

INTERNATIONAL OCEAN INSTITUTE

INTERNATIONAL MANAGEMENT OF SEA-BED RESOURCES

A proposal for arrangements to assist Governments, of especially of developing countries, to prepare for their participation in the work of the principal organs of the Sea-bed Authority, in the Enterprise, and in such subsidiary bodies of the Authority as it may establish.

I.O.I.

Malta,

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INTERNATIONAL MANAGEMENT OF SEA-BED MINING

Background

The Informal Composite Negotiating Text, in Part XI (Articles 133 to 192 and Annex III, II and V) , provides for establishment of

an ASSEMBLY, consisting of all members of the Authority;

a COUNCIL, consisting of 36 members elected by the Assembly;

and a SECRETARIAT

as principal organs of the Authority; and, as organs of the Council,

a TECHNICAL COMMISSION, composed of 15 members appointed by the Council,

an ECONOMIC PLANNING COMMISSION, composed of 18 experts appointed by the Council,

and a RULES AND REGULATION COMMISSION, composed of 15 members appointed by the Council;

in addition the Enterprise is to have

a GOVERNING BOARD, composed of 15 members elected by the Assembly,

and its own STAFF;

finally, there is to be

a SEA BED DISPUTES CHAMBER, composed of 11 members selected from among members of the Tribunal.

Participation in the work of these bodies will call for highly qualified, and in many cases very specialised personnel. The Experts, members of the Economic Planning Commission "shall have appropriate qualifications and experience relevant to mining and the management of mineral resource activities, and international trade and finance". The Experts, members of the Technical Commission, "shall have appropriate qualifications and experience in economics, the management of mineral resources, ocean and marine engineering and mining and mineral processing technology and practices, operation of related marine installations, equipment and devices, ocean and environmental sciences and maritime safety, accounting and actuarial techniques". The members of the Rules and Regulations Commission, "shall have appropriate qualifications in legal matters, including

those relating to ocean mining and other marine matters". The Tribunal is to be composed of persons (from among whom are to be selected the eleven members of the Sea-bed Disputes Chamber) "enjoying the high reputation for fairness and integrity and of recognized competence in matters relating to the law of the sea". The secretariat of the Authority and the staff of the Enterprise will be composed of highly scientific and technical officers specialised in the various fields to which the powers and functions of the Authority relate.

The wide range of the matters with which these organs will have to deal, and the technical nature of those matters, are shown in the fourteen items of Article 163 (2), relating to the Technical Commission, and similarly in Article 160 describing the powers and functions of the Council, and Article 158 describing the powers and functions of the Assembly.

The members of the Assembly, apart from dealing with procedural and administrative matters (Art. 158, i, ii, iii, iv, v, vi, vii, viii, ix, xv and xvi), must examine periodic reports (x), make studies and recommendations for the purpose of promoting international cooperation and encouraging the progressive development of international law (xi), adopt rules etc. for equitable sharing of financial and other economic benefits derived from activities in the Area (xii), consider problems of a general nature in connection with those activities (xiii), and establish a system of compensation (xiv). The procedural and administrative responsibilities include the selection of members of organs and the appointment of officers with technical qualifications.

The Council similarly will have procedural and administrative matters to deal with (Article 150, ii, iii, iv, v, xv, xvi), and will be responsible for supervising and coordinating the implementation of the provisions of Part XI of the Convention (i), entering into agreements with the UN and other intergovernmental organizations (vi), examine and present reports (vii, viii), issue directives to the Enterprise (ix), approve plans of works (x), exercise control over activities in the area (xi), adopt measures to protect against adverse economic effects (xii), recommend a system of compensation (xiii), review the collection of payments (xv), and recommend policies and procedures (xvii).

It is obvious that the work of the Authority will have a considerable technical element, and that this will be true for the Assembly as well as for the other organs of the Authority. Effective representation of Member States in the Assembly and Council will require, in addition to the diplomatic skills for negotiation and the ability to participate in procedural and administrative matters, a knowledge of the technology of sea-bed mining, and of its financial, economic, legal, social and political aspects. The work of the Commissions, of the Governing Board of the

Enterprise and of the Sea-bed Disputes Chamber will be still more specialised and technical.

