Convention on Biological Diversity

Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA)

SBSTTA 8 - Eighth Meeting of the Subsidiary Body on Scientific, Technical and Technological Advice - Montreal, Canada (10 - 14 March 2003)

Recommendation VIII/3

Marine and coastal biodiversity: review, further elaboration and refinement of the programme of work

C. Mariculture

The Subsidiary Body on Scientific, Technical and Technological Advice *recommends* that the Conference of the Parties:

1. *Welcomes* the summary report of the Ad Hoc Technical Expert Group on Mariculture (UNEP/CBD/SBSTTA/8/9/Add.2) and the full report of the Group as presented as an information document (UNEP/CBD/SBSTTA/8/INF/6);

2. *Expresses its appreciation* to the Food and Agriculture Organization of the United Nations (FAO) for the technical support and meeting facilities provided for the meeting of the ad hoc technical expert group on mariculture;

3. *Takes note* of the negative biodiversity effects of mariculture, as described in section II of the summary report of the Ad Hoc Technical Expert Group on Mariculture, and of the methods and techniques available for their mitigation, as described in section III of that summary report;

4. *Notes also* that mariculture may have some positive effects on biodiversity, as described in section IV of the summary report;

5. *Urges* Parties and other Governments to adopt the use of relevant methods and techniques for avoiding the adverse effects of mariculture on marine and coastal biological diversity, and incorporate them into their national biodiversity strategies and action plans;

6. *Recognizes* the complexity of mariculture activities, the highly variable circumstances of different geographical areas, mariculture practices and cultured species, as well as social, cultural and economic conditions, which will influence mitigation options, and, accordingly, taking into account the special needs of and the difficulties faced by stakeholders in developing countries, recommends that Parties and other Governments adopt the use of the following specific methods, techniques or practices for avoiding the adverse biodiversity-related effects of mariculture:

(a) The application of environmental impact assessments, or similar assessment and monitoring procedures, for mariculture developments, with due consideration paid to the scale and nature of the operation, as well as carrying capacities of the ecosystem, taking into account the guidelines on the integration of biodiversity considerations in environmental impact assessment legislation and/or processes and in strategic impact assessment, endorsed by the Conference of the Parties in its decision VI/7 A, as well as the recommendations endorsed in decision VI/10, annex II, on the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to impact on, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities. There is a need to address the likely immediate, intermediate and long-term impacts on all levels of biodiversity;

(b) Development of effective site-selection methods, in the framework of integrated marine and coastal area management, taking into account the special needs and difficulties encountered by stakeholders in developing countries;

(c) Development of effective methods for effluent and waste control;

(d) Development of appropriate genetic resource management plans at the hatchery level and in the breeding areas, including cryo-preservation techniques, aimed at biodiversity conservation;

(e) Development of controlled low-cost hatchery and genetically sound reproduction methods, made available for widespread use, in order to avoid seed collection from nature, where appropriate. In cases where seed collection from nature cannot be avoided, environmentally sound practices for spat collecting operations should be employed;

(f) Use of selective fishing gear in order to avoid/minimize by-catch in cases where seed are collected from nature;

(g) Use of local species and subspecies in mariculture, noting that use of non-indigenous species may be appropriate in some circumstances;

(h) Implementation of effective measures to prevent the inadvertent release of mariculture species and fertile polyploids, including, in the framework of the Cartagena Protocol on Biosafety, living modified organisms (LMOs);

(i) Use of proper methods of breeding and proper places of releasing in order to protect genetic diversity;

(j) Minimizing the use of antibiotics through better husbandry techniques;

(k) Ensure that fish stocks used for fish meal and fish oil are managed in such a way as to be sustainable and to maintain the trophic web;

(l) Use selective methods in industrial fisheries to avoid/minimize by-catch.

(m) Considering traditional knowledge, where applicable as a source to develop sustainable mariculture techniques;

7. *Urges* Parties and other Governments to adopt best management practices and legal and institutional arrangements for sustainable mariculture, taking into account the special needs and difficulties encountered by stakeholders in developing countries, in particular through implementing Article 9 of Code of Conduct on Responsible Fisheries, as well as other provisions in the Code dealing with aquaculture, recognizing that it provides necessary guidance to develop legislative and policy frameworks at the national, regional and international levels;

8. *Requests* the Executive Secretary to undertake a comprehensive review of relevant documents on best practices relevant to mariculture, and to disseminate the results, as well as relevant case studies, through the clearing-house mechanism prior to the tenth meeting of the Subsidiary Body;

