase awareness of mineral resources in ‘the Area’, the measures taken by the ISA in regards to the protection of the marine environment, and to formulate preliminary recommendations for the performance of EIA for seabed mining (both within national jurisdiction and ‘the Area’). Representatives attended from 9 member countries of SPC, international agencies, private sector and civil society groups. The outcomes of the three working groups; *Environment Impact Assessment* working group, *Legal* working group and the *Capacity Building* working group were discussed in detail.

### **2.3.7 Presentation 7: The Regional Legislative and Regulatory Framework (RLRF) and Legislation to Regulate Deep Sea Mining.**

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

#### *Presentation Summary*

It is important that States have in place legislation and other administrative matters to regulate DSM activities within their control or jurisdiction. Not only is this required by international law, it will also promote Fiji’s reputation internationally, provide comfort to the people of Fiji about the potential impact of DSM projects, and also provides a regulatory certainty to encourage investment.

The UN Convention on the Law of the Sea (UNCLOS) is a source of many of the important legal principles that apply to DSM. UNCLOS confers sovereign rights to coastal states over the

minerals in their EEZ and extended Continental Shelf, and requires the protection of the marine environment, the implementation of national legislation and administrative measures, and the application of the precautionary approach. Harmonising national frameworks and regulations with international law principles is important in ensuring the best environmental practice is observed in deep sea mining.

The presentation also introduced the DSM Project's Regional Legislative and Regulatory Framework (RLRF), in draft form (at the time of the workshop) and open to consultation – which is aimed to assist Project countries to develop national policy and legislation for DSM.

### **2.3.8 Presentation 8: Fiji – Status of Policy and Legislation Development**

*Presenter: Malakai Finau (Director of Mineral Development)*

#### *Presentation Summary*

The Fiji Mining Act of 1978, and Regulations made under it set provisions governing regulation and management of the mining industry in Fiji. However both instruments, even when coupled with the Continental Shelf Act 1978 and the Marine Spaces Act of 1977, fail to adequately address deep sea exploration and mining in detail. In 2007, Cabinet decided that a moratorium be placed on the issue of any exploration licenses until Fiji is in a position to oversee the realization of the potential of mineral occurrences on or below the seabed in a manner that safeguards the environment. This required first the development of an appropriate DSM policy to regulate offshore activities. Fiji's offshore minerals policy has now been developed, which has enabled the granting of exploration licenses to KORDI and Nautilus. The legal basis for the license grants was ensured by amendments made to the Mining Act, by a Mining Decree of 2010, to extend the definition of the land to include the seabed and its subsoil. The Decree also set a gridding system and a fees schedule, including the cost of the licence application. It is to be noted that this amendment is only to permit exploration and not mining, which will be granted only upon the development of targeted offshore mining legislation.

Recognising the many uncertainties involved with offshore exploration and mining, and its obligations under international law, the Fiji government adopted the precautionary principle to the conditions of the exploration licence to ensure the best environmental practice is observed by mining companies. In addition to minimising environmental damage, also important to note are: ensuring occupational health and safety, and maximising Fiji's financial benefit from the DSM industry. Fiji's mining legislation is currently under review (Mineral Exploration and Exploitation Bill 2006). DSM issues have arisen since this Bill was drafted, and the Fiji Government now needs to decide whether to incorporate DSM into these existing laws or to develop a new stand-alone legislation for DSM exploration and mining.

## 2.4 WORKING GROUPS

Workshop participants were divided into two working groups: (i) a technical and (ii) a law and policy group, for the discussion session.

The technical working group was tasked to discuss technical DSM issues in relation to the needs and priorities of Fiji, 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.

### 2.4.1 Outcomes of Working Group 1: Law and Policy

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

Fiji's offshore minerals policy, and the Cabinet moratorium on the granting of DSM mining licences were acknowledged. It was recommended that Fiji build upon its existing legislation instead of creating a new Bill specifically for DSM activities. It was felt that the Mineral Exploration and Exploitation Bill 2006 (MEEB) can provide for offshore mining its licensing regime. The review of the MEEB must then take into account the Offshore Mineral Policy that has been developed. The group also noted to include provision under the legislation to clarify the investor's interests, and rights, to mine after the exploration phase. The granting of the mining licence should also be based on the performance of the company during the exploration phase.

