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IN-DEPTH STUDY OF THE PLANNING PROCESS

Report of the Secretary-General

Addendum

Annex IV

FEASIBILITY OF THE ADOPTION OF A SYSTEM OF TIME-LIMITED OBJECTIVES  
IN THE FORMAT OF DESCRIPTION OF SUBPROGRAMMES IN THE MEDIUM-TERM PLAN

The following is the feasibility test noted in paragraph 4 of the introduction to the main body of the report.

Recommendation No.1 in the report of the Joint Inspection Unit on programming and evaluation in the United Nations a/ reads as follows :

"Recommendation No.1 : Format of descriptions of subprogramme objectives in the medium-term plan; adoption of a system of time-limited objectives

"(a) Very explicit criteria should be devised for distinguishing between those portions of a programme which definitely represent continuous functions and those for which target dates must be fixed (see section II.2(e)).

"(b) Time-limited objectives should as far as possible be the rule and continuous activities the exception (see sections II.2(b) and II.2(e)).

"(c) Descriptions of subprogramme objectives in programming documents should follow a format that enables the expected results to be clearly identified. Within the present system of describing subprogrammes in the medium-term plan (objective, problems addressed, legislative authority, strategy and expected impact), the following items should be added :

"(i) Under the subheading "objective", a distinction should be made between :

The objective to be attained by the date of completion of the subprogramme (by 1985, for example);

The objective of the intermediate stage covered by the medium-term plan concerned (for example, the stage to be reached by 1981);

"(ii) Under the subheading "problems addressed", there should be a brief but precise description of the present status of the activity considered (for example, in the case of a series of handbooks, the present status of all the publications of the kind in question which have resulted from earlier implementation of the programme);

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a/ JIU/REP/78/1, chap. VII.

"(iii) Under the subheading "strategy", the description of the resources that are to be employed should demonstrate how the projected kinds of output are related to the aim to be achieved, with particular emphasis on the requirements and nature of the clientèle it is proposed to reach. Similarly, this section should show the relationship between the over-all strategy for the full period of implementation of the subprogramme (up to 1985) and the strategy for the period covered by the plan (for example, up to 1981);

"(iv) The section headed "expected impact" should contain the list of achievement indicators to be employed (see para.VI.4)!"

The feasibility of the above recommendation has been tested with respect to three programme units :

- (a) The Population Division (DIESA) - a programme.
- (b) The Ocean Economics and Technology Office (DIESA) - a programme.
- (c) Surveying, mapping and international co-operation in cartography (DTCD) - subprogramme 4 of the natural resources and energy programme.

The testing is rather limited in scope, and does not attempt to fulfil all the requirements put down in the JIU recommendations. For instance, testing the concept of time-limited objectives on two programmes and one subprogramme does not allow permanent and definitive criteria to be derived for distinguishing between continuing functions and programme activities for which target dates must be fixed. In order to achieve that, further experiment on a broader variety of programmes would be needed.

For the same reason, at this stage the statement under (b), that time-limited objectives should be the rule and continuing activities the exception, can be neither supported nor rejected.

During the course of this small experiment, the following criteria emerged as relevant to determining which are to be the continuing functions :

(a) The medium-term objectives do not change from one medium-term period to another and have remained generally valid for the long-term in the past 8 to 12 years.

(b) The same or quite similar output is produced at regular intervals;

(c) The mandates are recurrent by nature; they may be reaffirmed from time to time, but it is clear that a specific decision to that effect by a policy-making organ would be required for the Secretary-General to terminate the activity.

The following factors appear to explain the relevance of indicators (a) to (c) above:

(i) The very general nature of both the objectives and the problems addressed. That is the interaction of many different specific factors is the central concept. These factors both cover a wide scope of problems and events (not all of them under the control of the United Nations), which cannot be forecasted with respect to any estimated schedule. Thus their interaction becomes that much more difficult to forecast chronologically.

(ii) The activities are essentially continuing in the sense of being a repetition of technique and method, and changing in output as a result of the input being changing or improved methodology data. Therefore, the process may well continue to look the same although the output details possibly including timing or scope will change, but the purposes served and the intended target audience remain essentially the same. This is a feature which shows up much more clearly in the programme budget than in the medium-term plan.

(iii) Such subprogrammes represent in some cases an overview of other more specific subprogrammes in the programme, in others the dissemination of a type of information which the UN is in a unique position to compile. As such, they are both a co-ordination of these others and a form of input into them or into national programmes. That is to say, they are different in kind, as well as in details from the other subprogrammes.

