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MEDITERRANEAN ACTION PLAN

Meeting of responsible investigators
of monitoring programmes

Athens, 20-23 March 1989

REPORT OF THE MEETING OF RESPONSIBLE INVESTIGATORS
OF MONITORING PROGRAMMES

TABLE OF CONTENTS

	<u>Page</u>
Report	1-5
Annex I	List of participants
Annex II	Agenda
Annex III	List of documents
Annex IV	Recommendations

INTRODUCTION

1. The Fourth Ordinary Meeting of the Contracting Parties (Genoa, 9-13 September 1985), in considering the recommendations of the Third Meeting of the Working Group for Scientific and Technical Cooperation (Athens, 27-31 May 1985), agreed that the Secretariat would make a full review of problems and achievements of the monitoring component of MED POL on the basis of the experience gained in the preceding years. A preliminary evaluation was prepared by the secretariat for the Fifth Meeting of the Working Group for Scientific and Technical cooperation (Athens, 6-10 April 1987) and it was agreed that a Meeting of Mediterranean scientists responsible for the monitoring activities should be convened (UNEP/WG. 160/13, annex IV). Subsequently, the Fifth Ordinary Meeting of the Contracting Parties endorsed this decision and agreed on the relevant budgetary requirements (UNEP/IG.74/5, annex VII).

2. The Meeting of responsible investigators of monitoring programmes was therefore convened in Athens from 20 to 23 March 1989 at the office of the Coordinating Unit for the Mediterranean Action Plan. The list of participants is attached as annex I.

Agenda item 1. Opening of the meeting

3. The meeting was opened by Mr A. Manos, Co-ordinator of the Mediterranean Action Plan, who welcomed participants on behalf of the Executive Director, Dr. Mostafa K. Tolba.

4. He referred to the long experience in developing a full-scale monitoring programme for the Mediterranean. In this process, standard values were being agreed upon, more and more reliable data at significant intervals were being submitted, and agreements were progressively reached on corrective actions.

5. At present, the picture was still incomplete because not all countries had a national monitoring programme and the quality of data was uneven. The present meeting was expected to assist in improving the situation.

6. The challenge on the long run was to make greater use of remote sensing, automated monitoring, new technological breakthroughs and of the monitoring carried out by non-official laboratories under sub-contract with national and local authorities.

7. The programme will have to learn from past experience (strengths and weaknesses), try and reduce the cost of monitoring through better targeted monitoring stations, greater use of statistical analysis, and finally, develop more effective presentation of data by making use of the capabilities of computers to produce charts, color and tridimensional maps and other visual aids.

Agenda item 2. Rules of procedure

8. The Secretariat informed the meeting that the rules of procedure for the meetings and conferences of the Contracting Parties to the Convention for the Protection of the Mediterranean Sea against Pollution and its related protocols (UNEP/IG.23/11, Annex VII) would apply mutatis

mutandis to the Meeting of the responsible investigators of monitoring programmes.

Agenda item 3. Election of Officers

9. The meeting unanimously elected the following Officers:

Chairman : Mr I. Salihoglu (Turkey)

Vice-Chairman : Mr M.A.R. Fawzi (Egypt)

Rapporteur : Mr L. Loizides (Cyprus)

Agenda item 4. Adoption of the Agenda

10. The meeting adopted the proposed agenda with the addition of sub-item 5.3.4 Nutrients, persistent synthetic materials and physical oceanography (see annex II).

Agenda item 5. Evaluation of the monitoring component of MED POL

11. An extensive presentation was made by the secretariat of document UNEP/(OCA)/MED WG. 5/2 which represented the secretariat's evaluation of the monitoring component of MED POL - Phase II. Detailed explanations were also provided by the representatives of FAO and WHO on the parts of the document relevant to the evaluation of the data of their scientific competence. Documents UNEP(OCA)/MED WG. 5/Inf.3, Inf.4, Inf.5 and Inf.6 were also introduced by the WHO representative and the consultants responsible for their preparation. The full list of documents is presented in annex III.

5.1. General overview

12. After a discussion on the general policy followed in the coordination of the monitoring component of MED POL, the general objectives as well as the four components of the MED POL monitoring programme (monitoring of sources of pollution, coastal areas, reference areas and airborne pollution) were considered still valid and needing no change.