9. *Approves* the research and monitoring priorities identified by the Ad Hoc Technical Expert Group on Mariculture as outlined in the annex to the present decision, and *recommends* their implementation as part of the programme of work on marine and coastal biological diversity;

10. *Recommends* that the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations and other relevant organizations, explore ways and means for implementing these research and monitoring priorities, including an evaluation of means through which mariculture can be used to restore or maintain biodiversity;

11. *Recommends* that the Executive Secretary, in collaboration with the Food and Agriculture Organization of the United Nations and other relevant organizations, harmonize the use of terms in regards to mariculture by further developing and adopting the glossary of the Food and Agriculture Organization of the United Nations;

12. *Expresses its support* for regional and international collaboration to address transboundary impacts of mariculture on biodiversity, such as spread of disease and invasive alien species;

13. *Decides to promote* technical exchange and training programmes, and transfer of tools and technology;

14. *Decides* to examine the need for support through the financial mechanism to developing country Parties for country-driven activities aimed at enhancing capabilities to mitigate the adverse effects of mariculture on biological diversity.

Annex

RECOMMENDATIONS FOR FUTURE RESEARCH AND MONITORING PROJECTS

The Expert Group recognizes that at the present time there is insufficient information available about the effects of mariculture on biodiversity and its mitigation. Therefore, additional efforts, including through the use of the knowledge, innovations and practices of indigenous and local communities as appropriate, should be developed in the following areas:

(a) *General research needs*:

(i) Development of research programmes to support establishment of efficient monitoring programmes to monitor impacts of mariculture on marine and coastal biological diversity; (ii) Development of criteria for judging the seriousness of biodiversity effects of mariculture; (iii) Subsequent establishment of monitoring programmes to detect biodiversity effects of mariculture; (iv) Research on the impact of escaped mariculture species on biodiversity; (v) Development of criteria for when environmental impact assessments are required, and for the application of environmental impact assessments at all levels of biodiversity in the context of the guidelines endorsed by the Conference of the Parties in decision VI/7 A (genes, species, ecosystems), and the recommendations endorsed in decision VI/10, annex II; (vi) Noting that the FAO glossary of terms is skewed towards marine capture fisheries, expansion of this glossary with regard to its terminology related to aquaculture; (vii) Reinforcement of global assessments of marine and coastal biological diversity;

(b) *Research related to impacts of mariculture on genetic diversity*:

(viii) Development of genetic resource management plans for broodstock;
(ix) Research aimed at understanding genetic effects of biotechnology developments in aquaculture;
(x) Research aimed at understanding genetic structure of both the farmed and wild populations, including:

Â· Effects of genetic pollution from farmed populations on wild populations;
/ Â· Maintenance of genetic viability of farmed populations;
Â· Studies of (genetics of) wild populations as potential new candidates for mariculture;

(c) *Research related to impacts of mariculture on species diversity*:

(xi) Support for basic global-scale taxonomic studies, possibly in conjunction with the Global Taxonomy Initiative (GTI); (xii) Support for studies aimed at development of responsible aquaculture using native species; (xiii) Development of methods and techniques for limiting by-catch of seed collection;

(d) *Research related to impacts of mariculture on ecosystem diversity*:

(xiv) Research on carrying capacity and carrying capacity models for planning aquaculture, especially stocking rates; (xv) Comprehensive studies to quantitatively and qualitatively assess effects of mariculture on biodiversity for various aquatic ecosystems, selected by their sensitiveness degree; (xvi) Research on the competitive nature imposed on marine fisheries by capture

and culture fisheries; (xvii) Studies aimed at improved understanding of the effects of inputs, such as chemicals, hormones, antibiotics and feeds on biodiversity; (xviii) Research on the impact of diseases in cultured and wild species on biodiversity;

(e) *Research related to socio-economics, culture, policy and legislation*:

(xix) Comparative studies on legislation, economic and financial mechanisms for regulating mariculture activity; (xx) Development of quantitative and qualitative criteria to assess mariculture impacts on the environment, including cultural and social impacts, as outlined in the recommendations of decision VI/10, annex II;

(f) *Monitoring programmes*:

(xxi) Support for mariculture-related disease monitoring programmes at the global level; (xxii) Support for the transfer of biotechnological diagnostic tools for wide use; (xxiii) Update of taxonomic database including genetic diversity at the intra-specific level.