These conclusions emphasize two points of which further refinement and development may be necessary. First, generality, or non-susceptibility to time-limited objectives, does not denote a less important or less effective programme. There seems to be no value judgement entailed by the assessments. Secondly, if the points are valid, there may be implications for some of the subprogrammes throughout the Organization which combine both general and specific, as some do - often as a result of being combined with other very different subprogrammes, into one large programme.

Finally, a full response to JIU requirements under (c) is predicated upon the existence of a clear understanding of the nature of the UN objectives to be used in the medium-term plan analyses. Whether medium-term plan objectives are to be merely the delivery of Secretariat output, or the Organization's intent to alleviate world problems, or joint UN Member States goals reaching into existing unfavourable situations within countries or regions, makes a big difference in terms of time limitation, and definition of achievement indicators.

In the present annex, the test does not go further than (i) attempting to determine what portions of the programme under review represent continuing functions and (ii) examining to what extent objectives defined in the 1980-83 medium-term plan or redefined for the purpose of this exercise are amenable to time limitation.

The narratives shown below, which amount to partly re-drafted medium-term programmes have been compiled by PPCO with the assistance of the substantive offices concerned. It is the format, not the content, which is the focus of

the exercise and the content may well not coincide exactly with the medium-term plan as it actually would have been drafted in the normal course of events by the substantive unit.

#### POPULATION (DIESA)

The analysis offered below is limited to those parts of the population programme narrative which help in forming an opinion on the existence of continuing functions and whether and in what form objectives can be redefined which would be time-limited or time-phased. The 1980-1983 medium-term plan for population, as received by CPC, contains introductory paragraphs and references to legislative authority which remain valid. Since no attempt is made within this experiment to improve on the developments relating to the problems addressed and the expected impact, there is no need to repeat these developments here either.

In the 1980-1983 medium-term plan narrative, the analysis of the population programme in DIESA is entirely aligned on the administrative structure of the unit in charge, the Population Division. The subprogramme objectives are stated as follows (in summary):

1. Demographic analysis.  
"To analyse specific major population issues..., to study the causes of demographic changes and to predict their consequences".
2. Demographic projections.  
"To prepare and disseminate... estimates and projections of world regional and national populations and their components".
3. Factors affecting patterns of reproduction.  
"To find a more satisfactory explanation of relations between reproductive behaviour and aspects of development; to explain causes of fertility change".
4. Population and development.  
"To assist Governments in the incorporation of demographic factors in development strategies...".
5. Population policies.  
"Provision of information and guidance to Governments in the formulation and implementation of population policy".
6. Monitoring, review and appraisal.  
"To monitor changes in population growth, fertility, mortality, migration, urbanization, population structure, population policies, and the related economic and social factors".

None of these subprogramme objectives, as formulated, are readily susceptible to time limitation. Once mandated, they could conceivably be carried on for an indefinite period of time.

In order to determine what portion of the activities can be defined as a continuing function or functions and, for other activities, to check whether or not milestones can be set along their path, it has been found useful to distribute the population programme activities under a different classification, more output and objective-oriented.

The suggested classification of activities for the purpose of testing the feasibility of such time limitation is the following :

1. Demographic estimates and projections.
2. Information on population components and policies.
3. Monitoring, review and appraisal of the World Population Plan of Action.
4. Population information network.
5. Improvement in techniques and methodologies for demographic analysis.
6. Analysis of causal factors of demographic trends and changes, and of interrelations between population and development.
7. Formulation, implementation and evaluation of population policies.

The above classification should not detract attention from the fact that within the over-all array of population problems, the United Nations programme, in accordance with the World Population Plan of Action and several other resolutions of legislative bodies, focuses on the following aspects and areas, which can be shown in a matrix form.

	Monitoring trends and policies	Analysis of causal factors and interrelationships
Mortality		
Fertility		
Population structure*		
Migration		

\* Includes urbanization, age-sex distribution, labour force and other socio-economic/demographic characteristics.

Activities classified under items 1 to 4 can be characterized as continuing functions. The purposes and substance of these continuing activities are explained below.

Item 1: Demographic estimates and projections

General: The United Nations prepares and disseminates, at regular intervals, estimates and projections of world, regional and national population, analyses of certain population components and indicators.

Content: The main components of estimates and projections are age, sex, urban, rural and city population, households and families.

The main inputs to estimates and projections are mortality rates, fertility rates, and structural characteristics of the population.

United Nations role: The United Nations estimates and projections have unique characteristics in that they are statistically assessed, methodologically standardized, internationally comparable, and co-ordinated in terms of assumptions and format with those produced by other organizations of the United Nations system (labour force in ILO, agricultural population in FAO, educational statistics in UNESCO).

Output and clientèle: Output is made available to users in the form of :

- computer tapes and printouts
- working papers and reports
- reports of expert group meetings.

