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## PROPOSED MEDIUM-TERM PLAN FOR THE PERIOD 1992-1997\*

MAJOR PROGRAMME IV. INTERNATIONAL ECONOMIC  
CO-OPERATION FOR DEVELOPMENTProgramme 19. Natural resources

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\* The present document contains programme 19 of the proposed medium-term plan for the period 1992-1997. The complete medium-term plan will subsequently be issued in final printed form as Official Records of the General Assembly, Forty-fifth Session, Supplement No. 6 (A/45/6/Rev.1).

## PROGRAMME 19. NATURAL RESOURCES

### A. Programme

#### 1. General orientation

19.1 The present programme is carried out within the framework of General Assembly resolutions 32/158, 32/176, 33/194, 34/201 and 40/171; and Economic and Social Council resolutions 131 (VI), 715 A (XXVII), 814 (XXXI), 1761 (LIV), 1954 (LIX), 2014 (LXI), 2121 (LXIII), 1979/68, 1979/70, 1979/71, 1981/76, 1981/77, 1981/78, 1981/79, 1981/80, 1981/81, 1981/91, 1985/49, 1985/50, 1985/53, 1987/7, 1989/7 and 1989/116.

19.2 The exploration, development, rational use and effective management of a nation's natural resources endowment remain one of the essential components for the achievement of economic and social progress. The activities in the field of natural resources will help strengthen the national capabilities to identify, explore, develop and manage effectively the non-agricultural natural resources sector as a critical component for national economic and social development within the context of permanent sovereignty over natural resources. During the period 1992-1997 of the medium-term plan, it will be essential, in an increasingly competitive and dynamic international economy, for developing countries to have the human, technological, institutional, financial and managerial capabilities to broaden the development of their natural resources bases in order to meet the multiple requirements for sustained economic growth and social progress.

19.3 In recent years, there has been a general improvement in mineral markets, which led to the exploration and development of mineral resources that aim to reduce dependence of developing countries on imports of major construction materials, such as cement, glass and building stones. Efforts are required to promote investment for mineral resource development.

#### 2. Overall strategy

19.4 The Department of International Economic and Social Affairs and the Department of Technical Co-operation for Development of the United Nations Secretariat will be responsible for the implementation of the programme. The implementation will be done through: the provision of assistance to developing countries; the technical co-operation activities at the country level; the preparation and timely distribution of technical publications on important developments in the sector, promoting the sharing of information and experience by the organization of workshops, symposia and study tours; and the substantive support of specialized intergovernmental bodies.

19.5 The programme will be carried out in co-ordination with the United Nations Conference on Trade and Development, the regional commissions and with the major funding bodies such as the United Nations Development Programme and the World Bank, as well as in co-operation with the relevant programmes of other United Nations agencies such as the United Nations Industrial Development Organization, the Food and Agriculture Organization of the United Nations, the World Health Organization and the United Nations Children's Fund. The programme will also support the

objectives, and be guided by the results, of the United Nations Conference on Environment and Development.

### 3. Subprogramme structure and priorities

19.6 Based on the general orientation outlined above, the programme will comprise the following four subprogrammes:

- Subprogramme 1. Co-ordination in the field of water resources
- Subprogramme 2. Water resources development and management
- Subprogramme 3. Mineral resources
- Subprogramme 4. Surveying, mapping and international co-operation in cartography

Subprogramme 1 will be implemented by the Department of International Economic and Social Affairs. Subprogrammes 2, 3 and 4 will be implemented by the Department of Technical Co-operation for Development.

19.7 High priority has been assigned to subprogrammes 2 and 3.

### B. Subprogrammes

#### SUBPROGRAMME 1. CO-ORDINATION IN THE FIELD OF WATER RESOURCES

##### (a) Objectives

19.8 The legislative authority for the subprogramme derives from General Assembly resolutions 32/158 and 40/171; and Economic and Social Council resolutions 2121 (LXIII), 1979/68, 1985/53, 1987/7 and 1989/7.

19.9 In spite of significant progress achieved during the 1980s, neither the objectives of the Mar del Plata Action Plan, adopted by the United Nations Water Conference in 1977, nor those of the International Drinking Water Supply and Sanitation Decade, have been fully realized. Progress concerning capabilities of countries to assess water resources has been limited.