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

It was noted that a fiscal policy for DSM in Fiji has not been finalised, although a fee structure has been included in the amended decree. MRD is expected to conduct consultation on fiscal regime development and related regulatory policies for DSM. It was agreed that this requires urgent consideration. An issue raised by the group was that mining companies may spend a large amount of capital on exploration alone when perhaps instead of prolonging exploration, mining should proceed earlier. It was agreed that this decision however rests with the Government, and that mining should not be rushed, but should only proceed once exploration had reached an acceptable level, and all relevant requirements for the grant of a mining lease had been met. The granting of the mining licence should not proceed earlier for the sake of Mining quickly, it should only proceed once the exploration had reached an acceptable level (advanced exploration completion, the resources are JORC compliant) and that all relevant requirements needed (legally or otherwise where policy and/or legislation work is absent or in progress) for the granting of a mining lease had been successfully met.

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

The Environmental Management Act (EMA) has jurisdictions over the marine resources in the EEZ/extended Continental Shelf, however clear guidelines and regulations are needed to implement the EMA's provisions to apply in practice to the offshore environment as well as on land. An issue that may perhaps need consideration is the coverage of EMA up to the seabed and below because this region is not clearly defined in the EMA. Although environment and mining legislation are in place to ensure environmental management and best practice, offshore exploration is relatively new and Fiji currently does not have the resources or the capacity to carry out environmental monitoring. Capacity building initiatives for environmental monitoring and management are essential to ensure environmental protection.

*(4) Offshore Mining Legal Instruments in relation to existing National policies, and Regional and International Conventions (e.g. Noumea convention and UNCLOS)*

The incorporation of international and regional conventions into national policy, legislation and regulations for offshore exploration and mining is crucial. International and regional conventions that exist already should be clarified, and gaps within national policies, legislation and regulations should be identified, where bilateral treaties or regional conventions could be introduced.

*(5) Development of Marine Scientific Research Policy*

In the past, the Government use to pay for Marine Scientific Research (MSR) conducted in Fiji and it was agreed that MSR needs to be encouraged for capacity building purposes of offshore exploration and mining along with other offshore developments such as fisheries and shipping etc. An MSR policy is deemed necessary to cover all offshore activities. The input of relevant departments and stakeholders, such as the Fisheries department, MRD, Foreign Affairs and non-governmental organizations, should be sought in the formulation of a new MSR policy.



*Policy Working Group during discussion session focusing on the legal aspects of DSM.*

#### **2.4.2 Outcomes of Working Group 2: Technical Issues**

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

There is a need to build and strengthen institutional capacity in Fiji. Identified sectors include the MRD Offshore Unit, Fiji Islands Maritime Safety Administration (FIMSA), Fisheries, and Environment departments as well as tertiary institutions. It is important that relevant industries are consulted and involved in administering DSM related activities in Fiji to ensure that responsibilities assigned to them will be carried out. With the lack of knowledge and technical expertise in the area of DSM, training and additional qualification of personnel in responsible government ministries/departments is necessary to develop and build in-country capacity. Certain priority professions related to DSM exploration and mining which strongly require capacity building and training initiatives include: geologists, engineers and environmentalists.

If a committee is to be formed to responsibly oversee DSM activities in-country, it is important to consider the involvement and relevant experts in DSM related fields. Better inter-agency communication, understanding and consultation between Government, NGOs and mining companies is essential to ensure successful implementation of DSM activities in Fiji. Community awareness programmes and workshops will also be important to ensure transparency, a well-informed public, and avoid future conflicts.

##### *(2) Opportunities for capacity building*

Capacity building opportunities for Fiji nationals will be important to target technical and academic up-skilling of existing professionals in a field relevant to offshore exploration and mining. This move would avoid having to contract overseas consultants in the future, or a need

to train new personnel at a later date. It is also the most cost-effective approach to building capacity. Assistance could be sought from the DSM Project for such capacity building initiatives. It is also important to secure handling and management of digital technical data which will enable Fiji to confidently supervise and exert control over the management of their offshore resources.