The users are : (i) government services dealing with : population, development planning, education and health, housing; (ii) demographers in general; (iii) other bodies of the United Nations system.

Changes in the medium-term period.

(i) Periodicity: Estimates and projections were up-dated every five years. Rapid demographic changes and users demands make it necessary to up-date every two to three years.

(ii) Time frame for projections: Projections were medium range ( $\approx$  25 years). This will be supplemented by :

- long-range projections needed to forecast effects of population growth.
- short-range and more detailed projections requested by development planners or for sectoral bodies.

(iii) Methodological improvements: Introduction of non-demographic factors in the projections, such as the effects of policy measures and socio-economic factors. Projections will encompass more variants.

Item 2: Information on population components and policies

General: The United Nations collects, analyses and disseminates, at regular intervals, information on population data and on population policies, their characteristics, and national experience in their implementation.

Content: A large number of various components of existing population policies is collected through inquiries and fitted into a population policy data bank, regularly up-dated. Continuing analysis is made of levels and trends of various structural aspects of the population. The focus is on components dealing with mortality, fertility, spatial distribution and international migrations.

Output and clientèle: Output is made available to users through :

A series of reports on national experience;

Biennial issuance of a compendium on population policies;

Issuance of the Population Bulletin;

Quinquennial reports of levels and trends of fertility, mortality, urbanization etc..;

Continued up-dating of demographic data base;

Biennial issuance of the Concise Report on the World Population Situation.

The users are : (i) international bodies; (ii) national governments; (iii) demographers.

Changes in the medium-term period

(i) Focus of policy inquiries, reports and compendium will shift from over-all policies to selected topics such as those mentioned above under content and to governmental perceptions of the relation between demographic and non-demographic processes. In regard to analysis of structure and trends, utilization will be made of the new data becoming available from the 1980 round of censuses and from the results of the World Fertility Survey.

(ii) Methods: The policy data bank will, if possible, be computerized and linkage established with regional and other international institutions.

Item 3: Monitoring, review and appraisal of the World Population Plan of Action

General: The United Nations monitors, reviews and appraises the progress towards achieving the goals and recommendations of the World Population Plan of Action.

Content: The monitoring reports will provide a picture of the biennial change in the world population situation regarding both trends and policies, and an in-depth study of one or more emerging areas.



The reviews and appraisal reports will encompass national, regional, sectoral and global components; the national component will be prepared by the programme on the basis of national data and replies from governments to inquiries; the regional and sectoral components will be prepared by the regional commissions and the specialized agencies; the global component and the over-all report by this programme.

Output and clientèle: Monitoring reports are biennial (1981 and 1983). Review and appraisal reports are to be issued every five years (1979 and 1984).

Users are: (i) the Economic and Social Council; and (ii) the governments.

#### Changes in the medium-term period

In the light of the 1984 report on review and appraisal, the Council may alter the goals and recommendations of the World Population Plan of Action.

#### Item 4: Population information network

General: The UN co-ordinates regional and national efforts for the establishment and operation of a population information network at the international level.

Content: When users and producers of information are numerous and dispersed and the amount of documentation is considerable and diverse, as is the case in the field of population, a systematic approach for the transfer and exchange of information is essential. Efforts in this direction so far have been limited in scope and geographical area and the UN is in a position to facilitate world-wide co-operation by:

- establishing a framework of compatibility between existing systems;
- proposing standards for preparation, description and indexing of information;
- suggesting guidelines for the operation of a world-wide network between interested parties.

The main objective is to overcome the obstacles (lack of resources, lack of knowledge about, and technical difficulties of access to, existing sources) encountered by information users in developing countries.

Output and clientèle: Output is made available to users through:

- working papers and reports;
- issuance of newsletters;
- advisory group meetings;
- bibliographies.

The users are: (i) the regional commissions and other bodies of the United Nations system; (ii) national population information services; (iii) national governments; (iv) population libraries and other institutions.

Changes in the medium-term period

(i) Focus will be on providing support to the regions and countries in setting up their own information in co-ordination with the world-wide network.

(ii) Methods: Through advisory groups to maintain contact with government agencies, population research centres and regional bodies to strengthen the flow of population information.

Activities classified under items 5, 6 and 7 contribute to a longer-term and broad objective which can be defined as:

Placing at the disposal of national governments policy instruments and instruments of action in the area of population. Broadly characterized in this way and since these instruments are constantly being refined and adapted to changing situations, the activities in the second part of the population programme are inherently on-going. However, medium-term objectives can be stated in terms of areas of demographic analysis to be covered, or of population problems to which policy measures relate or of numbers of countries or regions where it should be possible to evaluate the effects of various population policies.

