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MEDITERRANEAN ACTION PLAN

Fifth Ordinary Meeting of the Contracting  
Parties to the Convention for the Protection  
of the Mediterranean Sea against Pollution  
and its related Protocols

Athens, 7-11 September 1987

SURVEY OF TRAINING PROGRAMMES

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## 1. INTRODUCTION

1.1 Following one of the recommendations approved by the Contracting Parties at their Fourth Ordinary Meeting in Genoa last September that "a survey of training programmes and of technical co-operation programmes relevant to the various components of the Action Plan be carried out by the secretariat" (Section III (C) of the Report of the Meeting), I was asked by the Co-ordinator to prepare an assessment report on the subject, in particular:

- (a) to define, in consultation with MAP staff, the training component in MAP;
- (b) to review 1985 MAP activities and identify such training components (meetings, training courses, etc.);
- (c) to suggest ways for identifying training components in the 1986-1987 programme and propose a format for reporting to the Contracting Parties.

1.2 The above was to include the elements of a draft report on the training component of MAP (1985 programme) for circulating to the Contracting Parties.

1.3 After four days of consultations in Athens, I was given the opportunity of visiting two Regional Activity Centres, the first for the Priority Actions Programme in Split, Yugoslavia and subsequently the Regional Oil Combating Centre in Malta.

1.4 In the time available, it was not possible for me to survey in depth the whole of the MAP training effort, to evaluate particular courses or to study the training arrangements of other Mediterranean organizations. What I have sought to do, therefore, is to make a fairly broad review of what has been achieved to date and then, on that basis, to examine present trends, attitudes and policies as the need for a greater training effort becomes apparent. At Genoa, the Contracting Parties reaffirmed this need.

1.5 I am most grateful for the help that I unfailingly received during my mission. The Co-ordinator, the Directors of the two Centres which I visited and all the staff at the Athens Unit could not have been more generous and forthcoming in making themselves available to me, in the trouble which they took on my behalf and in the candour with which they all made their views known to me.

## 2. THE MANDATE FOR TRAINING GIVEN BY THE GOVERNMENTS

2.1 The need for training is mentioned in practically all Action Plan programmes and reports of meetings, from the original MAP recommendations to the most recent documents. The agreement reached at Barcelona in 1975 at the Intergovernmental Meeting on the Protection of the Mediterranean recommended, inter alia (Part I, 4(d) and 5 of the text): "The study of a system of vocational training at all levels" and indicated that the training and technical assistance activities envisaged, "particularly in favour of developing countries" should be "designed to enable all countries of the region to undertake activities in those fields themselves and to participate fully in regional activities".

2.2 The same meetings (Part II, para 4) invited "the Executive Director of UNEP, in order to increase the number of participants in the various programmes, to organize, as a first priority, an intensive in-service training of scientists and technicians and to provide additional equipment, this being the best basis for the development of national laboratories and institutions. The in-service training should be organized and confined within the Mediterranean countries to the largest possible extent."

2.3 A year later, the Barcelona Conference which adopted the Convention for the Protection of the Mediterranean Sea against Pollution, together with two Protocols, agreed on the establishment of a Regional Oil Combating Centre and decided that one of the functions of the Centre (Part 7, Annex II D of the Resolutions adopted by the Conference) would be: "To develop and encourage technological co-operation and training programmes for combating oil pollution."

2.4 And in Article 11, paragraph 3 of the Convention itself the Contracting Parties undertook: "To co-operate in the provision of technical and other possible assistance in fields relating to marine pollution, with priority to be given to the special needs of developing countries in the Mediterranean region."

2.5 Article X of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources, adopted at Athens in 1980, also laid stress on "implementing programmes of assistance to developing countries, particularly in the fields of science, education and technology", and affirmed that: "Technical assistance would include, in particular, the training of scientific and technical personnel."

2.6 In March 1981, the Second Meeting of the Contracting Parties to the Barcelona Convention, convened at Cannes, endorsed the provisions of MED POL - PHASE II, the long-term programme for pollution monitoring and research in the Mediterranean Sea. In Annex V of the report of the meeting, reproduced as UNEP Regional Seas Reports and Studies No. 28, it was agreed (paras 44 and 45) that: "Individual and collective training will be provided for scientists and technicians in techniques (methods) required for their effective participation in monitoring and research envisaged in the framework of MED POL - PHASE II. This assistance will be in the form of fellowships, experts, workshops, seminars, study tours, grants for attendance at meetings, etc., and will cover training in analytical and sampling techniques, data processing, interpretation of results and various research topics. Training for technicians and administrators will be organized in order to facilitate the application of the Land-based Sources and Dumping Protocols. The forms of training will be similar to those mentioned in the preceding paragraph."