5.2. Sources of pollution

13. In discussing the monitoring of sources of pollution, the meeting noted a generalized incompleteness of data transmitted although the implementation of this component was considered the essential tool for obtaining information on the type and amount of pollutants directly released into the Mediterranean. In addition, the absence of specific reference methods and of guidelines for monitoring land-based marine pollution sources had made the few data available of no immediate use. With the above consideration in mind, the meeting agreed on a set of recommendations which are presented in annex IV 1.

5.3. Coastal and reference areas

5.3.1. Microbial contaminants

14. The discussion on this agenda item also underlined the large gaps existing in the

availability of data received. It was stressed that, especially in countries where a network for the determination of marine microbial pollution already existed, any efforts should be made to transmit the results of the monitoring programmes to the MED Unit. In particular, the representatives of France, Italy and Spain informed the meeting that important progress had been made and that contacts with the MED Unit had clarified the mechanisms of transmission of data to the MED Unit and the use the Unit intended to make with these data. The representative of Greece informed the Meeting that her country had started implementing the MED POL - Phase II national monitoring programme, signed in April 1988 and that the relevant data would be submitted to MED Unit through official channels in due time. Furthermore, she referred to other monitoring activities carried out at national level. The representative of Monaco pointed out that his country was giving favorable consideration to the possibility of supplying the results of microbiological analyses, with the view at completing the geographic coverage of data for the Northern Mediterranean, as soon as France and Italy would transmit microbial data.

15. Important progress was noted from all countries with respect to the establishment of monitoring networks for the determination of microbial pollution. As a result of the discussion, a set of recommendations was agreed upon by the meeting and it appears as annex IV 2.1. The EEC representative took note of recommendation 2.1 (f).

5.3.2. Heavy metals

16. In discussing the data on heavy metals transmitted to MED Unit, it was noted that although more numerous than other parameters, they represented only a part of the existing Mediterranean data. It was stressed in fact that, especially in the more developed countries of the Mediterranean, only a small percentage of the data obtained on heavy metals were transmitted to the MED Unit through the MED POL National Coordinators. In addition, in spite of a considerable effort made by the MED Unit to publicize and distribute the relevant reference methods, it was noted that still many Mediterranean institutions had not received them.

17. The IAEA representative reminded the meeting that, although the quality of the Mediterranean data on heavy metals had improved considerably during the last years, data quality assurance had still to be given high priority. It was planned in fact to continue the country programmes initiated and to consider them a compulsory component of the MED POL National Monitoring Programmes.

18. The meeting agreed on a set of recommendations which appear as annex IV 2.2.

5.3.3. Petroleum and chlorinated hydrocarbons

19. In discussing the MED POL data on petroleum and chlorinated hydrocarbons, it was noted that their evaluation was difficult since their geographical distribution was not homogeneous (especially lacking in the south), their presentation very different from laboratory to laboratory and spread through a large variety of species and often the concentrations were not accompanied by the necessary complementary information.

20. As a result, the meeting agreed on a set of recommendations which appear as annex IV 2.2.

5.3.4. Nutrients, persistent synthetic materials and physical oceanography

21. In discussing the MED POL data on nutrients, the secretariat reminded the meeting that further production of data would be harmonised and enhanced as a result of the forthcoming Meeting on undesirable plankton blooms (Athens, 4-6 April 1989) during which an effort would be made to present and discuss at regional level the work at present being carried out in different countries. The meeting agreed on a specific recommendation on the subject which appears in annex IV 1.(b).

22. It was also noted that production of data on physical processes should be encouraged being an important support to the understanding of many pollution phenomena. It was stressed in particular the existing link between physical oceanography data and data on nutrients' distribution especially in connection with the analysis of the occurrence of unusual plankton blooms and eutrophication problems.

23. The meeting noted that the pilot monitoring survey of persistent synthetic materials was still ongoing and that the final results including data were expected by the end of 1989.

5.4. Airborne pollution

24. The meeting took note of the initial stages of the monitoring activities related to the transport of pollution through the atmosphere and agreed on the recommendations which appear in annex IV 3.

5.5. Conclusions and recommendations

25. The MED POL monitoring programme as initially prepared and subsequently modified was found to be still valid and satisfactory although its implementation need to be accelerated.

26. The meeting was unable to make an overall and full evaluation of the monitoring component in relation to its objectives for a variety of reasons but basically because the programme had not been fully implemented in all countries. Some countries had not yet initiated a monitoring programme while others had only recently done so. A permanent flow of information had not yet been established between the MED Unit and those countries producing data but not having a signed Agreement with UNEP. As a result of the above, the data sets on a regional level suffered from major temporal and geographical gaps.