Item 5: Improvement in techniques and methodologies for demographic estimates and projections and demographic analysis

The work done by this programme is intended to stimulate analytical research of population questions at the regional and country level.<sup>b/</sup> When new techniques and methodological improvements achieved as by-product of on-going research can be useful to government services, demographers and research institutions, they are published in the form of working papers, guidelines or manuals.

From 1980 to 1983 (1985) the following subjects will be covered:

- Techniques for assessing death registration completeness;
- Methodology for projection of urban population;
- Demographic estimation from incomplete data;
- Demographic models incorporating socio-economic and policy variables;

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<sup>b/</sup> The World Population Plan of Action states in para. 78 that "(demographic) research is best carried out in the countries and regions themselves".

Models and techniques to evaluate effects of migration on social and economic development;

Endogenization of demographic variables into long-term development models;

Methodology of measuring the impact of family planning programmes on fertility.

Item 6: Analysis of (i) causal factors of demographic trends and changes and (ii) interrelations between population and development

The determination of the causal factors influencing demographic trends and changes is a basic step in the design and selection of individual measures which should be combined to formulate a coherent population policy.

The areas and subjects on which demographic analysis is to be undertaken by the population programme of DIESA are selected and decided upon on the basis of the needs expressed by the international community and the availability of fresh and more accurate or more detailed basic data.

Currently the most important source of new data is the World Fertility Survey which is to cover 40 to 50 developing and 20 developed countries. For developing countries, processed data for 10 became available in 1978; data permitting detailed analysis became available for 3 in March 1979. Data for the last participating country should become available in 1982. Exploitation of results of all countries are likely to require work of a significant magnitude until 1985. Perceived needs of the international community include those given emphasis in the World Population Plan of Action as indicated above.

The areas and subjects covered and the expected completion dates are the following:

(a) Mortality

Factors influencing childhood mortality - approximate completion date, 1982.

Socio-economic factors influencing mortality levels - approximate completion date, 1981.

Later on the following subject would be studied: starting by 1981, influence of income distribution and social services on mortality with a planned completion by the year 1984.

(b) Fertility

Various factors influencing fertility:

Demographic, economic and social factors - approximate completion date, 1985.

Factors and conditions that influence effectiveness of family planning programmes - approximate completion date, 1985.

Community-level developmental factors - approximate completion date, 1985.

Later on the following subjects would be studied during 1985-1987:

Influence of environmental factors on fertility

Influence of biological and cultural factors on fertility.

(c) Migration and urbanization

Factors associated with rural-urban migrations - approximate completion date, 1983.

Effect of population policy on rural-urban distribution - approximate completion date, 1983.

Social and economic characteristics of international migrants - approximate completion date, 1983.

Later on the following subjects would be studied:

Growth process in large cities (based on the results of the 1980 round of censuses)

(d) Effects of demographic trends and changes on social and economic development

Endogenization of demographic variables in long-term economic development plans. Manuals will be published - approximate completion date: first phase, 1982; second phase, 1984.

Impact of social and economic changes on demographic trends. First phase focused on specific aspects of fertility changes in developing countries (approximate completion date, 1983); second phase to focus on levels and changes of other demographic variables with approximate completion date by 1985.

Labour force implications of the growth of major cities in the developing world (approximate completion date, 1982).

(e) Interrelationship between population and development.

(Studies conducted in co-operation with agencies of the United Nations system)

In-depth analysis of interrelationships between population and development. This is a broad and far-reaching study which would be conducted in phases, which may or may not overlap.

- (i) Identification of major gaps in knowledge and definition of priority area for research; approximate completion date, 1980.
- (ii) Building population and development models  
partial models;  
models designed to analyse specific issues;  
broad population and development models.

Approximate completion date by the year 1983.

Later on :

- (iii) Preparation of teaching material in the area of population and development - with a planned completion date by the year 1985.

Item 7: Formulation, implementation and evaluation of population policies

Here, the direct objective (second step) is to use the knowledge acquired inter alia through the analyses referred to under item 6 to tailor to a particular set of population problems encountered in a typical situation policies aiming at desired results.

Identification of population problems and formulation of population policies. One hundred cases to be completed by the year 1983.

Translation of population policies into measures and programmes. Ten guidelines to be issued by the year 1983.

Guidelines for implementation of population policies - approximate completion date, 1981.

Guidelines for population distribution policies to be completed by 1981.

Guidelines for the quantitative evaluation of the demographic impact of family planning programmes up to 1983.

OCEAN ECONOMICS AND TECHNOLOGY (DIESA)

In the 1980-1983 medium-term plan narrative, the analysis of the ocean economics and technology programme in DIESA is entirely aligned on the administrative structure of the unit in charge, the Ocean Economics and Technology Office. The subprogramme objectives are stated as follows (in summary).