*(3) Environmental monitoring and management for deep sea exploration and mining*

To ensure that environmental monitoring and management of offshore exploration is adequately carried out, the engagement of an independent consultant is proposed, in addition to the monitoring process that will be carried out by relevant government agencies. This is to ensure that the process is vigilantly performed. Funding assistance should be sought from the DSM Project and through other means to build national capacity in areas relating to environmental monitoring of offshore activities, and at the same time action should be taken to identify measures to assist Fiji in its monitoring of DSM exploration work at present.

*(4) Technical and technological challenges and recommendations for deep sea mining*

A collaborative approach is recommended to the technical and technological challenges that Fiji faces in regards to offshore exploration. It is recommended that both the mining company and the Government work in collaboration to attain their respective goals. It was noted that, for Fiji, it is an opportunity to capitalize on its position at the forefront of DSM work, by addressing technical and technological challenges through partnership and participation in exploration and mining activities. It is recommended to avoid 'reinventing the wheel'. Since Fiji is only at its preliminary stage with offshore exploration, it is important to learn and adopt constructive results from other PICs such as Papua New Guinea as well as other developed countries.

*(5) Stakeholder Partnership (e.g. Government-Private sector-SPC-NGO partnership)*

It is important that Fiji engage and maintain partnership with relevant agencies and key partners who have the relevant technical capabilities to assist in this new mining industry in Fiji. When necessary, defined roles and responsibilities can be developed in the form of Terms of Reference (ToR) and Memorandum of Understanding (MoU) to effectively administer and benefit from partnerships.



*Some of the members of the Technical Working Group during the discussion session.*

### *General Issues*

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

The benefits of offshore exploration and mining include the generation of employment, and training and education opportunities for local people. It also brings about revenue for the country, and the acquisition of innovative information and data about the minerals on the seafloor.

The potential adverse impacts are concentrated largely on the marine environment. An EIA should be mandatory for exploration as well as mining and although this work currently remains at the discretion of MRD, it will be an ambitious task in view of the fact that DSM has not commenced and exploration is relatively new hence the precautionary approach is essential. Exploration impacts can perhaps be adequately measured but there are still many unknowns associated with DSM mining.

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

The implementation of such a committee was agreed by both the working groups and the MLMR as the responsible ministry through the MRD will facilitate the establishment of this committee. Suggested membership of the NOMC was representatives of:

- Related government department/ministries
- Non-governmental organisations
- Civil societies and
- Fiji mining and quarries council

Screening for committee members should include those that have interest and connections to offshore exploration and mining. It was agreed for MLMR to follow-up on this recommendation, and to advise the DSM Project of its decision in this regard.

### *(3) Nomination of the DSM Project focal points*

It was agreed that the DSM Project focal points be nominated from the MRD; either the director or his nominee. Suggestions were that a comprehensible mandate be prepared to clarify the role for the individual who will be acting as the focal point for Fiji. It was agreed that the decision would be left to the MLMR, to make the official nominee and advise the DSM Project accordingly.

### *(4) Additional DSM Issues*

A question was raised to the Policy group if there was any discussion about the use of the EITI ('publish what you pay') principles, and the need for greater transparency in terms of mining revenue and money flow. The group responded that the subject was not explicitly covered during their discussions, although there was dialogue about how EIA reports should be published with the aim to support transparency. The EITI was generally agreed to be a positive initiative, which Fiji should follow.

## **2.4.3 Conclusion of the Working Group Session**

It was agreed that a NOMC should be established (to be separate from the Marine Affairs Coordinating Committee) to oversee the development of DSM work in Fiji, and the technical focal point should be identified by the Director of the MRD. A follow-up response will be sent to the DSM Project setting out this decision. Future Project support for Fiji was also emphasised during the workshop.

It was also confirmed that Fiji will review its existing legislation to bring within its scope offshore mining and exploration, and also its declared interest for 'the Area'.

## **2.5 Closing Remarks**

Mr Malakai Finau thanked everyone for a successful workshop and commented that MRD had not previously been greatly accustomed to engaging with civil society however commented the participation of civil society groups and other key stakeholders which contributed a lot to the success of the workshop. He mentioned that MRD is keen to continue this engagement and to be inclusive as DSM work in Fiji moves forward.