2.7 Thus, the mandate established by the Contracting Parties and covering practically all activities of the Mediterranean Action Plan is, as far as training is concerned, unambivalent. As was pointed out in "The First Ten Years of the Mediterranean Action Plan - a Critical Review" (document UNEP/IG.56/Inf.3, para 181) prepared for the Fourth Meeting of the Contracting Parties in September 1985: "There is an obvious need throughout the Mediterranean, and particularly in developing countries, for effectively instructed technical and scientific personnel. There is equally no doubt that without efficient and well-trained cadres any environmental effort, programme or unit, is bound to either only partially succeed or totally fail."

2.8 The Genoa meeting, itself, coinciding with the tenth anniversary of the adoption of the Mediterranean Action Plan at Barcelona, reaffirmed, in its Declaration on the Second Mediterranean Decade, the determination of the Contracting Parties to co-operate in "the establishment of training programmes" and "the transfer of know-how".

2.9 The mandates cited above clearly require the MAP secretariat to select and implement appropriate training programmes and to avoid overlapping, duplication or competition with training activities of national, sub-regional or other regional or international institutions.

### 3. THE TRAINING COMPONENT IN MAP

#### Its uniqueness and special features

3.1 Most new institutions required to organize training can usually draw on precedents, have access to training literature, e.g. manuals, handbooks, in the same or a related field, or even can take advantage of ready-made courses obtainable from other institutions or commercial outlets. This is frequently not the case with MAP where scientists and planners, in many of its activities, operate in uncharted territory, sometimes at the very frontiers of knowledge.

3.2 The Priority Actions Programme, the Centre for which is located in Split, Yugoslavia, provides a good example of this. The programme aims at promoting sound environmental management in selected priority fields of particular importance to Mediterranean countries. To achieve its objectives it has to make an appraisal of specific problems in the areas selected. It does this by working through a network of focal points in Mediterranean countries whose role is information exchange, the carrying out of demonstration and pilot projects and training. Much of the training to date has been implicit; it can be regarded as one tool in the transfer of know-how but not the only one.

3.3 The fact is that PAP is only in the early stages of implementing its programme and there still exists a need for further in-depth studies, fact-finding and the exchange of experience before viable solutions, that is, relevant and applicable to the Mediterranean countries concerned, can be worked out. Only then will it be possible to develop and organize effective training programmes on topics which have been properly researched, e.g. through case studies formulated and developed in the countries themselves by planning, research and scientific institutions, afterwards examined by other experts and finally verified closely by Mediterranean Governments.

3.4 It has to be remembered that UNEP is the only agency which deals with the Mediterranean as a single unit - a fact which implies and calls for an essentially Mediterranean approach in almost all MAP training activities.

3.5 An exception, perhaps, is to be found in the training activities undertaken by the Regional Oil Combating Centre for the Mediterranean Sea (ROCC) located in Malta. General training courses on oil pollution have tended to mushroom since international oil companies moved into this field to promote their technical know-how, new products and equipment. One result of this is that ROCC can now give attention to more specialized courses as well as to courses and seminars at national level.

3.6 There are other special circumstances which affect the training component in MAP. One is that nearly all MAP's activities have become progressively decentralized over the years. At the same time, the original scientific programme has become more diversified. Consequently, all training supported or sponsored by MAP tends to be short-term. A month is usually the maximum, often two weeks for a group, though this can sometimes be extended to six weeks in individual cases. Most of the training takes place within one or another of the Mediterranean countries. Another feature is that training has to be conducted in two languages (English or French) and often simultaneously in both.

3.7 In these varied circumstances, MAP, being a relatively small organization in terms of resources and staff, has in its initial years been constrained to adopt a number of less formal and ad hoc approaches to training. These have given rise to a blend of on-the-job training activities and seminar/workshop offerings which, together with fellowships and grants for attendance at professional meetings and support to outside institutions and enterprises which organize courses open to MAP participants, have formed the bulk of the training output.

3.8 One very significant area of activity in MAP deserving of special mention because it might not otherwise be thought of as related to training, although it probably has an enormous educational impact, is the exchange of information that goes on at expert meetings; also the practice, referred to above, of encouraging scientists and technical personnel to participate in conferences and meetings of professional groups outside their organization but with which their function is closely related. Such exposure to the thinking, work and research of colleagues in other organizations represents a conscious training opportunity that certainly in most cases would not be available elsewhere. It is also well established that the pay-off from participation in such meetings is often greater per unit of time and dollar expended than from more deliberately planned training. As far as MAP is concerned, the extensive calendar of expert, technical and consultation meetings that it organizes or sponsors in the course of implementing its programmes covers a wide spectrum of marine knowledge and research as well as other fields of development. Participants therefore have the possibility of benefiting from a unique educational experience.

3.9 Taking the above into account in any overview of the organization's objectives and programmes, it might be possible to summarize the main purposes of training in MAP in the following way:

Orientation	To provide the widest possible orientation to the policies, aims and functions of the Mediterranean Action Plan.
As a result of advanced or specialized techniques	To provide the knowledge and skills required to advance the technical (and managerial) fields covered by different aspects of MAP programmes.
Development of new or unavailable skills	To develop the knowledge or skills for fields of work that are unique to MAP activities.
Refresher training	To improve or update present performance.