1. Uses of the Sea : ... to provide economic and technical information on developments and trends pertaining to existing and potential uses of marine resources and ocean space and on the rational management of such uses, for use by governments in integrating the marine dimension into their national development planning.
2. Mineral Resources : ... to provide information that will assist the integration of the mineral-resource dimension (seabed, nearshore land based) into development planning exercises, ... that utilize estimates or projections of mineral-resource availability.
3. Integrated Coastal Area Development : ... to develop and disseminate techniques and methodologies for use by governments in planning and implementing an integrated approach to the development and management of their coastal areas and in establishing the institutional and legislative conditions for such an approach.
4. Marine and Coastal Technology : ... to establish a sound and reliable information base and guidelines for use particularly by developing countries in identifying the specific types of marine and coastal technologies most appropriate to their needs and in strengthening their capabilities, individually and collectively, for developing or acquiring, adapting and applying such technologies.

As formulated, these objectives combine and confuse means (instruments of action) and ends : under each objective, information will be provided, techniques will be disseminated, etc. However, whether the outputs will be used by Governments, thereby contributing to the achievement of the real objective, depends not only upon the production and quality of outputs and the effectiveness of channels for their dissemination, but upon the priority which Governments attach to the problems and needs which outputs are intended to address. This is only marginally amenable to influence by the Organization. However, since objectives and activities are mandated and objectives are reviewed by inter-governmental bodies, it may be assumed that Governments attach some degree of importance to the use of ensuing outputs. Under this assumption, the objectives of the programme could be so formulated that there is an increase in the number of governments integrating the marine dimension into their development planning, using an integrated approach to coastal area development, and having a capability for developing, acquiring and applying marine and coastal technologies.

While the above formulation of the objectives still does not admit of time-limitations, it does open the possibility of measuring progress

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over the short, medium and long term. This in turn emphasizes the importance of devising impact indicators that would enable a determination of whether governments are "integrating the marine dimension", "using an integrated approach" or "having a capability" and thereby a determination of the increase in the number of such governments in any time period.

Obviously, in each case, an additional problem exists : discerning the role of the UN (its outputs) among several possible influences.

Even under the objectives as reformulated, experience suggests that a considerable period of time and a substantial number of outputs are required before activity implemented under a subprogramme may make a perceptible or measurable contribution to the objective. This in turn means that activity as such under the subprogramme will continue over a lengthy period of time. Under the Ocean Economics and Technology programme, all activities, except for a limited amount of substantive support for technical co-operation, may be characterized as the provision of action-oriented tools to governments. However, these tools may be differentiated according to subject matter (e.g. ocean energy, offshore structures). For example, under subprogramme 1 of the Ocean Economics and Technology programme, it is expected that analyses will be prepared over several successive medium-term planning periods, focusing successively on specific marine resources and uses and needs and problems. In terms of type (publication) and nature (analysis) of outputs, this activity could be considered as continuing. However, in terms of subject matter, the content of each output will differ over several medium-term planning periods resulting in a time limitation on activity in each given subject area.

In the following experimental presentation, this type of an approach is used in distinguishing between continuing and time-limited activities.

#### 1. Uses of the Sea

Objective: An increase in the number of Governments that take comprehensive account of marine resources and uses in their development planning.

Means of action: The UN collects, analyses and disseminates, at regular intervals, economic and technical information relating to existing and potential marine resources and activities, trends and ocean management.

Content: the information disseminated deals with:

- (a) The existing situation regarding the use of marine resources, including ocean space, and any recent developments. This is done on a comprehensive cross-sectoral basis;
- (b) Emerging trends in marine affairs, their causes and implications; and
- (c) Particular ocean resources/uses or problems/needs which, because of their emerging importance, warrant special attention.

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UN role: The above is, in a raw form, scattered among a large number of sources. The role of the UN is to select and process the information, using the expertise of UN intergovernmental and expert bodies, to direct it to primary users, and to present it in a form which makes it usable as an input for national development planning exercises.

Output: Output takes the form of : comprehensive surveys ((a) above); and analytical studies ((b) and (c) above) and is made available to users in the form of : documents ((a) and (b) above), and publications (a marine affairs bulletin and studies under (c) above).

Clientèle: The primary users of outputs are : UN intergovernmental policy-making and expert bodies; experts within Government services having responsibilities in marine-related areas; other UN organizations.

### The Medium-Term Period

#### (i) Periodicity

(a) Surveys: prepared in past at 2-year intervals (1973, 1975), they will now be prepared at 6 to 8-year intervals as developments warrant; next survey planned for 1983 or 1984, depending upon when ECOSOC takes up marine affairs item.