27. However at a national level in countries participating in MED POL monitoring for a number of years the situation was found to be totally different. Many data had been accumulated which enabled an overall evaluation with positive results eg. in Yugoslavia.

28. The majority of data submitted by the countries was found to be of good quality and as a result certain preliminary scientific conclusions could be drawn.

29. Concerning microbiological data for coastal waters, the number of water samples analyzed during the 1983-1987 period illustrated the considerable progress made by most Mediterranean states in their monitoring programmes. However, the data available did not allow the reaching of definite conclusions on the possible trends observed in coastal water quality over the two phases of MED POL.

30. As far as chemical contaminants in coastal areas were concerned, it was possible to approach a stage for establishing baseline, general coastal and "hot-spot" concentration values which could be used as a guide for the assessment of future data and could be revised accordingly. Comparison of locations was also attempted.

31. Finally the programme proved to be a valuable means of cooperation between the countries, especially developing countries who had benefited more in upgrading their technical capabilities for pollution prevention and control.

32. In concluding the discussion, the meeting agreed on three additional recommendations (annex IV 4., 5. and 6.) which were found relevant to all the components of the monitoring programme.

Agenda item 6. Other business

33. Under this agenda item the EEC representative congratulated the secretariat for the quality of the documents presented to the meeting, and in particular of document UNEP(OCA)/MED WG.5/2 which represented a clear synthesis of achievements and failures of the monitoring component of MED POL.

Agenda item 7. Adoption of the report

34. The report of the Meeting was unanimously adopted.

Agenda item 8. Closure of meeting

35. The meeting was closed by the Chairman at 1 p.m. hours of Thursday 23 March 1989.

Annex I

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Annex II

Agenda

1. Opening of the Meeting
2. Rules of procedures
3. Election of officers
4. Adoption of Agenda
5. Evaluation of the monitoring component of MED POL
 - 5.1. General overview
 - 5.2. Sources of pollution
 - 5.3. Coastal and reference areas
 - 5.3.1. Microbial contaminants
 - 5.3.2. Heavy metals
 - 5.3.3. Petroleum and chlorinated hydrocarbons
 - 5.3.4. Nutrients, Persistent synthetic materials and physical oceanography
 - 5.4. Airborne pollution
 - 5.5. Conclusions and recommendations
6. Other business
7. Adoption of the report
8. Closure of the meeting

Annex III

List of documents

UNEP(OCA)/MED WG. 5/1	Agenda
UNEP(OCA)/MED WG. 5/2	Evaluation of the monitoring component of MED POL - Phase II (position document by the secretariat)
UNEP(OCA)/MED WG. 5/Inf. 1	List of documents
UNEP(OCA)/MED WG. 5/Inf. 2	List of participants
UNEP(OCA)/MED WG. 5/Inf. 3	Evaluation of MED POL-Phase II monitoring data. Part I - Sources of pollution
UNEP(OCA)/MED WG. 5/Inf. 4	Evaluation of MED POL-Phase II monitoring data. Part II - Micro-organisms in coastal areas
UNEP(OCA)/MED WG. 5/Inf. 5	Evaluation of MED POL-Phase II monitoring data. Part III - Heavy metals in coastal and reference areas
UNEP(OCA)/MED WG. 5/Inf. 6	Evaluation of MED POL-Phase II monitoring data. Part IV - Petroleum and chlorinated hydrocarbons in coastal and reference areas

Annex IV

Recommendations

1. SOURCES OF POLLUTION

- (a) All countries participating in the MED POL monitoring programme should monitor sources of pollution in order to obtain information on the type and amount of pollutants directly released into the environment.
- (b) Monitoring of nutrients' inputs at sources and their vicinity should be of high priority.
- (c) Stations in national monitoring programmes should be located in such a manner that major sources of pollution (cities above 10,000 inhabitants, big touristic complexes, rivers, major industries) are covered to the extent possible.
- (d) Guidelines for monitoring of land-based marine pollution, at and in vicinity of sources, together with relevant reference methods should be completed by the end of 1989 in order to be used in 1990.

2. COASTAL AND REFERENCE AREAS

2.1. Microbial pollution

- (a) Efforts should be made by the MED Unit and respective countries in order to improve geographical coverage of microbial pollution monitoring, in particular in the south of the Mediterranean.
- (b) The rationale behind on-going microbial pollution monitoring programmes at country level should be reviewed in order to ensure general assessment of the microbial pollution along the coast and to serve as a tool for national action.
- (c) A coordinated effort should be made by the MED Unit, the National Co-ordinators for MED POL and all participating centres to follow recommended reference methods, adopted reporting formats and agreed procedures for data submission.
- (d) Participating Centres should be encouraged to utilize the methodology adopted by the MED Unit to interpret and evaluate microbiological data.

