

Capacity-Building and Technology Transfer Issues Related to Marine Genetic Resources: Challenges and Opportunities



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Working Group on Access and Benefit-sharing**

GR/ABS Capacity-building: CBD



- **Convention on Biological Diversity**
 - Art. 16 Technology Transfer: facilitated under fair and most-favourable terms; ensure IPRs are supportive
 - Art. 18 S&T Cooperation: Promotion of technical and scientific cooperation; Clearing House Mechanism
 - Art. 20 Financial Resources: Bilateral and Multi-lateral
 - Art. 21 Financial Mechanism: Global Environmental Facility
- **CBD Article 15 Genetic Resources**
 - Benefit-sharing based on Mutually-agreed Terms
 - Bonn Guidelines (Capacity-building/Technology Transfer related “Monetary and Non-monetary Benefits”)
 - ?International Regime Negotiations: Elements (UNCLOS)

Capacity-building: WSSD

- **2010 Biodiversity Aims (para. 44)**
 - New financial and technical resources to developing countries and actions at all levels
 - Enhanced biotech S&T cooperation (human resources, capacities of research institutions)
 - Negotiate International ABS Regime

- **Marine and Coastal Ecosystems (para. 36):**
 - Increase S&T collaboration
 - Appropriate transfer of marine science and technologies
 - Build capacity in marine science and information
 - Support for international organizations (IOC, UNESCO, FAO) to build national and local marine science capacity

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ABS Capacity Building: CBD “Action Plan”

- Capacity-building activities related to access and benefit-sharing are a crucial element to:
 - Achieving all three CBD objectives
 - Meeting 2010 target?

- Action Plan an important framework for identifying capacity needs, priority areas for capacity-building, sources of funding

- Action Plan to be used when designing and implementing national, regional/sub regional and international plans and strategies

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ABS Capacity Building: CBD “Action Plan”

Key Elements

- **National Level**
 - Inventory of GRs
 - Assessment of existing capacity
 - Strengthen institutional, Administrative, Financial and technical Capacities
 - Mechanisms for monitoring and Compliance
 - Information mechanisms
- **International Level**
 - Clearing-House Mechanism (Capacity-building database)
 - Enhanced effectiveness/adequacy/coordination of financial resources
 - Use of roster of experts
 - Enhanced capacity-building synergies of international organisms

Marine Genetic Research: Current Bioprospecting Context

- Marine research funding and activities originating in both developed and developing countries
- Deep seabed research largely domain of select developed country collaborators
- Range of public and private international research collaborations have low participation rates from developing countries
- High engagement of National Marine Institutes
- Voluntary efforts at international scientific co-operation inc. to protect ecosystems (e.g. hydro-vents and InterRidge)
- Limited number of Marine ABS Contracts (e.g. Commonwealth of Australia and J. Craig Venter Institute)
- Technological Opportunities/Constraints – New deep sea technologies are both enabling but they are expensive and few countries have access to these technologies
- Institutional Framework: BBNJ bioprospecting poorly understood and governance structures under debate



Marine Research: Unique Need for International Co-operation/Capacity-building

- Potential wealth of GRs have benefits for all
- Significant international research effort necessary (ecosystems, taxonomy, genomics)
 -lending itself to international collaborations
- Technological barriers (e.g. ROVs) require collaboration including international (both developed and developing countries)
- Indigenous and local coastal communities have capacity needs and have capacity and knowledge, approaches, experience to transfer

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Marine Genetic Resources: Capacity-building Opportunities

- Knowledge: Global Inventory of Marine GRs (Taxonomy/Genomics)
- Networks: Information mechanisms (capacity-building database)
- Financial:
 - Need to ear-mark funds for cooperative marine genetic resource research and capacity building
 - Based on assessment of effectiveness/adequacy/coordination of current financial resources
- Institutional:
 - Strengthen institutional, administrative and technical capacities
 - Mechanisms for monitoring and compliance with new national/regional regulations and policies
- Human Resources
 - Need to develop ABS/GR expertise (e.g. marine taxonomists)

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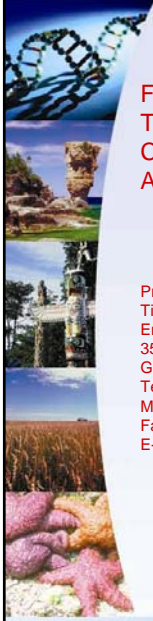
Marine Genetic Resource: Technology Transfer Opportunities

- Enhance awareness of ABS amongst marine science research community
- Ensure international governance structures adequate and appropriate for MGR exploration and use
- Improve developing country participation in international marine collaborations
- Identify sources for new funding for MGR capacity-building
- Identify effective mechanisms to support technology/know-how transfer
- Improve methods for the valuation of MGRs
- Explore potential of commercial/non-commercial MGR research to support broad marine conservation and sustainable use goals
- Enhance two-way flow of knowledge and technologies with/among indigenous and local communities



Charting a Course Towards Opportunity

- International ABS Negotiations: Opportunity to raise the profile of marine biotechnology research; marine sector needs to actively engage in talks
- 2010 Biodiversity Commitments: Growing sense of urgency/opportunity to enhance support for international marine S&T collaborations based on both socio-economic and conservation goals
- Opportunity to incorporate ABS principles into existing international marine research collaborations
- Collaborative research models using genetic resources are evolving in nature and terms, bringing greater promise for capacity building and tech transfer
- ABS institutional frameworks supporting technology transfer are evolving based on lessons learned
- Enhance understanding of MGRs (nature and use) represents major potential to build capacities



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