

## THE ENTERPRISE: TODAY AND TOMORROW

1. With the registration of the first four Pioneer Investors, Law of the Sea developments and the work of the Preparatory Commission have entered a new phase. An Interim Regime for ocean mining is now in place, with the operational responsibilities of the Preparatory Commission clearly defined in para.12 of Resolution II: the exploration of the first mine site for the Enterprise; the availability of technology and trained manpower to the Enterprise, enabling it to keep pace with developments in the most advanced countries.

2. As the Preparatory Commission was about to enter this new phase, the Pioneer Investors already announced that they will fulfil their responsibilities and make joint arrangements for the exploration of the mine site as well as for the development of human resources which would have to be associated with the exploration of the mine site and, implicitly -- although this has not yet been stated explicitly by the Pioneers -- with the testing and upgrading of the technology employed for the exploration of the mine site.

3. to determine the mechanisms and modalities for these arrangements will have to be a priority task of the Preparatory Commission during its next sessions. For this purpose, the Preparatory Commission may avail itself of much work already accomplished. In particular, reference should be made to the Secretariat Papers...and to the Austrian and Colombian Working papers....

4. It is the thesis of the present paper that the shape of these arrangements will have a determining influence on the shape of the initial or "nuclear" Enterprise upon the coming into force of the Convention; and that, in turn, the Prep.Com.'s concept of the future Enterprise will have an influence on the shape of the interim arrangements. In conclusion some immediate next steps will be suggested.

## CONCEPT OF THE ENTERPRISE

5. Some of the features of the Enterprise, though perhaps not the most important, or the most operational ones, are clearly determined by the Convention.

- . The Enterprise shall be the organ of the Authority which shall carry out activities in the Area directly, and this will include "activities in the area" (exploration, mining) as well as transporting, processing and marketing of minerals recovered from the Area.
- . For these purposes, the Enterprise must be provided with initial financing as well as technology. The authority and States Parties shall cooperate in these undertakings. Obviously, there are many ways in which this can be done. With regard to the financing, the Prep.Com. will have to determine the amount of needed funding and the criteria and factors for its adjustment (Annex IV, Art. 11, 3 (a). With regard to technology transfer, The Convention spells out some modalities in Art.5 of Annex III, but the Convention also foresees other ways, e.g., in conjunction with Joint Ventures between the Enterprise and States or Companies, and in this case, modalities are left wide open, to be determined by the Joint Venture agreements from case to case (Annex III. Art.5, para.6).
- . The Enterprise shall have legal personality and such legal capacity as needed for the exercise of its functions and the fulfilment of its purposes.
- . The Enterprise will be governed by a Governing Board of 15 highly qualified members, elected by the Assembly upon the recommendation of the Council. The Board will elect its own Chairman.

. The Enterprise will be administered by a Director-General, also elected by the Assembly upon recommendation by the Council. The Director General shall be responsible for the organisation, management, appointment and dismissal of the staff of the Enterprise. The size, the nature, the functions of the staff are left wide open.

6. There is consensus in the Preparatory Commission as to what the Enterprise shall not be:

. It shall not be an international bureaucracy organised and financed for functions which it cannot exercise, due to economic conditions prevailing today and in the foreseeable future.

. Although it shall operate "on sound commercial principles," it cannot be organised like an entity, e.g., a mining company, which, as demonstrated so strikingly in the Australian Working Paper () would be incapable of developing the requisite technologies.

7. Discussions on what the Enterprise shall be have barely begun. It should not be difficult to reach consensus on the principle that the Enterprise must be based on the experience of the most advanced systems of international high-technology management.

8. The Colombian Working Paper drew attention to the EUREKA/EUROMAR structure as an example of an advanced system of high-technology management where the private and the public sector cooperate effectively on the international level.

9. A Feasibility Study on the establishment of a Mediterranean Centre for Research and Development in Marine Industrial Technology, undertaken by the International Ocean Institute for UNEP and UNIDO in the context of the possibilities of implementing Articles 276 and 277 of the Convention, develops this paradigm in greater detail. Since many of the concepts advanced in this study apply to the

Enterprise and the Authority as well, the study is attached in Annex 1.

10. The function of the Enterprise, during its first phase upon coming into force of the Convention, would be -- as also suggested by the Austrian and Colombian Working Papers -- deep sea-bed exploration and research on, and development of, technologies for exploration, mining, and processing deep seabed minerals through joint arrangements between seabed mining States and companies who would participate with 50 percent of venture capital and existing technology, and developing countries, whose participation would be financed by public international funding institutions such as the World Bank, UNDP, the European Investment Bank, etc., or national development cooperation institutions such as CIDA, IDRC, SIDA, NORAD, etc.