- (e) Data quality assurance programme of microbiological monitoring should be enhanced in order to ensure reliability and comparability of the data.
- (f) Taking into account the interim environmental quality criteria for bathing waters proposed during the 4th Ordinary Meeting of the Contracting Parties to the Barcelona Convention and especially point (3) (a) 1st sub-paragraph of recommendation F 6 (Doc UNEP/IG 56/5), a closer collaboration between the EEC and the Co-ordinating Unit for the Mediterranean Action Plan - Athens should be envisaged.

2.2. Halogenated and petroleum hydrocarbons and heavy metals

- (a) Efforts should be made by the MED Unit and the Mediterranean countries to ensure adequate geographical coverage of monitoring, in particular in the south of the Mediterranean.
- (b) A coordinated effort should be made by the MED Unit, the National Co-ordinators for MED POL and all participating centres to follow adopted reporting formats and agreed procedure for data submission.
- (c) All efforts should be made to ensure that at least a minimum, but significant, monitoring programme be implemented by each country, which will include at least all parameters of category I to the extent possible. Such programmes should have the following types of stations: hot-spots, general coastal stations and reference stations. Suggested frequency for biota sampling should be four times a year for hot-spot stations, two times a year for general coastal stations and once a year for reference stations. Suggested minimum sampling frequency for sediments analysis is once a year for all types of stations. Frequency of sampling should take into account previous measurements in the same area.
- (d) Participation in the intercalibration exercise should be mandatory for all participating laboratories and therefore only laboratories participating in an intercalibration exercise and having validated their methods should take part in MED POL monitoring activities. Intra-laboratory analytical data quality control against laboratory standards, calibrated against certified standards, should be regular practice.
- (e) Biota should be a mandatory matrix for halogenated hydrocarbons and heavy metals and every effort should be made to analyze the recommended species which are: the Mediterranean mussel (Mytilus galloprovincialis), the red mullet (Mullus barbatus), the deep water pink shrimp (Parapaeneus longirostris), tuna or sword fish and sardine or anchovy. In the case where the above species are not available in a particular area, a list of alternative species, as approved by the Contracting Parties should be used.

- (f) The development or updating of reference methods and reporting formats should be continued for the needs of the revised monitoring programme.

3. MONITORING OF AIRBORNE POLLUTION

Since this new monitoring component of MED POL is still at the very initial stage the recommendations for future work in the Mediterranean countries are connected at present mainly with organizational matters and are the following:

- to nominate monitoring stations for the programme;
- to nominate national research institutions responsible for implementation of the programme;
- to include officially the proposed monitoring activities into the national monitoring programme and submit them to the MED Unit.

4. DATA QUALITY ASSURANCE

Assessment of the present level of the implementation of national monitoring programmes and data received so far necessitates preparation and implementation of National Data Quality Assurance programmes which will include workplan and timetable for intercalibration, intralaboratory data quality assurance, training, scientific and technical visits and other details. MED POL Unit should assist in preparation and implementation of such programmes to the extent possible.

5. DATA COLLECTION, PROCESSING AND PRESENTATION

- (a) In order to process and present data, collected in the Mediterranean Unit, in faster and more efficient way the secretariat should assist countries, through direct assistance for monitoring activities, that data and reports be communicated from countries to the Mediterranean Unit in agreed uniform format, initially on diskettes and later through network facilities.
- (b) In order to improve capabilities of countries for processing and presentation of data the secretariat should supply countries with appropriate software.

6. FUTURE ACTIVITIES

- (a) In view of the assessment of the present situation and recent encouraging developments in the collection of data and data quality assurance programmes, it is recommended that the MED POL - Phase II monitoring programme be extended for four

additional years (until 1995) to enable full participation of all Mediterranean countries and to allow for a proper evaluation of the situation at a regional level.

- (b) In the light of the experience gained so far it is considered important that national monitoring programmes be designed in such a way that they ensure assessment of the state of pollution but also simultaneously lead to solution of defined scientific and environmental problems and motivate both young and experienced scientists to participate in the monitoring programme.
- (c) In this context, a scientific in-depth assessment on monitoring itself should be promoted on the basis of passed experience in order to prepare the programmes to be implemented in 1995 in the best possible way.