## ATTACHMENT 1:

## Workshop Programme

Time	Activity	Presenter
9:00 – 10:00 am	Welcome by Facilitator	Mr Venasio Nasara (Manager Mines Division – Mineral Resources Department (MRD))
	Prayer	Mr Netani Sukunaivalu (Bluewater Minerals)
	Official Opening	Mr Malakai Finau (Director - MRD)
	Responding Remarks	Dr Russell Howorth (Director – SOPAC Division, 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	Akuila Tawake (SPC)
	Fiji Deep Sea Minerals Potential and related technical issues	Mr Loona Wong (Senior Scientific Officer – MRD)
	KORDI - Project for the SMS Development in Fiji EEZ	Mr Jang Wan Bang (KORDI)
	Nautilus Minerals' DSM activities in the Pacific Islands region and proposed activities in Fiji	Mr Mike Johnston (Vice President Corporate Development – Nautilus)
	Outcomes of the DSM Project Inaugural Workshop and the ISA-SPC Workshop	Ms Vira Atalifo (DSM Project Assistant – SPC)
	The Regional Legislative and Regulatory Framework (RLRF) and Legislation to Regulate Deep Sea Mining	Ms Hannah Lily (DSM Project Legal Advisor – SPC)
	Policy and Legislation for Deep Sea Minerals and Mining in Fiji; policies, gaps, requirements and priorities	Mr Malakai Finau (MRD)
12:30 – 1:30 pm	Lunch	
1:30 – 3:00 pm	<p><b>Stakeholder Discussions</b> Participants will be split into 2 groups (policy and technical) and will be required to discuss on the issues listed below :</p> <p><b>Group 1: Policy Issues</b></p> <ul style="list-style-type: none"> <li>Development of Offshore Minerals Policy and Legislation, and Regulation</li> </ul>	

	<ul style="list-style-type: none"> <li>• Appropriate Fiscal Regime policies for deep sea mining</li> <li>• Environmental Management and Monitoring Frameworks/guidelines for deep sea exploration and mining</li> <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>Group 2: Technical Issues</b></p> <ul style="list-style-type: none"> <li>• Determine current institutional capacity and identify priority areas for capacity building</li> <li>• Opportunities for Capacity Building (eg. attachment in offshore exploration and mining)</li> <li>• Environmental Management and Monitoring for Deep Sea Exploration and Mining</li> <li>• Technical and Technological Challenges of Deep Sea Mining and Recommendations</li> <li>• Stakeholder Partnership (i.e. Government-SPC-Private Sector-regional and international organizations-NGO partnership)</li> </ul> <p><b>General Issues:</b></p> <ul style="list-style-type: none"> <li>• Benefits and Adverse Impacts of Offshore Exploration and Mining</li> <li>• Formation of the National Offshore Committee (NOMC);</li> <li>• Nomination of the DSM Project in-country technical focal point(s)</li> <li>• Any additional DSM issues</li> </ul>	All Participants
3:00 – 3:15 pm	Afternoon Tea	
3:15 – 4:30 pm	Group Team Leaders to present on individual team discussions; further discussions and agreement on workshop outcomes.	All Participants
4.40 pm	Closing	Malakai Finau (MRD)

**ATTACHMENT 2:****National Offshore Minerals Committee (NOMC)****Terms of Reference****1. BACKGROUND**

The SPC-EU Deep Sea Minerals Project recommends the establishment of a National Offshore Mining Committee ('NOMC'); and is able to offer funding for technical and policy advisory assistance to support the NOMC in-country activities.

**2. MEMBERSHIP**

The NOMC will be broad ranging in its composition, and inclusive of:

- potentially affected communities
- government officials
- non-state actors (NSA)
- national technical experts

Where possible the NOMC should aim to represent different genders, ages, and ethnicities or other relevant background characteristics, to reflect national demographics.

**3. SCOPE**

The NOMC will:

- provide a forum for informed discussions about marine mineral exploration and mining;
- spearhead and assist the development of national offshore minerals policy, legislation and regulation as well as other deep sea minerals related activities that are within the scope of the DSM Project; and
- provide an accessible means for local communities and interest groups to raise concerns and queries, and to learn more about the opportunities and challenges that will be brought about by deep sea minerals exploration and mining.