(b) Analysis of Trends: periodicity depends upon identifying emerging trends which cannot be predicted in advance. In case of trends presently under study -- toward regional co-operation and extension of 200 mile resource jurisdiction -- both activities will be discontinued with report on the first to ECOSOC in 1982 and report on the second to the General Assembly in 1982. The latter is expected to be succeeded by analyses of management problems associated with 200 mile resource jurisdictions, which fall under category (iii) below.

(c) Special Analyses: these analyses, which deal with particular marine resources/uses or problems/needs, will focus on energy from the oceans (hydrocarbon, non-conventional) during the plan period. While limited activity in this area is expected to continue in succeeding plan periods, in light of the results of the 1981 Conference on New and Renewable Sources of Energy, attention will also be directed to other areas, including particular management problems associated with 200 mile national resource jurisdictions.

(d) Marine Affairs Bulletin: A feasibility study, including an examination of the possible scope, format and content of such a bulletin, will be carried out and the results reported to ECOSOC in 1982. Such a bulletin, if feasible and warranted, would be prepared periodically (e.g. every 2 years) beginning in 1984.

#### (ii) Continuing/Time-limited Activities

Activities (a) and (d) above are clearly continuing, though in the case of (a), the interval between outputs will be greater than the four-year time-framework of a plan period. (b) and (c) are time-limited in the sense that the focus of attention will shift from one subject to another over several plan periods.



(iii) Phased objectives

It is hoped that by the end of the plan period 1980-1983, 10 per cent of the developing Member States of the UN will be taking steps to take account in a comprehensive manner of marine resources and uses in their national development planning and that the importance of the marine dimension in national development will have been given explicit recognition in international discussions and negotiations regarding the New Development Decade and the New International Economic Order.

Evidence of progress at the national level could consist of one or more of the following elements:

- (a) establishment of a national ocean policy;
- (b) establishment of national agencies or institutions to deal with ocean-related matters;
- (c) extent to which national development planning documents explicitly reflect the marine component within sectoral strategies and targets.

2. Marine Mineral Resources c/

Objective: An increase in the number of national development planning exercises that take account of marine mineral resources in the use of estimates or projections of mineral resource needs and availability.

Means of Action: The UN disseminates economic and technical analyses dealing with the various (non-legal) problems associated with the assessment and exploitation of sea-bed mineral resources and near-shore minerals (non-hydrocarbon).

Content: The analyses disseminated deal, *inter alia*, with the manganese nodule data base, nodule processing technology, the mine site concept, financial analysis of a nodule mining venture, nodule mining technology, and the impact of nodule mining. Near-shore mineral activities will deal initially with the reporting of hard mineral occurrences and their assessment.

UN role: The role of the UN is similar to that under subprogramme 1.

Output: Analyses are disseminated to users in the form of UN documents and working papers and publications.

Clientèle: The users of outputs are:

UN intergovernmental bodies (e.g. LOS Conference, Committee for Natural Resources);

UN expert bodies (e.g. CDP and its working groups)

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c/ While this subprogramme is related to subprogramme 1, the importance and singular nature of the issues addressed, as well as their complex ramifications, warrant their treatment under a separate and relatively self-contained subprogramme. In 1979, land-based minerals were introduced into this subprogramme as a result of the restructuring exercise. However, this new component is not incorporated in the present exercise.

Planners, mineral economists and other experts within Government services (e.g. mines, natural resources).

### The Medium-Term Period

#### (1) Periodicity

The dissemination of analyses is envisaged as a continuing function. In any given 4-year plan period, three to five analyses will be prepared.

Some of these analyses will require up-dating periodically in light of developments and new data. Others will not be up-dated but will be succeeded by analyses of other aspects. One continuing activity with an output every three to four years will consist of the monitoring of the activities of international sea-bed mining consortia. The requirements of the LOS Conference have given rise to, and the anticipated requirements of any successor entity to the LOS Conference are expected to give rise to, the need for additional analyses, the nature of which cannot be fully foreseen.

As regards near-shore (non-hydrocarbon) minerals, it is expected to complete the initial phase of activity during the plan period. However, additional activities in the field of near-shore minerals are anticipated.

#### (ii) Phased objectives

It is hoped that by 1983, 5 countries will take explicit account of projected supplies and prices of sea-bed mineral resources in developing strategies and targets in the mineral sector of their development plans; and that 10 developing countries will have made explicit provision in their planning documents for assessing their near-shore hard mineral occurrences. It is hoped that by 1987, these figures will have doubled.

### 3. Integrated Coastal Area Development

Objective: An increase in the number of countries that are implementing an integrated approach to the development and management of their coastal areas, including the establishment of the institutional and legislative conditions for such an approach.