3.10 The first requirement of any training process is that it should be systematic. Stages in that process, for which the groundwork in MAP has been laid and a lot of initial work done, and which could constitute more precise guidelines to be followed in the future, include the following:

- (a) Identifying and analyzing training needs.
- (b) Designing and developing training programmes and courses to meet those needs.
- (c) Implementing the training.
- (d) Assessing effectiveness - if possible, evaluating selected programmes in terms of costs and results.
- (e) Maintaining organization relationships for training purposes.
- (f) Doing research to advance new training fields.
- (g) Developing technical (and managerial) skills and knowledge by other available methods - best achieved off the job or in outside programmes.

3.11 With the above in mind, the training component of the various activities undertaken by MAP in 1985 can now be reviewed.

#### 4. REVIEW OF 1985 TRAINING ACTIVITIES

4.1 The table of Meetings and Training Activities organized in the framework of the Mediterranean Action Plan in 1985 and summarized in Annex I shows that four courses were held, all of which were planned and organized with training as the main objective. ROCC arranged three of these courses. The first, a three-day general Training Course on Oil Pollution, which was sponsored by the Exploration and Production Forum and CONCAWE, took place in Athens in February and attracted 109 participants. The second (MEDEXPOL 85) was a practical, specialized training course on a particular aspect of pollution control, namely shore clean-up. Many of the facilities for this five-day course were provided by the Port of Marseilles, where the course was held in October 1985. Sixteen Mediterranean States, Contracting Parties of the Barcelona Convention, nominated participants.

4.2 In addition to these two principal courses, open to all Mediterranean States, ROCC organized a national course in Alexandria at the request of the Egyptian authorities. This represented a relatively new aspect of the Centre's role in strengthening national response capabilities for combating oil pollution.

4.3 Outside its own courses ROCC also provided fellowships selected from candidates nominated by Mediterranean States to participate in other training activities. Of the total ROCC budget for 1985 of almost US\$ 400,000, about \$ 20,000 was spent on fellowships and \$ 75,000 on other forms of training, principally the three courses.

4.4 A major International Course on Monitoring of Coastal Pollution, with host facilities provided by the Municipality of Barcelona and co-sponsored by the MAP Co-ordinating Unit, was held at Barcelona in November 1985. The course lasted ten days and had fifty participants.

4.5 The table at Annex I shows that, apart from what have been designated "Training courses" some 35 other meetings or activities were organized in 1985, and the analysis of these indicates that a substantial proportion had implicitly a training content or could be regarded as likely to make a significant educational impact on the participants. A good example of the former type were the Fourth and Fifth Intercalibration Exercises organized at Split in April 1985 and at Marseilles in November in the coastal water monitoring programme of MED POL - PHASE II. Although these exercises are listed in the Summary at Annex I as "Technical meetings", they do, in fact, consist of practical laboratory work in which the use of new methodologies is taught and demonstrated by experienced technicians to those responsible for monitoring pollution at hundreds of monitoring stations around the Mediterranean.

4.6 The MED POL - PHASE II programme still has an important objective in providing trained manpower, even though its main function now is to provide Mediterranean Governments with scientific information and data. Apart from on-the-job training, principally laboratory work, of which the Intercalibration Exercises mentioned above are a feature, fellowships are given for attending outside courses, conferences and meetings. The scientific and technical personnel who go are selected on an individual basis and are expected to present papers. Some fellowships for this purpose were awarded in 1985. In the period 1984-1985 twenty-five other scientific and technical personnel working in government departments, national institutions, research centres and universities were sent on specialized training as part of the annual MED POL monitoring programmes. They came from Cyprus, Greece, Lebanon, Malta, Morocco and Yugoslavia.

4.7 The Priority Actions Programme (PAP) has to date organized no training courses as such, although during 1985 the Centre sponsored an International Conference on the Pollution of the Mediterranean Sea and organized two seminars, three missions and seven expert meetings on various priority topics, all of which gave rise to a number of fact-finding documents and in-depth studies, to form the basis for a wider exchange of experience in 1986 and subsequently relevant training material.

4.8 Forty conference papers were presented to the four-day International Conference held at Split in October 1985, which was attended by 100 experts. The two seminars, each of three days, the first on Rehabilitation and Reconstruction of Historic Settlements at Split in May 1985 and the second, on Land-use Planning in Mediterranean Earthquake Zones held at Cetinje in June, together with the Conference, drew between them some 187 participants (including 25 observers). The overall cost was US\$ 38,000. Although none of these activities has been categorized as training, topics covered in all three, as well as the studies which came to light in some of the expert meetings which PAP organized, undoubtedly represented a considerable training or educational experience for a great many of those participating.