19.10 Institutional and legislative constraints continue to have negative effects on the development, utilization and conservation of water resources. A very large number of urban and rural poor in developing countries still lack minimum water supply and sanitation services. Increased efforts will be needed in order to expand the use of water in irrigated agriculture, increase efficiency in water use and arrest environmental effects of irrigation. Environmental degradation associated with the deterioration of water quality is becoming an increasingly serious problem both in terms of increased pollution and the inadequacy of controls. Efforts concerning the mitigation of water-related disasters have not been carried out in a systematic manner as an integral part of policy formulation and management.

19.11 At its forty-fifth session, the General Assembly will have before it a report concerning an assessment of the International Drinking Water Supply and Sanitation Decade, in accordance with General Assembly resolution 40/171 of 17 December 1985. Action proposals stemming from that review, as well as

recommendations contained in a strategy for action for the implementation in the 1990s of the Mar del Plata Action Plan, to be adopted by the Committee on Natural Resources, will constitute the basis for action by Governments and organizations of the United Nations system during the period of the medium-term plan.

19.12 The objectives of the subprogramme are: to promote system-wide co-operation and co-ordination in the field of water resources through the collection and dissemination of information of relevance to the organizations concerned and by analysing and promoting consideration of issues of an interdisciplinary nature; and to gather and analyse information concerning the implementation of the Mar del Plata Action Plan in the light of action-oriented recommendations formulated by intergovernmental bodies for consideration by those bodies at their various sessions.

(b) Course of action of the Secretariat

19.13 The promotion of co-operation and co-ordination among the organizations of the United Nations system will continue to be an important factor in increasing their capability to assist Governments in implementing the recommendations from intergovernmental bodies within the framework of the Mar del Plata Action Plan.

19.14 In order to facilitate periodic reviews by the Committee on Natural Resources and other intergovernmental bodies, the Secretariat will continue to monitor progress by Governments and organizations of the United Nations system in the implementation of the Mar del Plata Action Plan, in the light of action-oriented recommendations to be made by the General Assembly at its forty-fifth session concerning follow-up action after the end of the International Drinking Water Supply and Sanitation Decade, and of the strategy to be adopted by the Committee on Natural Resources at its twelfth session in 1991.

19.15 Through the Inter-Secretariat Group for Water Resources of the Administrative Committee on Co-ordination (ACC), concerted approaches to the implementation of action recommendations from intergovernmental bodies will be promoted, which will involve the preparation of analyses of issues of an interdisciplinary nature and of proposals for system-wide action, as well as the collection of information on activities of the organizations of the system active in the field of water resources. Co-operative arrangements will be continued concerning drinking water supply and sanitation, following the end of the International Drinking Water Supply and Sanitation Decade.

SUBPROGRAMME 2. WATER RESOURCES DEVELOPMENT AND MANAGEMENT

(a) Objectives

19.16 The legislative authority for the subprogramme derives from General Assembly resolution 32/158 and Economic and Social Council resolutions 2121 (LXIII), 1979/70, 1981/80, 1981/81, 1985/49, 1985/50 and 1987/7.

19.17 Adequate mobilization and management of the financial, technological and human resources needed for water development and conservation are closely related to institutional factors. Yet, recent assessments indicate persistent difficulties in planning, legal and institutional arrangements. Inadequate institutional structures hamper increased community and private sector participation in resource mobilization, and often neglect local operation and maintenance activities. It is

necessary to involve the women of the community, as the main managers of water supply and sanitation facilities, in the planning, design, operation and maintenance of such facilities. Water legislation needs to be more flexible to improve allocation efficiency, to protect the resource base and to ensure equitable policies for cost recovery.

19.18 There is a need for increased knowledge about the availability of water resources, particularly in the case of ground water, and an increasingly urgent need to monitor ground-water utilization and changes in water quality.

19.19 Current levels of funding represent only a fraction of estimated requirements, while the servicing and payment of existing external debt prevents further national investment in water resources. At the same time, well-conceived water resources programmes and projects are in short supply. Failure to implement fully cost recovery policies in some cases limits the expansion of government programmes and results in low levels of operation and maintenance of existing projects. Increased attention needs to be given to the generation of financial resources from national sources, including, where appropriate, the involvement of the private sector and external support agencies.