The work of the Authority will call for participation at the following levels:

- A. of policy-making and overall direction in the Assembly,
- B. of supervision and general management in the Council,
- C. of conducting the affairs of the Enterprise in the Governing Board,
- D. of economic, technical and legal research and advising, in the Commissions, and the exercise of jurisdiction with respect to disputes, in the Sea-bed Disputes Chamber,
- E. of administrative work of a scientific and technical nature in the Secretariat and in the Staff of the Enterprise.

In practical terms, the matters to be discussed in the organs of the Authority, and about which decisions will have to be taken - variously, according to the level of work - are such as the following:

1. Nature and distribution of resources to be managed including composition, locations, quantities, mechanism of formation and so on.
2. Factors influencing choice of location for exploitation such as topography of sea-bed, soil mechanics of bottom sediments, sea state conditions, depth of water, proximity to processing locations.
3. Details of machinery for harvesting nodules and other resources.
4. Details of means of raising nodules and other materials to surface such as air lifts, dredges and so on.
5. Level and sources of power needed for recovery operations.
6. Requirements for "motherships" for recovery equipment and ships or barges for transporting nodules and other materials to processing plants.
7. Nature and ~~possibility of effects on environment~~ and ecology and any necessary precautionary measures.

8. Processes for treating nodules for extraction of metals, and for treating other materials, forms to be marketed, reagents involved, residues to be disposed of, location of operations.
9. Channels for marketing and relation of supply from sea-bed sources to supply from other sources with respect to supply vs demand situations and effects on prices and scale of operations.
10. Capital requirements for operations and sources of capital.
11. Bases of estimating return on investments.
12. Bases of imposing fees for rights of access.
13. Procedures for monitoring payment of fees, royalties or share of profits.
14. Principal uses of nodule metals and future trends.
15. Bases for allocating revenues to authority for administration, and to developing countries, research and so on.

The participants in such work will require formal education and practical experience in subjects such as the following:

- marine science and in particular ecology, and pollution research
- ocean and marine engineering (marine installations, equipment and devices)
- mining technology and mineral processing technology
- marine medicine
- economics
- Management of marine and mining enterprise
- accounting and actuarial science
- international trade and finance
- maritime law
- international law
- international affairs.

Each level of participation will require a particular range of subjects and type of training and experience as is indicated in the following specifications:

At level A

knowledge of the economic, financial, social and political aspects of exploitation of the resources of the seas, including the production of, trade in and use of minerals of the kind available from the Area and familiarity with the technical terminology of sea-bed mining and its related industries, so as to be able to participate in the formulation of the policies of the Authority; and experience with procedures and practices of intergovernmental bodies so as to participate in elections, budgetary deliberations, the formulation of rules and regulations, and examination of other administrative matters.

At level B

knowledge of the technology of sea-bed mining and related industries and of the management of enterprises engaged in such activities, of international procedures for the control of such activities, and of the economics of international trade in minerals, so as to be able to participate in the formulation of specific policies, the supervision and coordination of implementation of the provisions of that Part of the Convention that relates to the Area and the Sea-bed Authority, the issuance of directives to the Enterprise and control over its activities, the approval of a plan of work for conduct of activities in the area and control over such activities, adoption of measures to protect against adverse economic effects, and recommendation of a system of compensation; and experience with the procedures and practices of intergovernmental bodies so as to participate in elections, budgetary deliberations, the formulation of rules and regulations, and examination of other administrative matters.

At level C

knowledge of the technology of sea-bed mining and its management and financing, considerable experience in the management of industrial enterprises, and high qualifications in public and private administration.