4.9 If one leaves out of consideration the Blue Plan, where the need or justification for training is not significant, and the Specially Protected Areas Centre in Tunis, which has only recently been established, it is possible to reach the conclusion that as many as thirteen of the balance of thirty meetings enumerated in Annex I and not designated as "Training courses" did contain elements of training or have some kind of educational impact. The remaining seventeen were essentially policy-making or co-ordination meetings and could not, therefore, be construed as training at all.

4.10 In addition to courses and the various other types of training, whether implicit or more specific, described above, mention must be made of another training activity, which although small in scale serves a useful purpose. It is a form of orientation training in which national focal points and key personnel, both technical and administrative, visit the Co-ordinating Unit in Athens or one of the Regional Activity Centres, such as the headquarters of PAP in Split, to familiarize themselves with ongoing work and programmes which may be of interest to their respective Governments. A number of such visits, at the request of Governments or on the occasion of different meetings, took place in the course of 1985.

## 5. THE TRAINING PROGRAMME PLANNED FOR 1986

5.1 MAP as a whole, with the two exceptions already noted, is now in a position to give greater emphasis to training, one of the activities endorsed in the Genoa Declaration of the Contracting Parties last September. The table at Annex II enumerating the meetings and training activities scheduled to take place in 1986 makes this clear. The Regional Co-ordinating Unit at Athens, for example, has plans for at least three major courses to be organized by outside institutions or enterprises with MAP financial support. The funds earmarked under this section in Chapter 6 of the budget, viz. US\$ 90,000, could, however, if thought appropriate, be used to finance more than three courses. One of the courses already suggested could be on the Processing and Interpretation of Data. Provision of US\$ 13,000 has also been made for orientation training at MEDU itself.

5.2 MED POL in 1986 will continue its programme of on-the-job training, mainly the placing of technical personnel in different laboratories for which US\$ 80,000 has been allocated in Chapter 3 of the budget, as well as administer the fellowships programme to enable scientists from the Mediterranean countries to gain knowledge and experience at outside meetings. US\$ 30,000 has been set aside for fellowships of this kind.

5.3 ROCC will organize two training courses, one in April (in Malta) and the other in September/October. The first, MEDIPOL 86, will be a general ten-day course covering all aspects of the prevention and combating of marine pollution. It will be aimed at staff in the Mediterranean coastal States newly responsible for these problems but whose knowledge and experience are limited. The second course, MEDEXPOL 86, will be a practical training course specializing in one particular aspect of pollution combating. It will be aimed at more experienced staff.

5.4 The first course (MEDIPOL 86) will have EEC support and participation. EEC may also make a contribution to MEDEXPOL 86 which would enable the number of participants to be increased. Both courses will be in English and French.

5.5 In addition to these two regular courses ROCC will organize two more national training seminars, one to be held in Tunisia.

5.6 It will also participate in an outside training activity by providing lecturers as well as fellowships for a small number of participants from the Mediterranean States to attend. This general course of the Prevention and Control of Marine Pollution Accidents will be held in June at three Centres in France.

5.7 The sums allocated to ROCC in Chapter 5 of the 1986 budget for fellowships and meetings, to include the training courses and seminars mentioned, amount to U\$ 87,000.

5.8 The Priority Actions Programme, which has an item "Meetings, Training", for which US\$ 188,000 for 1986 has been approved in Chapter 2 of the budget, will be in a position to give greater attention to its training component in the course of the coming months. A number of fields exist in which training can now be visualized and started and these are already reflected in several technical meetings which are scheduled to take place in 1986. They are enumerated in Annex II.

5.9 The Seminar on Environmental Aspects of Aquaculture, scheduled to take place at Volos in Greece in April, and the Workshop on Architectural Survey of historic Settlements, planned for Split in November, can, according to the Director of PAP, be considered almost "pure training" while meetings of experts on the management of solid and liquid waste, on Mediterranean tourism and on water resources management in large Mediterranean islands are all planned to have a substantial training orientation. Seminars on the Integrated Planning of Mediterranean Coastal Zones and on Soil Protection will examine selected case studies likely to provide valuable material for future training in these fields. Land-use planning in earthquake zones and some aspects of environmental impact assessment are also subjects in which training can now be foreseen and developed.

5.10 It could be concluded from the above that approximately half of the fourteen technical meetings or seminars which PAP has planned for 1986 will represent "pure training" or have a substantial training content. A rough estimate might then suggest that half of PAP's 1986 budget of US\$ 188,000 for "Meetings, Training" will be devoted to training, namely US\$ 94,000 approximately. If this is added to the corresponding allocations for MEDU, MED POL and ROCC, the total - US\$ 394,000 - will represent 10.2 percent of MAP's approved budget for 1986.

5.11 In terms of meetings and analysis of the table at Annex II, if one again leaves out of consideration the Centres for the Blue Plan and Specially Protected Areas, shows that, of the 36 meetings and activities remaining, seven are of the policy-making or co-ordination type and nine could be considered "pure training", while approximately half of the twenty technical meetings will carry some elements of training, whether implicit or more specific, or are likely to have a wider educational content for those participating.