Means of Action: The UN disseminates techniques and methodologies for integrated coastal area development.

Content: The techniques and methodologies disseminated pertain to the economic, environmental, legislative and institutional aspects of coastal area management and development.

UN Role: Comprehensive integrated coastal area planning and management is a relatively new approach. The techniques and methodologies for it are not readily available in suitable form and many developing countries are not

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aware of the possibilities involved. The UN role encompasses the full range of measures from research to technical co-operation and all the stages involved from awareness creation to project implementation.

Output: Output takes the form of: manuals and analytic studies, inputs into training courses and regional action plans (UNEP) and direct advisory assistance, and is made available to users in the form of publications, working papers and substantive support for technical co-operation.

Clientèle: The users are: (i) Planners, economists, engineers and administrators within Government services; (ii) Government representatives at UNEP Regional Seas meetings; (iii) Other UN organizations.

### The Medium-Term Period

#### (i) Time-Limitations

This subprogramme specially lends itself to the setting of approximate time-limitations on stages of subprogramme development, as follows:

(a) 1973-1976: During this initial period, activities focused on providing general information and on creating awareness of the importance of coastal areas and familiarity with problems and concepts; outputs were oriented to UN intergovernmental bodies;

(b) 1977-1980: The above activities laid the basis for analytical studies of broad scope, technical co-operation and substantive inputs into training courses and for the development of regional action plans for various regions, primarily under the UNEP Regional Seas Programme. Intended users increasingly became Government experts and Government representatives at special technical meetings.

(c) The plan period 1980-1983: During this period, research activities will be directed increasingly to coastal area management in relation to specific coastal-related problems (e.g., erosion) and physical contexts (e.g., island developing countries). Research will also continue to be directed to providing inputs to training courses and the development of regional action plans. Substantive support for technical co-operation will emerge as the major component of this subprogramme.

(d) 1984: Research on techniques and methodologies will be phased out under this subprogramme and will be undertaken in more limited form under subprogramme 1 in relation to the management of extended resource jurisdictions. Inputs to training courses and to the development of regional action plans will continue through the decade and substantive support for technical co-operation will continue to be the major component.

#### (ii) Phased Objectives

It is hoped that by 1983, 10 developing countries will have taken significant steps toward the establishment of an integrated approach to

coastal area management and development. Such "significant" steps could consist of the following:

- (a) Recognition in development planning documents of the coastal area as a regional planning area within the framework of national planning;
- (b) The establishment, at the national level, of arrangements for co-ordinating Government departments dealing with coastal development;
- (c) The introduction, at the national level, of legislation facilitating national strategies for integrated coastal area development; the adoption of coastal zone management acts, for example, would mark significant progress.
- (d) The introduction in national educational infrastructure of courses and curriculum oriented to a management approach to coastal area development.

By 1987, it is hoped that 10 additional developing countries will have taken such steps.

Further, it is hoped that by 1983, countries in two subregions, and by 1987 countries in 4 subregions will have agreed to comprehensive subregional arrangements for marine and coastal environmental protection and development.

#### 4. Marine and Coastal Technology

Objective: An increase in the number of countries having a capability for identifying marine and coastal technologies most suitable to their needs and for developing or acquiring and applying such technologies.

Means of Action: The UN disseminates at regular intervals information designed to assist countries to select marine and coastal technologies most suitable to their identified needs, and to develop or acquire and apply such technologies.

Content: The information disseminated deals with:

- (a) Sources of supply of marine and coastal technologies and of technology assistance;
- (b) Recent technological developments in specific problem/need areas and new technology applications; and
- (c) The full range of technologies available for dealing with particular coast-related problems or needs, and the economic, scientific, technological and cost components involved in their application.

/...

UN Role: This can be considered as a continuing function, where the UN serves primarily as a link between suppliers of marine and coastal technologies and sources of assistance in this field on the one hand, and user countries on the other.

Output: Output takes the form of Guides or Directories, technology reviews and information abstracts and are made available to users in the form of publications and the monthly Aquatic Sciences and Fisheries Abstracts (ASFA)-II (Part II: Ocean Technology, Policy and Non-living Resources), which is one of the information modules of the IOC/FAO/UN Aquatic Sciences and Fisheries Information System (ASFIS).

Clientèle: The users are:

Government services dealing with coast-related problems (e.g., erosion, coastal resource inventory, underwater storage facilities); and

Coastal engineers.

#### The Medium-Term Period

##### (1) Periodicity

Two to three technology reviews will be prepared each year at regular intervals and on a continuing long-term basis. Each review will deal with a different coast-related problem or need and the range of technologies available.