11. The Enterprise would have all the attributes enumerated in para.5 above. In addition, it would have

- . Information gathering and conferencing facilities where groups of outstanding scientists and technicians from all parts of the world could meet periodically to keep the Enterprise up-to-date on the state of the art of seabed mining technology and lay the foundation for a data base.
- . its own R&D facilities where scientist and technicians from the industrialised countries would work together with scientists and technicians from developing countries in upgrading existing technologies and developing new mining concepts: participation in R&D being the most cost/effective and productive form of "training;"
- . Its own training programmes, in high-technology management, the interactions between all high technologies and ocean mining technologies; the interactions between nodule mining technologies and the technologies required for the mining of other resources available on the deep seabed (crusts, sulphides), etc.

12. It may be premature to speculate on the size of the initial core staff and budget of the Enterprise as this will be determined by the stage of work reached by the Prep.Com. at the moment of the coming into force of the Convention and the establishment of the Enterprise (see below, para.). This budget may range anywhere between \$150,000 per annum and half a million dollars, as indicated in the feasibility study for the Regional Centres (see para.60 of that study), or it could be 5 million dollars a year, as indicated in the Colombian working paper.

13. The three functions mentioned in para.11 above should be embodied in separate modules financed independently.

- . Conferencing and information gathering activities should be carried out in cooperation with the Fridjof Nansen Institute whose already existing programme in this field is attached in Annex 2.

- . R&D activities should be financed on the basis of approved and viable projects, jointly by industrial companies and their Governments and international or national funding agencies (see para.10 above).

- . Training activities should be carried out in cooperation with and financed by, institutions such as the International Ocean Institute whose programmes are well known.

14. This concept of the Enterprise would also contribute to redefine, within the terms of the Convention and in the light of present realities, the initial functions of the Authority as a whole: The Authority, and, in particular, the Council, would play the role that the Conference of Ministers plays in the EURKEA/EUROMAR system. I.e., it would examine R&D projects preselected by National Coordinators; it would make the final selection; it would make arrangements for funding, and it would allocate projects to national R&D institutes, universities,, R&D departments of

industrial companies, associated high-technology institutes, or to the Enterprise itself. In other words, just like the Regional Centres for R&D in marine industrial technology, the Authority would act as a catalyst; it would arrange for the networking of various institutes through appropriate work allocation; it would act as a promoter and coordinator of technology development and exploration projects; and, through the Enterprise, it would also act as a developer of technology.

15. Undoubtedly there had been initial difficulties in getting the EUREKA concept off the ground in Europe. But today there can be no doubt that it has been a tremendous boon to high-tech development in Europe for which it has been able to mobilize billions of dollars. A similar boon can be anticipated for ocean-mining technology under an analogous system to which the structure of the Authority and the Enterprise can readily be adapted, fully within the terms of the Convention. The only difference between the two systems is that, in the ocean mining system, public international funding is to be used, from the very outset, to finance the participation of developing countries. This may eventually occur also in EUREKA, and especially in EUROMAR, perhaps through the establishment of Regional Centres, but for the Authority/Enterprise system, it is a foundational principle, benefitting developing countries, industrialized countries, and the international institution at the same time.

16. The essence of this concept of the Authority and the Enterprise is that it cannot be conceived in the traditional sense as an intergovernmental organisation: a financial burden on member States which they must bear to keep the organisation alive. Nor can it be conceived as a business which, according to "sound commercial principles," must yield an adequate return on investment. Nor is there any possibility of making a transition from one to the other. The concept of a non-productive "nuclear Enterprise" constituting a burden on States, which then should transform itself into a profitable business is an erroneous concept

that cannot work in practice.

17. The Enterprise and the Authority must be conceived as productive and financially beneficent to all parties concerned from the outset, and it must be built in such a way that subsequent stages can be integrated without a break in the fundamental structure. The Enterprise and the Authority must, from the outset, be conceived as a new form of scientific/industrial cooperation between North and South, beneficial to both.

#### INFLUENCE OF THIS CONCEPT ON PRESENT ARRANGEMENTS

18. Such a concept of the Enterprise and the Authority would be beneficial for the present work of the Preparatory Commission both conceptually and operationally.

17. Conceptually, it allows a somewhat broader definition of "sound commercial principles" to which the activities of the Enterprise are to conform (Annex IV, Art.1 (3)). For there can be no doubt that EUREKA is being operated in accordance with "sound commercial principles," even though these are not defined in terms of short-range financial returns on investment. EUREKA is based on the recognition that (a) the development of High Technology is crucial for industrial development and competitiveness; and (b) such development requires cooperation, and sharing of high risks and high costs, between the private and the public sector at the international scale. Otherwise high technology development remains the monopoly of superpowers who can finance it out of their State or military budgets. These are sound commercial principles. They apply to seabed mining technologies which belong to the family of High Technologies, and they are the principles on which this concept of the Enterprise and the Authority are based.

18. Operationally, this concept of the future shape and function of the Authority and the Enterprise should guide the Prep.Com's course of action in implementing para.12 of Resolution II so that it might lead directly and smoothly to

the establishment of the kind of institution envisaged upon the coming into force of the Convention.

INFLUENCE OF PRESENT ARRANGEMENTS ON THE SHAPE OF THE INITIAL OR "NUCLEAR" ENTERPRISE.