5.12 All this, as far as training is concerned, indicates the much stronger emphasis that is being/will be given to it in 1986, in accord with the wishes of the Contracting Parties, and still at a relatively low cost.

6. THE ROLE OF THE REGIONAL CO-ORDINATING UNIT AND THE ACTIVITY CENTRES IN TRAINING

Mediterranean Co-ordinating Unit

6.1 The Athens Unit has been described as the "nerve centre" of the Action Plan and the Convention. Apart from administration and budgetary responsibilities its primary functions are information gathering and co-ordination. However, important training may be in developing the long-term objectives of MAP, it cannot constitute a major part of the role of the Co-ordinator or of the work of the Unit. Nor, with the two exceptions proposed below, should the Unit be expected to organize and run courses itself. Nevertheless, the commitment of senior management to the application, control and use of training in MAP, in accordance with the mandates given by the Contracting Parties and in conformity with the needs, must be underlined as essential.

6.2 With these considerations in mind, a review of training to date and what has been achieved suggests that it may be timely for the secretariat to adopt a more catalytic approach in exercising its responsibilities, that is, instead of acting simply as a disbursing of funds (as often seems to be the case) to finance training or fellowships requested by the Governments themselves, it could play a more active role through drawing up a comprehensive list of training needs in the various fields and publicizing it widely. The list, in as simple a presentation as possible, should include essentially the following information:

- (a) Details of the main requirements in the various fields;
- (b) The basic professional or technical qualifications or experience needed before specialized training could be undertaken;
- (c) Whether facilities exist and if so where they are (where there is no information on suitable courses, the Governments might be asked if they themselves could organize or offer the training required).

6.3 All the training specified would, of course, be short-term, though if this were thought useful, a list of needs requiring longer term training could also be issued, providing it was made clear that the Governments themselves would have to assume full responsibility for the cost.

6.4 The list of requirements calling for short-term individual (or group) training could be up-dated and re-issued annually or on some other regular basis.

6.5 It is believed that MED POL would be the most suitable area for starting this exercise.

6.6 The Co-ordinating Unit, which is not in a position to organize and carry out large-scale training operations itself, has been successful in establishing links with a number of oil companies, industrial and municipal bodies, associations of tanker operators and shipowners and other non-governmental organizations, some of them national, other multinational, who do have resources and who are in such a position. Consequently, MAP has been able to benefit very considerably from this form of co-operation, with

large numbers of trainees from the Mediterranean countries being able to attend the courses on offer. The secretariat needs partners and this type of co-operation can be extremely valuable. However, a note of caution must be struck because the content of outside courses may not always correspond to the real needs of participants in MAP programmes and operations. There is also a risk sometimes that subject-matter could creep into the syllabus which might cause political embarrassment. For these and other reasons no course should be supported by MAP unless and until the secretariat has had a chance of reviewing the preparations and organization and verifying the content. This is a matter for which the Co-ordinating Unit itself should assume a full measure of responsibility.

6.7 Exceptions to the general rule, there are two training activities which the Co-ordinating Unit might appropriately organize itself. One would be a short general orientation course (planned to last not more than three or four days) which would be held annually at the Athens Headquarters. This would replace the orientation training for individuals which takes place at present on an ad hoc basis. The duties of the participants in their respective Governments would need to be related to MAP's activities and each course should accommodate about ten or twelve. More structured group training of the kind proposed, both from the standpoint of the Governments and of the Co-ordinating Unit itself, could prove more efficient than the present practice.

6.8 Secondly, taking account of the greater weight being given to training, it is suggested that the Co-ordinating Unit should organize a short course, to be repeated every two or three years, on the organization and conduct of meetings - from small working groups of experts to large conferences and seminars - and also on the principles, organization and techniques of training. Such a course would be open both to secretariat personnel and to selected staff of Mediterranean Governments likely to have responsibilities in either of the two fields concerned.

6.9 Further exposure might be given to the enhanced role of training in MAP activities by arranging to have a biennial Report of Training made an agenda item in the regular Ordinary Meetings of the Contracting Parties.

#### MED POL - PHASE II

6.10 The possibility of extending and strengthening the monitoring role and scientific research component of MED POL by compiling lists of essential training needs and indicating (or asking) how they might be met, and then circulating the lists to interested Mediterranean Governments, was mooted in the previous section. Examples (only) of the type of information that might go into these lists are given in Annexes III and IV\*. The compilation of a complete list, however, and the manner of its presentation would undoubtedly merit a great deal of further study and reflection.

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\* Suggested by senior secretariat staff at my request.

6.11 In MED POL programmes the following criteria are applied when candidates seek fellowships to attend outside meetings:

- (a) The meeting, as a general rule, must be one taking place in another Mediterranean country;
- (b) The theme of the meeting must be relevant to MED POL operations;
- (c) Candidates must be experienced or qualified enough to present papers themselves. These papers, moreover, must be accepted by the meeting organizers.