At level D

The experts of the Economic Planning Commission, who shall have the qualifications specified in Art. 162 para. 1, quoted earlier, will apply their skills to reviewing "the trends of, and factors affecting, supply, demand and prices of raw materials which may be obtained from the Area, bearing in mind the interests of both importing and exporting countries, and in particular the developing countries among them"

The experts of the Technical Commission, who shall have the qualifications specified in Art. 163 para. 1, quoted earlier, make recommendations to the Council, advise the Council and its other organs, prepare studies, reports, and assessments, supervise operation, direct and supervise staff of inspectors, inspect and audit books, records and accounts, issue orders, disapprove areas, and review plans of work.

The members of the rules and Regulations Commission, qualified in legal matters, will formulate rules, regulations and procedures and keep them under review.

At level E

knowledge of and experience in a set of specializations but with special administrative skills in collecting, compiling, analysing and interpreting data and information, and in setting up and managing international exchanges and cooperation with respect to such information and to the activities from which it is drawn and in which the results of processing it, are applied.

Since research on and exploration of the resources of the area and development of the technology of exploitation has so far been effected by relatively few countries, most countries will have to take vigorous action to acquire and develop a competence to participate in these several levels, but the task confronting the developing countries will be especially onerous.

Apart from their presence in the Assembly, the developing countries will be represented on the Council by the eight members elected under Article 159, 1(d) and (c) and by others as may be elected to any of the eighteen seats specified by paragraph 1(e) of Article 159. In addition, these countries will wish to nominate experts for appointment to the Economic Planning, Technical, and Rules and Regulations Commissions and the Tribunal. Finally, they will wish to offer specialist personnel for appointment to the Secretariat of the Authority and to the Staff of the Enterprise. Whilst they might not find much difficulty in providing personnel with requisite diplomatic and political skills, they are likely to find great difficulty in providing a sufficient number with the specialised economic, scientific and business expertise that will be required for appointment to the Economic Planning, and Technical Commissions.

The qualifications indicated in the specifications above are to be acquired in a variety of ways which in some countries are open through established educational processes but in the developing countries are open only partially, or even not at all. In brief, their acquisition

for the purposes of public administration and international negotiation is a concomitant of the development of the industry. As in other fields, most of the qualifications are acquired through basic training followed by experience in research, industrial operations or administration, or some combination of these. But in this case the characteristics of the industry, of the resources it exploits and of the circumstances in which it operates, are such that much is peculiar to it and to be learned only in the activity itself; this means that general training is not sufficient by itself and that much specialised training in other fields is inapplicable; and thus direct access to and participation in the activity is an indispensable element of training.

Candidates from a few of the advanced countries will be able to meet part of these conditions, essentially those of background (academic) training, and of opportunity for operational experience; but it is a further characteristic of the situation that the facilities for specialized background training are available chiefly in those countries that already have the technology.

A country's ability to participate adequately at the several levels of the work of the Authority will involve, in addition to deployment of personnel with the required qualifications, adoption of measures to ensure that its personnel will have access to up-to-date information on the state of the industry in all its sectors, on technological developments and on related matters. Multi-lingual glossaries will be necessary, as will suitable technical manuals on the activities in their various aspects; indicative compendia of statistical information and of intelligence on current activities also will be required, and will have to be kept up-to-date.

It is a principle of the ICNT that the Authority should ensure that developing countries will have opportunity and the capability to participate in the exploitative activities (inter alia Art. 148, Art. 150, 1(b), 1(g) and 2(b)), and in research (Art. 143); the Authority has therefore to promote the transfer of technology (Art. 144), and applicants for contracts with respect to exploration and exploitation must give an undertaking to train personnel of the Authority and of developing countries (Annex 2, paragraph 9). But, while these arrangements will enable the developing countries, in time, to participate in the activity as such, they are unlikely to equip the developing countries for participation in the work of the Authority and its organs especially during the critical initial period, up to the Review Conference. The IOI believes that special arrangements should be put into operation without delay to assist governments in meeting these problems and for this purpose proposes the following plan of action.

Proposed Action

A programme should be initiated immediately a) to provide information about required qualifications, b) to provide assistance towards acquisition of necessary qualifications and c) to prepare the glossaries, manuals and compendia mentioned above.