19. It is assumed now that the 4 Pioneer Investors proceed as they have announced with the implementation of para.12 of Resolution II: They make joint arrangements for the exploration of the first mine site for the Enterprise. Such arrangements, obviously, can take a great variety of forms, and the Pioneer Investors will negotiate the one that will appear most beneficial to all parties concerned. It is assumed, for illustrative purposes only, that they will elaborate a plan of work for the next three years, providing for about three months ship time and nine months of laboratory time per year. The cost -- again, for illustrative purposes only -- is projected at \$20 million.

21. This includes provision of a research vessel which will be selected from one of the four countries. The contribution of the ship, at \$10,000 per day (exclusive of the cost of the international crew) is budgeted as \$2,700,000.

22. It also includes the selection of exploration technology and its "transfer," at fair commercial prices, to the joint undertaking. The terms of this "transfer" can be freely negotiated among the Pioneer Investors. During the exploration, this technology will be tested and projects will be formulated for its upgrading at the laboratory.

23. A typical plan of work for the next three years, based on "sound commercial principles," will include testing of mining and processing technology as well transport logistics and market surveys and studies on the interaction between other technologies, e.g., materials technology, synthetics, and recycling, and economic studies on the interactions between land-based and ocean mining.

24. The Pioneers have announced that their responsibility



for the training of personnel from developing countries for the Enterprise will be undertaken jointly, and in conjunction with the exploration of the mine site for the Enterprise. The most cost/effective and "organic" way of providing such training would be to select a small number -- probably around fifteen -- highly qualified scientists, technicians, managers, economists, from developing countries on a competitive basis, and let them participate in these testing, upgrading and study activities. The cost for this would be very modest, especially if shared among the four pioneer investors, on their common research ship or in their separate but well co-ordinated laboratories; and the result would be beneficial not only for the "trainees" and their countries, but to the joint venture itself as these "trainees" would contribute actively to the implementation of the plan of work.

25. It is assumed that it will take about a year to make arrangements for this joint undertaking and formulate a plan of work. This plan of work, obviously, has nothing to do with the kind of plans of work to be submitted by contractors and approved by the Council upon the coming into force of the Convention. It is a plan of work formulated by the Pioneer Investors to facilitate implementation of para.12 of the Convention: It is sui generis, and the Pioneers are free to give to it whatever form they think most suitable.

26. The work could be completed at the end of 1991, at which time, approximately, the Convention might come into force. The following elements will now be in place:

- . A mine site, fully explored;
- . a management system, including a complete crew capable of performing all the functions of exploration, technology R&D, planning and projecting;
- . state of the art technology, which was used and developed during the exploration of the mine site for the Enterprise;

. an information network based on the experience of years of cooperation and mutual training.

27. All that has to be done, at this point, is to complete the institutional framework as prescribed by the Convention and outlined in para.5 above. This Enterprise will be entirely functional; it will not be "nuclear"; it will not be interim; it will not have to wait for changes in the market: it will generate such changes; it will fulfill its tasks like any other scientific/industrial project, be it EUREKA or EUROMAR.

#### IMMEDIATE NEXT STEPS

28. Within this broad concept, and strictly within the terms of the Convention and of Resolution II, the following immediate next steps could be envisaged:

29. OVER-ALL IMPLEMENTATION OF PARA.12 OF RESOLUTION II.

The Prep.Com. and the First Group of Pioneer Investors should elaborate a Memorandum of Understanding on the modalities of the exploration of the first mine site for the Enterprise, the testing and upgrading of technology and of training manpower in this connection. This should be based on a plan of work for these interrelated activities for the next three years.

30. Training:

- (a) Invitation should be issued to all Members of the Prep.Com. to nominate candidates for training. Each State should nominate two candidates;
- (b) a Commission should be appointed to organise a system of examinations for the final selection of candidates, in cooperation with the Pioneer Investors. This could be a Special Subcommittee of

the General Committee, or the Second Special Commission's Advisory Committee on Training should be given this mandate.

### 31. Technology Transfer

The mandate of the Committee of Experts should be expanded to include the following:

- (a) gathering of information on the state-of-the-art of seabed-mining-related technologies, and preparation of an annual report to the Under-Secretary General;
- (b) co-ordinating efforts to bring developing countries as partners into international undertakings in R&D in seabed-mining-related technologies and assisting in making arrangements for the financing of such participation.

Note: The Reports of the Committee of Experts on the state of the art of seabed-mining-related technologies should also be submitted to the Committee on Disarmament for the periodic Revision Conferences on the 1971 Seabed Treaty. These Revision Conferences, according to that Convention, are to be based on an examination of the state-of-the-art of the relevant technologies. Delegations have frequently complained about the lack of pertinent information.

ANNEX 1: Feasibility Study on the Mediterranean Centre for Research and Development in Marine Industrial Technology

ANNEX 2: Fridjof Nansen Proposal for a series of Conferences on Seabed Mining

ANNEX 3: IOI paper on principles, guidelines and policy on Training, Prep.Com, 1987.