6.12 The purpose of these criteria is to ensure that fellowship holders contribute to the meeting on a basis of professional equality with other participants and that they are able to put over scientific or technical information relevant to the MAP operations in which they are involved. A further advantage is that they are in a position to bring back documentation from the meeting which is often of great use and may not be available elsewhere.

6.13 This practice is to be commended and should obviously continue.

#### Regional Oil Combating Centre

6.14 The importance of training in combating oil pollution requires no justification or discussion and in order to develop and strengthen national response capabilities the Centre at Malta, the first of its kind in the world, has organized a continuous and effective training programme, with the needs of the Mediterranean coastal States specifically in mind, which has been running now for several years. Apart from the annual (MEDIPOL) general courses and the more specialized (MEDEXPOL) training, ROCC provides a number of fellowships for candidates nominated by the Governments. It co-operates also with other training institutions both inside and outside the Region and keeps the Mediterranean States informed about their courses. The latest ROCC Info No. 16, for example, gives details of eight different courses in oil pollution to be held in the course of 1986.

6.15 The principal objectives of ROCC's general training programme might be summarized as follows:

- (a) To transmit practical knowledge relating to oil pollution combating;
- (b) To make aware of the benefit of contingency planning;
- (c) To inform about the experience of other countries;
- (d) To develop a spirit of regional co-operation.

6.16 Although the Centre can provide all the facilities required for meeting Mediterranean needs in this area of training, it seems that other institutions and enterprises have been developing parallel activities, with the result that there are currently too many courses and seminars available on general aspects of oil pollution. It might, therefore, be considered useful for ROCC to concentrate now on more specialized training - such as the present MEDEXPOL

courses - and to limit the general courses to perhaps once every two or three years. In addition, the Centre has already embarked on a series of national courses and seminars at the request of individual States. These have the advantage, inter alia, of ensuring a much higher degree of participation.

6.17 Both these trends are to be welcomed, as is also the valuable support which EEC provides for ROCC's activities in the training field.

#### Priority Actions Programme

6.18 The logical and systematic approach being followed by PAP in developing and starting its training activities has been described in an earlier chapter. It is the view of the Director of the Centre that it is possible to envisage real training programmes getting under way in 1987, that is, training adapted to Mediterranean conditions and needs and based on Mediterranean methodologies developed by experience. This approach would seem to be the correct one for the Centre at Split, because, although it would not be difficult to organize now ready-made courses imported from outside the Region, the impact of such training in the long-term might be quite negative.

#### The Blue Plan

6.19 The location of this Centre is in France. It is essentially concerned with long-term planning in the socio-economic field in which scientists, researchers and experts confront each other in specialized meetings and seminars.

6.20 In view of the nature of its work and objectives the Centre engages in no planned training activities, nor does it have any provision in its budget for this purpose.

#### Specially Protected Areas

6.21 The SPA Centre in Tunis is new with the result that there has been insufficient time, at the writing of this report, to identify training needs or to develop any training objectives or materials.

### 7. EVALUATION

7.1 One cannot write about training without mentioning evaluation. A question which always arises is whether it is possible to measure the effectiveness of a training activity or to quantify its results. Where training is given on the job, e.g. practical laboratory training in the MED POL programmes, the results can usually be assessed quite easily. If the data reporting subsequently made by a technician, for example, who has had this training, is defective, then it is obvious that his training was not successful or that he needs more. It would also be quickly apparent to a Government which had sent staff to a ROCC course on combating oil pollution if these people did not know what to do in the event of an emergency occurring.

7.2 However, there are other areas of training, particularly those whose objectives are more of a long-term developmental character - in the PAP area, for example - where, because of the difficulty of distinguishing the effects of training from other functions affecting performance, it is very difficult to measure its value. Yet, unless the attempt is made, useful lessons may go unlearned because evaluation is the only means at the disposal of those organizing the training to apply a feedback of results in the planning of future programmes.

7.3 Any time spent on this subject is wasted, however, unless one can be sure that the selection of personnel to attend courses is made properly and is successful. Failures are usually due to bad selection. In any type of MAP training, therefore, it is clear that the National Focal Points have a crucial role to play in ensuring that the right candidates are selected with complete objectivity. Unless training is of the refresher type it is discouraging for those organizing the courses if the same (or unqualified) candidates are selected year after year.

7.4 Another disappointing feature of training can be the wastage caused by premature transfer of personnel to unrelated duties before the benefits of the training which they have received can be used. In this connexion, the efforts made by ROCC to follow-up, via the National Focal Points, on trainees who have gone through the Centre's courses two or three years previously is to be highly commended.

7.5 Whatever the difficulties, it has to be remembered that the cost of well organized training can be high and therefore some appraisal of results is a necessity.