19.20 Water pollution from domestic, industrial and agricultural sources is a potentially serious problem for developing countries, although the full dimensions of the problem have not been adequately investigated and analysed. Salinity and saltwater intrusion into ground water have increased with the need for higher rates of abstraction, particularly in coastal areas. More attention needs to be given to environmental and health considerations in water resources development, along with the involvement of women in health education.

19.21 Technological practices are affected by technical, social, cultural and institutional factors. Many countries are affected by technologies not suited to their particular conditions and are therefore not able to operate, maintain or adapt imported equipment. Technologies should be appropriate to the given community and should be based as much as possible on local materials and manufacture and ease of maintenance at the local level.

19.22 Lack of trained personnel at all levels and the inadequacy of training facilities and programmes constitute severe constraints to the development, use and management of water resources. The main problems stem from inadequate training programmes and rigid systems of personnel management. Much could be gained by giving particular emphasis to training women as active participants, not only in the design and management of water systems, but also at the policy formulation stage.

19.23 The main objectives of the subprogramme are:

(a) To assist developing countries through technical co-operation activities in order to strengthen their capacity to collect and analyse data on surface and ground-water resources;

(b) To improve water use efficiency through better planning and allocation of scarce water resources and through conservation measures;

(c) To provide on-the-job training to middle-level technicians and drillers and to users, especially women, in village-level operation and maintenance;

(d) To monitor or introduce to developing countries current technological options for the assessment, data storage and retrieval and development of water resources, both conventional and non-conventional;

(e) To prepare up-to-date technical publications and manuals on issues of concern to water specialists in the fields of ground-water assessment, international river and lake-basin development, water-planning, management, economics and legislation.

(b) Course of action of the Secretariat

19.24 Priority will be given to improving the knowledge of the availability of water resources, especially ground water, and institutional strengthening, based on interdisciplinary approaches, including technical, legislative and economic aspects. Development of specialized working tools, such as ground-water software for micro-computers used in assessment and planning, will be particularly addressed. Economic and legal elements will be considered in terms of their structural role (how they promote development and conservation), while their regulatory components will be related to the main objectives of development and conservation.

19.25 Support for the improvement of knowledge will be provided through the dissemination of information concerning surface and ground-water resources and on technological developments of relevance to developing countries. Continued support will be offered for carrying out surveys, pre-investment surveys, and ground-water exploration and development.

19.26 Emphasis will be placed on better utilization of existing supplies of vulnerable and scarce water resources through programmes related to reductions in wastage, leak detection and repair and control of excess irrigation usage, as well as through management of demand to cover reasonable levels of use according to available supply. Moreover, the preservation of existing water quality through effective economic and legal policies is considered a top priority. Likewise, increased attention should be given to multi-purpose water resources development.

19.27 The economic element will emphasize more efficient utilization of existing financial and human resources in water resources development, which could be achieved by orienting projects to meet the real needs of the largest number of people, at the lowest possible per capita cost, and by establishing projects affordable to the local community (at least for operation and maintenance) and within the absorptive capacity of the country to implement them. Training will be aimed at remedying deficiencies in the structure of the work force, such as shortages of skilled technicians, and also at making the best possible use of existing human resources, including women. More efficient use of existing infrastructure would imply conscientious operation and maintenance, as well as rehabilitation of existing water-supply systems.

19.28 Technical co-operation activities will concentrate on the transfer and adaptation of water technologies, the strengthening of institutional systems, the exploration and development of new water sources, and the promotion of economic and legal measures to improve efficiency in water use. Interregional seminars on water issues of widespread importance will be held as required and research publications covering development and management issues will be widely disseminated to water resources specialists.

19.29 The monitoring of progress in the implementation of the Mar del Plata Action Plan, including the monitoring of progress in providing drinking water supply and sanitation services to the urban and rural poor, following the end of the International Drinking Water Supply and Sanitation Decade, will continue to be an essential element of the work of the Secretariat.

19.30 The further implementation of the Mar del Plata Action Plan in the 1990s, as well as system-wide action concerning drinking water supply and sanitation, will continue to require close co-operation and co-ordination of efforts among the organizations of the United Nations system concerned. Continued support will be given to the ACC Inter-Secretariat Group for Water Resources, as well as to co-operative arrangements concerning drinking water supply and sanitation following the end of the Decade.

