Deep Sea Minerals- Kiribati

“Development of environmental management frameworks and regulations for seabed mineral exploration and exploitation”

Minerals Unit- Ministry of Fisheries and Marine Resources Development
Presentation Outline

- Kiribati limited economical resources
- Alternative resources - Seabed minerals
- Environmental Management Legislations and frameworks in Kiribati
  - Existing Legislations
  - EIA process in Kiribati
  - Knowledge gaps/capacity building initiatives
  - National concerns
Kiribati at a glance

- The Republic of Kiribati is an island nation composed of 3 groups of islands, the Gilberts, Phoenix and Line islands; stretching over 2000 nautical miles of the equatorial south pacific.
- Population is ~ 100,000
- EEZ is over 1,015,000 square Nautical miles (an equivalent of approx 3.5 million square kilometers)
Kiribati economical resources

- Heavily dependent on foreign assistance and fisheries
- Limited land area (1: 50,000 Land to sea ratio)
- Vast ocean space provides an opportunity for acquiring a higher proportion of resources in ocean than on land
- Major marine resource utilized in Kiribati is fisheries
- Huge pressure on fisheries
- Need to find alternative economical resources
Alternative resources - Seabed Minerals

• Nearshore minerals (lagoonal aggregates)

• Offshore (Deep Sea) Minerals
  ◦ Polymetallic nodules
  ◦ Cobalt rich crusts

Potential of seabed mineral resources is welcomed
Deep Sea Minerals in Kiribati

- **Occurrence**
  - Initially identified with early mineral exploratory activities during the Pacific Ocean expedition in the 1960s and early 1970s.
Deep Sea Minerals in Kiribati

- Although the studies identified the existence of these minerals in Kiribati waters, no study has yet confirmed the viability of the principal economic minerals (Ni, Co, Cu) for exploitation, suggesting that more exploration, studies and assessment is required.

Courtesy of SOPAC
Exploring potential of Seabed minerals

- Exploring the potential of these minerals will significantly contribute to optimizing the benefit from the large size and extent of the EEZ of Kiribati and, to alleviate the economic vulnerability of Kiribati’s limited resource base.

- Need to set up environmental management policies, frameworks and regulations for:
  - Protection of the seabed, pelagic and benthic environment, including existing fauna and flora
  - Protection and conservation of the integrity of biodiversity and ecosystems
  - Obligation to apply environmental best practices and precautionary approach principles

  - **Knowledge gaps!**
Existing Legislations and frameworks-Kiribati

  - EIA requirement
  - Emphasis on the protection of biodiversity and prevention of detrimental impacts on habitats and ecosystems

- **Kiribati Fisheries Act (2010)**
  - Sustainable use of ocean resources
  - Protection of marine environment from pollution and degradation from vessels/fishing fleets

- **Policy gaps!**
Gaps!

- Knowledge/experience
  - Protection of seabed environment is difficult since system is complex and not yet fully understood
    - precautionary approach and environmental best practices
  - Risk assessments, baseline data, etc

- Policy issues
  - Current legislations fail to fully/specifically address issues in regards to exploration and exploitation of mineral resources
Overcoming such issues

- Knowledge gaps
  - Partner with private sector and research organizations and aim to collect baseline data, etc, and contribute to increase understanding on complex seabed systems
  - Engage in attaining experience, expertise and knowledge in the underlying science from world experts

- Policy gaps
  - Participate in activities in “the area” where there is over 30 years of developmental research on policy and regulatory frameworks for protection of marine environment
Addressing policy gaps

- Noumea Convention
- PIROF
- Madang Guidelines
- ISA regulations
  - Regulations enforcing:
    - Preliminary assessments of environmental protection regimes and environmental impacts
    - Prevention, reduction and controlling of pollution and degradation of biodiversity, habitats and ecosystems
    - Submission of annual environmental monitoring programs/data/information
Addressing knowledge gaps

- Knowledge gaps
  - Partner with private sector and research organizations to collect baseline data, etc, and contribute to increase understanding on complex seabed systems
- Kiribati does not have technical and technological knowledge on Mineral Mining.
- Turn to private sector/organizations (such as SPC-SOPAC division) for technology transfer/capacity building
Kiribati Seabed mineral deposits

• "Kiribati’s seafloor polymetallic nodule deposits will play a key role in the future development of the State, assist Kiribati diversify its narrow economic base, as well as provide career opportunities for Kiribati nationals in a new industry.

• At the same time Kiribati recognizes the need to engage with the deep-sea mining industry and attract foreign investment to ensure Kiribati can build its national capacity to a level that will ensure Kiribati fulfills its international obligations under UNCLOS pertaining to environmental protection.

• In this way, Kiribati can ensure that the polymetallic nodule resources within its EEZ are developed in an environmentally sustainable manner whilst achieving the State’s economic development aspirations."
Other mining projects in Kiribati

• Aggregate Mining Project
  ◦ Funded by EU
  ◦ Focused at dredging aggregates from lagoonal area in Kiribati
  ◦ Provide materials for much needed roadworks, constructions, etc
  ◦ EIA is currently being conducted for such an activity
  ◦ Could be used for basis to conduct EIA for deep sea mineral exploration/exploitation
Deep Sea Minerals Workshop
Community consultations
Community concerns

- Environmental impacts
- Fishery and marine life
- Waste disposal management
- Institutional development in areas such as: Marine geology, Oceanography, Environment EIA, Marine environmental science, Mining Engineering
- Participation of locals in observatory schemes
- Delimitation of fishing rights boundary from exploratory/exploitation areas
Summary

- Deep Sea Mineral activities is a relatively new concept.
- To utilize deep seabed materials, emphasis should be placed on protection of the environment that such materials exist in and the flora and fauna that coexist with such materials.
- Partnering with the private sector/research organizations and drawing from their experience and knowledge and also the expertise of the International Seabed Authority, can greatly help address issues of knowledge and policy gaps in terms of environmental management frameworks.
Kiribati assurance

- Kiribati is very much reliant on its ocean and have a deep connection to the ocean and its resources
  - Establishment of PIPA (MPA)
- Any activities of such for that matter, will be scrutinized to make sure that it does not pose, to an extent, detrimental impacts to the marine environment, existing habitats and flora/fauna, in accordance to international standards, as per obligations under LOSC
- Develop Kiribati mineral Act, which will oversee that such issues, as discussed, are met and addressed
Thank you for your attention!

Questions?