DEEP SEA MINING — A DANGEROUS EXPERIMENT

Pacific governments should not approve deep-sea mining until more is known about its likely impact.

Deep sea mining (DSM) is the new frontier in extractive mining. For the companies involved, as well as the governments that own the mining rights, it offers substantial profits.

However DSM is still experimental in nature, with potentially vast adverse environmental effects. It also makes use of new technologies that have yet to be tested.

In January 2011, the government of Papua New Guinea (PNG) granted the world's first deep-sea mining lease to Nautilus Minerals Inc, a Canadian mining firm, which is about to embark on a seabed mining project known as the Solwara 1 project.

This experiment, in which the PNG government will have a substantial stake, will take place 1.6 kilometres below the surface of the Bismarck Sea, off the coast of the New Ireland Province of PNG.

In recent months, however, the government has come under increasing pressure from environmental groups and others to withdraw from the project, on the basis that not enough is yet known about its potential environmental impact.

Whatever decision is taken, other island nations should reflect on the arguments being made about the dangers of moving too hastily into DSM, and consider their responsibility to protect marine biodiversity and the seas within the Pacific region.

Conservation concerns

Interest in seabed mining is growing due to an increase in global demand for metals, and the fact that land resources are increasingly being mined to the limits of their capacity.

Solwara 1 is the first of a potentially large number of offshore mining projects within the Bismarck Sea and wider Pacific region.

Applications were approved last year from firms registered in both Nauru and Tonga to explore areas within the jurisdiction of the UN's International Seabed Authority (ISA).

Solwara 1 focuses on mineral deposits laid down over thousands of years around underwater hydrothermal vents (geysers), known as seafloor massive sulphides. These deposits occur at depths of one to two kilometres, and can range in mass from several thousand to 100 million tonnes.

However fears have been expressed by critics of the project that not enough research has been carried out to enable convincing conclusions to be drawn on the likely environmental impacts of DSM, particularly as there is very little knowledge of biological diversity and ecosystems within the deposit areas.

The ecosystems surrounding hydrothermal vents combine superheated and highly mineralized vent fluids with microbes that are capable of using chemicals as a nutritional source. In recent years, such ecosystems have been found to host over 500 species previously unknown to science.

Conservation strategies need to be developed to mitigate the impact of mining activities and enhance the recovery of biodiversity in the mining zones, particularly since the project is likely to have a severe impact on the rarely explored biological ecosystems found at Solwara 1 and subsequent mining locations.

Moreover, the projected benefits of Solwara 1 to local people and the PNG economy are relatively low when compared to the size of the project and the level of risk to the environment that is involved.

The project is predicted to earn more than US$1 billion during a 30-month lifespan. But the PNG government will only collect US$41 million in taxes and royalties.

Global protests

Worldwide, there is now a growing community of concerned groups who question the sustainability of this experiment and its impact on both commercial fishing and the sustenance activities of coastal communities.

For example, ACT NOW!, a local nongovernmental advocacy group in PNG, has launched an email petition targeting Pacific island governments in an attempt to persuade them to 'Stop Experimental Seabed Mining in the Pacific'.

They warn that the experiment risks causing an environmental catastrophe, and point out that it is not a sustainable development option for indigenous peoples of the Pacific region.

As opposition grows, developers have begun to support activities which appear to compromise the independence of agencies responsible for regulating or promoting conservation and healthy oceans.

For example, the Australian Museum in Sydney, Australia, recently held a Deep Oceans exhibition, to enable young people to learn about the importance of ocean floors, for which one of the exhibition's supporters was Nautilus.

Time for caution

The Government of the Northern Territory in Australia has already become the world's first local government to impose a moratorium, until 2015, on this experimental deep-sea mining, after opposition from Aboriginal communities, game fishing groups and the Australian Marine Conservation Society.

Papua New Guinea, under new prime minister Peter O'Neill, is now coming under increasing pressure to pull out of its agreement on Solwara 1, following mounting criticisms both at home and abroad.

Other countries within the Pacific should do the same and bring a halt to DSM until more is known about its potential impacts.

Given the risks involved, island nations might be better off placing more emphasis on protecting the diverse marine biodiversity and seas within the Pacific for example through the benefits that extra tourism can bring and less on the economic gains to be made by exploiting the minerals that lie beneath them.

Source: http://www.scidev.net/global/biodiversity/opinion/deep-sea-mining-a-dangerous-experiment.html