## 8. CONCLUSION AND SUMMARY OF RECOMMENDATIONS

8.1 A review of what has been achieved to date in the training field and of the plans and preparations under way for strengthening the programmes shows that, in broad terms and within the constraints of the resources available, the various mandates given by the Contracting Parties are being carried out. On-the-job and fellowship training are well established features of the programmes of MED POL - PHASE II while less direct and more implicit training based on the studies made by scientists, research workers and other experts working together or participating in outside meetings have characterized the build-up of PAP activities. The educational experience afforded by these meetings has usually been greater than their direct training impact. ROCC, on the other hand, inaugurated ten years ago, has been in a position to offer a by now well established annual programme of courses on combating oil pollution, some of a general nature, others more specialized. Like MED POL and PAP it also administers a fellowship programme.

8.2 In the training field especially the activities planned for the current year represent a considerable advance over those organized in 1985. About 10% of MAP's approved budget for 1986, viz. US\$ 394,000 will be spent on training. A further improvement in the scale of training can be expected in 1987, particularly in the fields of activity with which PAP is concerned.

8.3 All training is essentially short-term and there seems to be no reason to change this. Another important feature, in accord with the mandates, is that its concepts and implementation are being carefully adapted to Mediterranean needs.

8.4 A summary of some specific recommendations resulting from this review follows:

- (a) If training in MAP is to be expanded systematically, there are four basic stages in the process of which account should be taken, viz:
  - (i) identification of training needs;
  - (ii) decisions on training methods (on-the-job training, outside courses, study tours, etc.);
  - (iii) implementation of programmes;
  - (iv) assessment of effectiveness.
- (b) The secretariat should now take a more active role in training by regularly publicizing information on current and future manpower needs in the various scientific and technical programmes of MAP and on the training facilities known to exist for meeting them. In this way Governments would be both informed and might be encouraged to search more actively for qualified candidates;
- (c) While the Co-ordinator should continue his policy of co-operating with outside enterprises and institutions which are in a position to provide training, he should always ensure that the courses on offer are in all respects suitable for, and adapted to, the needs of MAP participants nominated by their Governments;
- (d) The functions of the Co-ordinating Unit cannot normally be extended to running training courses itself but, as an exception to this rule, consideration should be given to organizing annually a short orientation programme at the Unit's Athens Headquarters and also, at two to three yearly intervals, a two-part course on (i) the conduct of different types of meetings, and (ii) the organization, principles and techniques of training, both for secretariat staff and Government personnel;
- (e) Due to an increasing number of courses now available on general aspects of oil pollution ROCC should give primary attention to more specialized training and to the national seminars which it has started. If two of the latter courses could be organized every year, it would seem appropriate for one to be French-speaking and the other anglophone;
- (f) It should be secretariat policy to evaluate every specifically planned training course, to include an assessment of its relevance and general effectiveness. An attempt should also be made to make an assessment of all other important training activities in MAP, even though it may not be possible for this to be at all precise;
- (g) The Co-ordinator should endeavour to have a biennial Report of Training made an agenda item in its regular meetings of the Contracting Parties.



ANNEX I

SUMMARY OF MEETINGS AND TRAINING ACTIVITIES ORGANIZED  
IN THE FRAMEWORK OF THE MEDITERRANEAN ACTION PLAN

1986 Programme	1 M A P	2 MED-POL	3 R O C C	4 P A P	5 B P	6 S P A	T O T A L
A Intergovernmental and Government experts review meetings	5	2	1	2	1 + 1*		12
B Inter-agency consultations	2	2		5	1		10
C Technical meetings		3	1	7	2		13
D Training courses	1		3				4
T O T A L	8	7	5	14	5		39

\* Joint with PAP.

ANNEX II

SUMMARY OF MEETINGS AND TRAINING ACTIVITIES PLANNED FOR 1986

	1 M A P	2 M E D - P O L	3 R O C C	4 P A P	5 B P	6 S P A	T O T A L
A Intergovernmental and Government experts review meetings	2	1	1		2 + 1*		7
B Inter-agency consultations	2	1					3
C Technical meetings	1	6		13	2	1	23
D Training courses and seminars	3		5	1			9
T O T A L	8	8	6	14	5	1	42

\* Joint with PAP.

ANNEX III

SOME FIELDS WHERE TRAINING IS REQUIRED WITHIN THE  
FRAMEWORK OF MED POL - PHASE II

1. Development of national monitoring programmes
2. Analysis of contaminants to be monitored:
  - (a) analysis of heavy metals by atomic absorption spectroscopy;
  - (b) analysis of halogenated hydrocarbons by gas chromatography;
  - (c) analysis of contaminants in effluents;
  - (d) analysis of other contaminants.
3. Processing and interpretation of data:
  - (a) analytical data;
  - (b) biological data;
  - (c) physical oceanographic data;
  - (d) microbiological data;
  - (e) other data.
4. Testing the toxicity of various substances.

