Research Project Outline

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Purpose:

The purpose of this project is to study the potential of seabed mining for African development and analyse African interests in the International Seabed Authority under various sets of assumptions.

Target audience:

Such a study might be valuable to African countries, at a time when they have to finalize their position with regard to various proposals now before the Law of the Sea Conference. The study also would make a concrete imput into the International Development Strategy for the 80s and Beyond, now in preparation at the U.N. Secretariat. This Strategy must take marine resources and ocean management into due account.

Participants:

The project requires expertise in African economics and politics, general development economics, mining economy, resource management, law of the sea, and computer modelling. It also requires expertise on multinational corporations and consortia.
The following participants, therefore, would be ideal (in alphabetical order):

E.M. Borgese
Edgar Gold
Douglas Johnston
Don Munton
Ralph Ochan
Michael Schatzberg
Gil Winham.

Duration

Winter 1978/79.

Bibliography and data basis:

U.N. documentation: Secretary-General's Report on the Economy of Seabed Mining;
A/Conf.62/C.1/L. 17
A/Conf.62/ C.1/L.19
"Hypothetical calculations based on paragraph 7 of Annex II of the ICNT," Informal Conference Room document, 10 Feb. 1978;
NG 2/3, s9 April 1978, "Financing the Enterprise";
Minister Jens Evensen of Norway, Statement to Continued Seventh Session (no reference number, no date);
NG2/10/Rev. 1, 14 September 1978
Report by the Chairman of Negotiating Group 2 to the First

Committee:
"Distribution of Manganese Nodules on the Deep Ocean Floor,"presented by V.E. McKelvey, U.S. Delegation, at April 27 (1978) Seminar sponsored by Negotiting Group No. 1.
MIT: A Cost Model of Deep Ocean Mining

UN/ UNCTAD documentation on African development; statistics on copper, cobalt, and manganese production and consumption;
Paper entitled "African Economic Problems and the African Position on the Law of the Sea in Relation to Manganese Nodules";
"Policy Making and Historic Process: Zaire's Permanent Development Crisis," by Guy Cran.

Pardo/Borgese, The New International Economic Order and the Law of the Sea, IOI Occasional Paper No.5
Borgese, The Enterprise System, IOI Occasional Paper No. 6

Files of Law of the Sea Division of Canadian Ministry of Foreign Affairs.

Current work of Leontieff Group at U.N. in New York.

These documents happen to be more or less on hand. The data base needs considerable expansion.

Methodology:

Development of a model which would be partly quantitative partly qualitative. The non-quantifiable aspects would cover, in particular, questions of institutional framework and technology transfer.

The model should project the interactions between (a) mineral (copper, cobald, manganese) exporters and importers among African countries, and (b) the activities carried out by the International Seabed Authority.

Step 1: Data on the production of these metals by African countries. One might concentrate on the two major producers, Zambia and Zaire. What is needed is
-- production figures for the past decade
-- mode of production (relations with foreign companies; nationalization; effect of nationalization);
-- revenues
-- projected increase in production and revenues
-- proportion of GNP

Data on the consumption of these minerals in Africa. One might concentrate on two importing States: a large coastal State and a landlocked State.

-- volume of consumption
-- source of import

-- cost of imports;
-- proportion of total imports;
-- impact of price fluctuation on development programme.

Step 2: Projected production by International Seabed Authority: Impact on trade: What portion of production for which country which, prior to advent of seabed production, was an importer from Africa.
Impact on prices.

Step 3:

Three Scenarios

These data should form the basis for three scenarios:

First Scenario:

The Seabed Authority gets into action in 1985, within the paramenters set by the ICNT as it now stands.

The "private sector" initiates a series of projects while the "Enterprise" waits until sufficient revenues are generated by the Authority, and sufficient economic interest is mobilized within developing countries to get the "Enterprise" off the ground.

Questions: How long is this period going to last? 5 years? 15 years? 20 years?
During this period: what is the loss from seabed competition for producer countries? What is the benefit of lower prices for consumer countries? To what extent can the Authority compensate producer countries? What would be the income for African countries, based on the ICNT's profit sharing provisions? Would income and compensation be substantial enough to finance industrial restructuring and diversification in the producer countries? What impact on development could it have in consumer States?

Second Scenario:

The "Enterprise" is technologically and financially equipped by the industrialized States to go into action simultaneously with the "private sector." African States enter into a joint venture with the "Enterprise." The "Enterprise" in this Scenario, however, has to compete effectively both with the private sector (operating both in the international area and in areas under national jurisdiction) and with land-based producers among the African States.

Questions: Is it economically and technologically feasible for the Enterprise to sustain this competition? Will African producer States support this competition?

What would be the cost to producer countries
-- in the loss of projected increase of land-based production
-- in equity in the joint venture with the Enterprise?
What would be the benefits to producer countries
-- in financial profits
-- in employment
-- in technology transfer?

The question of <u>technology transfer</u> should be given a rather full treatment in this study:
-- What kind of technology, for what purpose?
-- What is the direct or indirect usefulness of deep seabed mining technologies to African development?
-- What are the possible spon-offs of deep seabed mining technology?
-- what is the cost of acquiring it under the ICNT?

It may well turn out that there is <u>no economic incentive</u> for African producer States to participate in joint ventures with the Enterprise, under the terms of the ICNT.

This scenario should, next, consider the relation between consumer countries and the Authority:
-- What would be the <u>cost</u> to consumer countries for participation in the Enterprise?
    in equity in a joint venture?
    in operation costs?
-- what would be the benefits
    in financial profits
    employment
    trade
    technology transfer?

It may turn out that, since the consumer countries are importers on a very small scale, the cost of participation in the Enterprise is greater than the benefits derived therefrom. The development of deepsea technology may not be considered a priority for internal development; and an "Enterprise" that has to compete with established industry on the one hand and with land-based producers on the other, may be doomed from the outset.

<u>Third Scenario</u>

The situation might be very different under a <u>unitary system</u> which, considering that capital and technology are all controlled by the industrialized States, could <u>not</u> be based on an Enterprise monopoly, but can only be a <u>unitary joint venture system</u>.

Questions: Would this basically change the picture?
African countries now would have a share in ALL seabed production, not just a sector of it leaving the major part as an outside competitor. In a way: Would not ALL seabed production be <u>internalized</u> into their economy? i.e., would it <u>not only not diminish, but significatly expand their exports</u>? (Illustration: Under the parallel system, the German

Consortium A.M.R. would, quite independently from African countries, mine whatever Germany needs. Germany would no longer be dependent on imports from Africa. Under the unitary joint venture system African countries would participate in the production for the German market. I.e., their exports to Germany would not diminish)

-- what would be the internal consequences?
-- would profits from a unitary joint venture system be greater or smaller than profits from national land-based mining?
-- how would it affect capital investment?
operating costs?
trade patterns?
employment?
the cost of technology transfer?
Would there be sufficient profit to allow industrial restructuring and diversification?

This Scenario should, next, examine the relations between mineral importing African countries and the Authority under a unitary joint vemture system, in terms of
-- cost of participation
-- benefits from participation.

It may turn out that the figures under the third scenario would differ significantly from the figures obtained in in Scenario 1 or 2.

The result of this project would be that these assumptions could be tested in a model that would have to be fairly complex and sophisticated.