**4. OBJECTIVE**

The aim of establishing the NOMC is to facilitate decision-making in relation to the implementation of in-country deep sea minerals activities.

The creation of a cross-agency, multi-disciplinary and participatory committee like the NOMC should ensure that the Government has at its disposal all relevant information for policy and operational decisions; and should enhance public knowledge, understanding and awareness. This should increase the likelihood that policies and decisions related to deep sea minerals will be implemented with public consent and

commitment. The NOMC may also serve to encourage trust and avoid conflicts, and to meet national legal, policy, and good governance requirements.

## **5. RESOURCES AVAILABLE**

Agreed costs of forming and operating the NOMC will be covered by the SPC-EU Deep Sea Minerals Project.

The NOMC will work in collaboration with the SPC-EU Deep Sea Minerals Project Technical Assistance Team (TAT) (i.e. Team Leader, Legal Advisor, Project Assistant) to ensure effective and timely implementation of Project activities. Depending on circumstances and priorities, relevant experts can be contracted to assist the NOMC.

## **6. SUGGESTED NOMC ACTIVITIES AND RESPONSIBILITIES**

- Convene quarterly meetings per year and develop an annual plan of work.
- Develop a national offshore minerals policy.
- Advise upon the drafting of national offshore minerals legislation.
- Make recommendations for other State decisions regarding deep seabed mineral exploration and exploitation.
- Identify opportunities and suitable candidates for capacity building opportunities; and assess the effectiveness of capacity-building initiatives.
- Work with the SPC-EU Deep Sea Minerals Project, identifying particular activities useful in the local context, or particular national support needs with which the Project can assist.
- Facilitate and mediate discussion and consultation between (i) key stakeholders, affected communities and the general public, and (ii) mining companies and/or relevant Government agencies.
- Raise awareness and disseminate accurate information about offshore marine minerals exploration and mining issues.
- Prepare regular (e.g. quarterly) progress reports/updates and submit them to TAT.
- Represent the country, and provide updates of NOMC activities, at national, regional and international meetings/workshops.

## **7. FINANCIAL PROCEDURES**

Reasonable and agreed costs incurred as a result of the NOMC in-country activities will be covered by the SPC-EU Deep Sea Minerals Project. The funds can be drawn down in advance from SPC, and acquitted for subsequently.

Upon written confirmation of bank account details, electronic transfer of funds will be made directly to the responsible ministry and will be managed by the DSM Project focal point in Fiji. The SPC-EU DSM Project contact for funding requests, and acquittals, is Vira Atalifo, on [vira@sopac.org](mailto:vira@sopac.org)/[vira@spc.int](mailto:vira@spc.int).

An estimate of the annual allocation of agreed costs that will be funded by the SPC-EU DSM Project is set out below, for guidance. The initial transfer of funds required for the seating allowance and any other reasonable costs of holding the inaugural meeting of the NOMC will be transferred immediately upon request.

At that meeting, the NOMC should prepare a provisional budget for the first year's activities of the NOMC, including invoices/quotations for its impending activities after the first meeting. Once this has been submitted to, and agreed by, the SPC-EU DSM Project, the funds for those activities can then also be drawn down.

Any expenditure over the total allocation contained in the agreed budget, or on activities that are not contained in the agreed budget and were not otherwise agreed in advance with the SPC-EU DSM Project, will not be funded by the SPC-EU DSM Project.

All expenditure made will have to be acquitted for by the focal point before the NOMC's next meeting, and before any subsequent request for funding can be approved. SOPAC will release funds based on satisfactory work done, work plan and progress report. The acquittal must demonstrate how the funds have been spent, and attach original receipts, invoices or other evidence that will meet auditing standards.

The NOMC should provide the SPC-EU DSM Project a quarterly progress report that includes the details of activities that had been carried out in the last quarter, and a work plan with budget for the next 3 months.

**ATTACHMENT 3:****List of Participants**Wednesday, 28<sup>th</sup> March 2012

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