### SUBPROGRAMME 3. MINERAL RESOURCES

#### (a) Objectives

19.31 The legislative authority for the subprogramme derives from General Assembly resolutions 32/176, 33/194 and 34/201; and Economic and Social Council resolutions 1761 (LIV), 1954 (LIX), 2014 (LXI), 1979/71, 1981/76, 1981/77, 1981/78, 1981/79 and 1988/91.

19.32 During the early 1980s, a structural change had occurred in the international market for mineral raw materials, resulting in substantially lower consumption growth rates in the major user countries, as compared to previous decades. This shift has had profound implications for those developing countries that are heavily reliant on minerals as a constituent of their gross domestic products and as an element in their balance of payments. Many developing countries have strengthened their institutions responsible for basic geological investigations, mineral exploration, technical and economic evaluation of mineral projects, legislative and administrative regulation of the mineral resources sector, and investment promotion and negotiations with foreign investors. Knowledge of the resource endowment has increased in most countries, personnel have been trained in both the public and private sectors, investment has been attracted for exploration, development of mines and processing facilities and rehabilitation of existing installations, and new mineral development regulations and strategies have been introduced. There has recently been a considerable increase in prices for most minerals and metals as a result of a rise in consumption growth. As a consequence, stock levels decreased for some minerals and metals and shortages developed for some others.

19.33 While, during the 1960s and 1970s, major large projects dominated the mining industry, more recently the new projects are smaller, produce less common minerals and metals and include installations for further processing within the developing countries. Exploration and production technology changes rapidly, and developing countries often lack access to such new technology or have access only through the services of foreign expertise.

19.34 While adequately trained and experienced personnel exist in some developing countries with a long history of mineral sector activities, most countries still lack managerial and technical expertise required for the efficient management of the mineral sector. Availability of experienced personnel is particularly important in view of the persistent weakness of the international mineral markets,

and rational policies are important for achieving progress and remaining, or becoming, competitive. The most important constraints are the lack of adequate training facilities and opportunities to gain experience. Because of the international nature of the minerals industry, such experience has to be gained at the international level, and not only in the national framework, as is the case in many countries at present.

19.35 In recent decades, the demand for certain metals has been sharply curtailed by substitution of man-made materials, e.g., substitution for tin by plastics. Prospects for the continuation of the use of synthetics have important implications for the consumption, required rates of investment and availability of financing to the minerals industries, which need to be examined systematically.

19.36 Among those countries dependent on mineral commodities for government revenue, foreign exchange and employment, as well as economic development generally, many are highly dependent on one or very few minerals and metals, such as copper, tin, iron ore or bauxite. That dependence has developed over many years and makes those countries highly vulnerable to income fluctuations that result from the volatile nature of mineral markets. Diversification to other minerals may be needed. Most developing countries, with the exception of very small entities, lack a systematic understanding of planning, regional development and promotion of investment in the mineral resources sector. To improve such knowledge can be a time-consuming exercise. In many countries, most of the basic information is available, but would have to be collected and made available to those interested in exploration and mine development.

19.37 Additional investment is required, on a selective basis, for small to medium-mining projects, for mines producing gold and other high-value materials and metals, for rehabilitation of existing facilities, for production of non-metallic minerals where those substitute for imported raw materials and for mineral resources surveys generally. Government funds and those provided by multilateral and bilateral co-operation agencies are limited, and substantial contributions are required from the private sector, both within developing countries and from international investors. There is a need to create reasonable conditions for attracting finance while, at the same time, maintaining the principle of permanent sovereignty over natural resources.

19.38 The objectives of the subprogramme are:

(a) To assist developing countries to strengthen their capacities to explore, develop and manage effectively their mineral resources;

(b) To assist developing countries in strengthening their capacity to ensure their permanent sovereignty over natural resources;

(c) To ensure a continuous flow of information to Member States on the prospects for, trends on and development in selected minerals and in the international minerals sector for decision-making, including identification of financing and investment requirements;

(d) To co-operate with other international organizations and development agencies in efforts to promote the transfer of technology to developing countries, in particular, the least developed countries.



(b) Course of action of the Secretariat

19.39 While in the past major importance was assigned to discovering mineral occurrences, the main elements of the course of action to be pursued during the 1990s would be to support better management of existing resources.