This programme would be carried out in four stages:

- I. Analytical studies of the required qualifications, means available for acquiring such qualifications and as necessary design of new curricula.
- II. Preparation of a manual of minimum and desirable qualifications related to the functions of the Authority, with indication of the courses and practical experience by which such qualifications are to be acquired and of where (in which institutions, enterprises etc.) such training can be acquired.
(This manual would be given wide distribution, and would be accompanied by announcement of plans for Stage III).
- III. Crash course on the convention, primarily for the technical personnel of Levels C and D, but with orientation for those of other levels. Formulation of plan for preparation of manuals (on sea-bed mining technology, and on enterprise management), of glossaries and of compendia (essentially of indicative type).
- IV. Continuing arrangements to provide stop-gap training and to provide opportunities for the more substantial professional, technical training. Continuing arrangements for revision and up-dating of manuals, glossaries and compendia.

In this programme the IOI's role could be

- (i) to carry out preliminary studies from which to formulate an action plan;
- (ii) to prepare outlines for manuals, glossaries and compendia;
- (iii) to undertake such contribution to manuals, glossaries and compendia as may be necessary to ensure their speedy availability;
- (iv) on the request of governments of developing countries to assist them to make appropriate arrangements for the training of personnel;
- (v) to provide, as may be necessary, specialised courses to fill gaps in the available training programmes, and in particular to be responsible for conduct of the crash-course on the Convention mentioned in Stage III.

A major feature of the strategy of this project is that (a) fullest recourse would be made to existing facilities for training in the indicated areas, (b) wherever possible arrangements would be made with existing institutions to establish special courses that might be required but for which provision does not already exist, and (c) the project would provide actual training only in such areas as could not otherwise be provided for. In the case that some Agency assumed operational responsibility for all training, the project would serve only in a co-ordinating and overseeing capacity. In any case, an important task for the project director, assisted by the coordinating committee, would be to discuss with existing institutions the part they would be willing to play in this programme.

Operational Strategy and Programme.

In view of the possibility of the Authority being established in 1979, some urgency attaches to this programme; it would seem that the project should aim at effecting Stage III in the latter part of the second half of 1978. Stages I and II therefore should be accomplished during the first half of 1978, and preparations for Stage III should be initiated, also, in that period. Stage IV would come into operation almost immediately upon completion of Stage III.

Some part of Stage I could be begun without delay, more especially the preparation of a schedule of required studies and preliminary enquiries about the availability of specialists to undertake them. A small informal management committee has been named to be responsible for:

- a) directing and participating in the preliminary analysis.
- b) preparing a budget.
- c) preparing a detailed plan of work and time-table.
- d) generally directing the project.

It will be necessary to appoint a full-time project director, as soon as funds become available.

It is confidently expected that responsibility for this project will eventually be assumed by some other international agency. The negotiations to arrange that assumption of responsibility might, however, be protracted and the initial organizational steps might be time-consuming. It would probably be advisable therefore to plan that such transfer of responsibility if it were to take place, should take effect with respect to Stage IV.

In view of the urgency of the need however IOI proposes to get on with the project until such time as one or other of these agencies can be persuaded to take it over.

A provisional budget for the first two years of operation is annexed.

Proposed Budget

Regular staff for the project

	US\$
Director, at UN P5 level	50,000
Asst. Director, at UN P4 level	40,000
Secretary	15,000
Office expenses	20,000
Travel	10,000

135,000

Studies, Manuals, and management committee

120,000

Crash-course (for 30 students for 3 months)

Lodging etc of students	90,000
Travel of students	60,000
Teaching staff (honoraria etc)	45,000
Travel of teaching staff	25,000
Incidental costs	25,000

245,000

500,000

This budget is only indicative; nothing more precise can be prepared until decisions are taken on such matters as numbers of students, venue of the course, scope of the course and kinds of field experience and so on. In particular it is to be noted that no provision has been made for administrative over-head charges.