On a monthly basis, relevant articles in some 40 professional journals are abstracted for inclusion in ASFA-II. This is a continuing, long-term function. It is expected that by 1983, regular periodic inputs will be made into other information modules of the ASFIS.

SURVEYING, MAPPING AND INTERNATIONAL CO-OPERATION IN CARTOGRAPHY (DTCD)

Objective - Longer term

To assist governments, particularly those of the developing countries, in the application of the latest surveying and mapping techniques for planning economic and social development. As these techniques are constantly being modified and developed, and substantial parts of the world have not yet been able to obtain the considerable benefit deriving from these, d/much of this subprogramme is inherently on-going.

By 1985, several governments should be adequately "assisted" and others will be entering the early stages of the programme. As only governments can assess when the services which the subprogramme offers to them are no longer useful, and as many governments who clearly need assistance in this regard are not yet involved with the subprogramme, its termination or status of marginal usefulness is clearly far in the future. The main geographical areas of operation, however, may well change as countries develop their expertise : progress can occur in only a limited number of countries at once, given the resources available.

Medium-term objectives can be stated in terms of national mapping services to be established, existing institutions to be strengthened, and national personnel to be trained.

Medium-term 1982-1985

The feasibility of reaching the objectives depends of course upon availability of resources of experts, fellows and equipment, both in the UN system and in the countries concerned, and upon decisions by governments to request technical co-operation. Within that proviso, the following objectives, based on past experience, seem reasonable :

(i) Establishment of national mapping services

To conclude by 1984 the setting up of a national capability for base mapping techniques in two countries where this is already well advanced. (The complete time span for this operation is usually from 5 to 10 years);

To complete by 1986 base mapping services in two countries (the building up of these institutions had been started in the last few years);

To extend existing mapping services to include other kinds of mapping such as cadastral surveying and mapping, hydrographic surveying and nautical charting in two to six countries. (This would continue into the following medium-term plan until 1988).

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d/ See paragraphs on Problems addressed.

(ii) Strengthening institutions which already exist, through the supply of experts, fellowships and equipment:

Strengthening three institutes already quite advanced in developing countries (1982-1984);

Commence the strengthening process on six institutes in developing countries (1984-1986).

(iii) Training of individuals from developing countries within the region in advanced techniques in central institutes. This requires experts and fellowships rather than equipment; the duration of individual fellowships varies from two months to around one year and from 1980 to 1986 an amount of training ranging from 3 to 6 trainees-year per year will be delivered.

#### Problems addressed

Introduction : Adequate maps and charts are an indispensable public service required for efficient planning and successful implementation of numerous economic and social development projects. Topographic maps and nautical charts are needed prior to exploration and exploitation of mineral and other natural resources; they are continually used as a base for statistical and administrative data, and the former are essential for planned urban development. In addition, they provide an economically viable aid in land use and in the assessment of governmental land information, including income from land (cadastral surveying); their assistance to land, air and sea transportation is likewise clear (aeronautical and nautical charting). Out of 100 countries likely to request UN co-operation in cartography, 20 have a developing capacity for self-reliance; 80 are at or almost at the starting point.

#### Specific problems :

(i) Many developing countries do not yet recognize the value and cost/effectiveness of a full range of mapping techniques : the sensitization of governments and stimulation of appropriate informed public opinion is, therefore, vital.

(ii) It is known that there is a severe lack of skilled personnel, modern equipment and maintenance facilities in the whole mapping field.

(iii) Insufficient communication between national and international offices specializing in the field retards the preparation of regional maps.

#### Strategy

To make national governments both aware of the advantages of the services and techniques described, and ultimately self-sufficient in them, the basic strategy is to use the resources available to stimulate the appropriate governmental bodies and train and develop expertise in individuals, primarily in developing countries. Thus the output primarily consists of training programmes of various kinds and conferences and meetings, aimed at both arousing

the involvement of governments and developing the skills and understanding of individuals and official bodies through participation in such meetings or acquaintanceship with the publication of their results.

Conference proceedings and bulletins have a marked effect when they reach appropriate places in governments. Two problems which require consideration in this regard are that, because much of the material becomes outdated very quickly, the publication process at all stages must be as fast as possible; and secondly, the appropriate organs of national governments for dealing with different sectors of the whole mapping process often vary, and in many cases contact with the wrong offices can introduce considerable delays.

Future World Cartography Bulletins will contain results of surveys on hydrographic and cadastral surveys and mapping, topography (including evaluation of past progress) and thematic cartography as well as related disciplines as laid down by cartographic conferences, and therefore require a wider readership. Hydrography, which is vitally important to many developing countries with long coast lines and well used harbours, is yet to be developed, and the United Nations is prepared to offer technical advice to governments as requested.

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