19.40 Generally, activities include close co-ordination of technical co-operation activities, research in support of such activities, dissemination of information on managerial, economic, technical and social progress in all fields within the mineral resources sector, and probably most important, strengthening of institutions in developing countries and training of personnel at all levels.

19.41 More specifically, future programmes will address the supply-demand balance for metals and minerals, the role of minerals in economic growth and development in developing countries, opportunities for international co-operation in the minerals field, problems of rational management of mineral resources, direct and efficient involvement of countries in all aspects of resource development, and strengthening of indigenous capabilities to assure increasing self-reliance of the developing countries. Activities will include:

(a) Continuous monitoring of consumption, production, stocks, and prices of the major mineral raw materials;

(b) Assessments of long-run trends in mineral sector development (including investment, financing and utilization);

(c) Systematic efforts to identify emerging problem areas and issues involving minerals;

(d) Identification of the macro-economic and international trade implications of evolutionary changes and structural shifts within the minerals sector;

(e) Review and preparation of mineral policies and mining codes of developing countries, assistance in investment and other contract negotiations, financing arrangement, investment promotion and training in computer-supported negotiation techniques;

(f) Manpower development/training of technicians and professionals for mineral programmes in all areas of mineral development;

(g) Detailed geochemical mapping;

(h) Detailed ground and airborne geophysical surveys;

(i) Preliminary feasibility studies: drilling, mineral sampling and analysis, mineral exploration, reserve and grade estimation, economic evaluation and benefits;

(j) Feasibility studies and investment promotion: technical feasibility and mineral marketing studies, preparation of bankable documents for investment negotiations;

(k) Establishment of computerized documentation systems/data centres;

- (l) Mineral right/concession/title computerization;
- (m) Mineral development planning;
- (n) Non-metallic mineral and construction material evaluation and development;
- (o) Upgrading chemical laboratory and other support facilities for mineral exploration;
- (p) Reorganization, streamlining and rehabilitation of government mineral organizations and State enterprise management;
- (q) Organization of workshops, seminars and symposiums, as required;
- (r) Technical advice on small-scale mining (regulations, technical assistance).

#### SUBPROGRAMME 4. SURVEYING, MAPPING AND INTERNATIONAL CO-OPERATION IN CARTOGRAPHY

##### (a) Objectives

19.42 The legislative authority for the subprogramme derives from Economic and Social Council resolutions 131 (VI), 715 A (XXVII), 814 (XXXI) and 1989/116.

19.43 Topographic base maps and nautical and bathymetric charts are needed prior to exploration and exploitation of mineral and other natural resources; they are essential for the infrastructure of any country and are continually used also as a base for statistical and administrative data and for planned urban development. Their derivatives, thematic maps, provide an economically viable aid in land use and in the assessment of governmental income from land (cadastral surveying and land information systems); their assistance to land, air and sea transportation is also evident (aeronautical and hydrographic charting). There is a lack of technical personnel, training facilities, modern equipment and maintenance facilities and, above all, a lack of knowledge in new fields, such as the use of satellites for geodesy and remote sensing, and the new mapping production techniques. In particular the role of global positioning systems and of geographic information systems is to be stressed, as well as the growing importance of digital databases. At the international level, co-operation is needed for greater efficiency in the preparation of regional maps, the standardization of geographical names and the exchange of new technologies - especially, whenever possible, among developing countries.

19.44 The objective of the subprogramme is to assist Governments, particularly those of developing countries, in the application of the latest technology in cartographic data acquisition, compilation, storage and presentation as a tool for planning economic and social development and in strengthening or establishing various cartographic, cadastral and hydrographic services, including geographical names authorities.

##### (b) Course of action of the Secretariat

19.45 The activities of the subprogramme include promoting the exchange of technical knowledge and experience and providing support for technical co-operation activities. Substantive servicing of United Nations conferences on cartography and

geographic names, scheduled for the medium-term plan period, will be provided. Information will also continue to be provided to Governments on the latest applications and technological developments in remote sensing relevant to the exploration of natural resources and to the development of coastal areas. Particular attention will be devoted to assisting developing countries in strengthening their capacities to interpret and effectively utilize remotely sensed data. The collaboration of conference and library services will be sought, as appropriate.

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