ANNEX IV

TRAINING REQUIREMENTS - MED POL

1. Short-term individual training:

- Microbiologists working on coastal seawater and sewage effluent analysis - 2 to 3 weeks in-service, to familiarize with new techniques. (must have experience of microbiological analysis of water)
- Chemists working on analysis of municipal and/or industrial effluents (and surrounding area) - 2 to 3 weeks, to familiarize with new techniques and/or instrumentation. (must have experience in instrumental analysis)
- Middle and upper-level scientific administrators and planners - 2 to 3 weeks (2 or more countries) in institutions where pollution control strategies and master plans have already been worked out. (must be professional people with responsibility for advising on or executing policy in home country)
- Engineers and scientists working in Ministries responsible for marine pollution control - 1 to 2 weeks in appropriate institutions to familiarize with problems arising from one or more specific industrial processes. (must be professional engineers/scientists with previous experience of industrial pollution problems and their control)

2. Group training:

Short training courses (2 weeks) in health-related monitoring of coastal seawater and effluents.

Participants: microbiologists already working, or planning to work, in MED POL monitoring programme. (must have experience in microbiological techniques).

MED UNIT (WHO) could

- prepare course content;
- select lecturers;
- enter into agreement with suitable laboratory.

Approx. cost for 20 participants:

- Travel and DSA	20 x 1500 =	30,000
- Lecturers	2 x 2500 =	5,000
- Host institution	7500 =	7,500

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42,500  
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## ANNEX V

MAP COURSES, SEMINARS, MEETINGS OF EXPERTS  
 NUMBER OF PARTICIPANTS (for the years 1975 - 1986)

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 Annex V

<u>Country</u>	<u>ROCC</u>	<u>MED POL</u>	<u>Blue Plan</u>	<u>PAP</u>	<u>Others</u>	<u>Grand Total</u>
Algeria	16	11	6	9	2	44
Cyprus	13	16	6	12	2	49
Egypt	23	48	7	7	2	87
France	1	57	52	20	2	132
Greece	11	153	13	40	1	218
Israel	20	48	6	12	1	87
Italy	1	127	1	33	3	165
Lebanon	5	16	1			22
Libyan Arab Jamahiriya	9	7		5		21
Malta	12	24	3	12	1	52
Monaco	5	15				20
Morocco	21	19	11	7	2	60
Spain	2	56	10	13	2	83
Syrian Arab Republic	9	5	4	6	1	25
Tunisia	17	30	10	14	3	74
Turkey	13	44	3	11	1	72
Yugoslavia	19	162	23	41	2	247

## ANNEX VI

## ROCC COURSES, SEMINARS, MEETINGS OF EXPERTS

(Number per year)

<u>Country</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>Total</u>
Algeria				1	4	2	2	2	2	3	1	3	16
Cyprus				2	2	1	2	1	2	2		1	13
Egypt				3	4		1	3	6	2	1	3	23
France										1			1
Greece				1	1		1	2	1	1	2	2	11
Israel				2	2	1	3	3	3	2	2	2	20
Italy												1	1
Lebanon									2	2		1	5
Libyan Arab Jamahiriya				2	1		1	3	1		1	1	9
Malta				2	1		2	1	3	1	1	1	12
Monaco				1				2		1	1		5
Morocco				3	2	1	3	3	4	1	2	2	21
Spain											2		2
Syrian Arab Republic				2			1		4	1	1		9
Tunisia				1	2	1	1	2	2	4	2	2	17
Turkey				3	2		2	1	1	1	1	2	13
Yugoslavia				3	1	1	2	4	3	2	2	1	19
Grand Total													197

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## ANNEX VII

MED POL. -- WHO - FAO COURSES, SEMINARS, MEETINGS OF EXPERTS  
(Number per year)

<u>Country</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>Total</u>
Algeria	1		3					4	1		2		11
Cyprus	1		4						4	3	3	1	16
Egypt	3		10	1				9		17	5	3	48
France	10		11	1	4			6	3	14	4	4	57
Greece	14		21	5	5			11	4	83	8	2	153
Israel	2		12	3	8			6	2	10	5		48
Italy	10		20	6	11	5	3	13	1	32	11	15	127
Lebanon	2		4	1	2				3	2	2		16
Libyan Arab Jamahiriya	2		2						1	1	1		7
Malta	3		6	1	2			2	1	4	3	2	24
Monaco	4		4	1	2				1	3			15
Morocco			2	1	2			1	4	5	2	2	19
Spain	6		8	1	2			4	23	3	8	1	56
Syrian Arab Republic	2		1								2		5
Tunisia	3		3		2			1	3	16	2		30
Turkey	3		10	1	1			2	6	12	6	3	44
Yugoslavia	9		21	3	6	3	1	15	14	68	15	7	162
Grand Total													838

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Annex VII

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## ANNEX VIII

## BLUE PLAN COURSES, SEMINARS, MEETINGS OF EXPERTS

(Number per year)

<u>Country</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>Total</u>
Algeria			1							2	2	1	6
Cyprus			1							5			6
Egypt			1							4	1	1	7
France			5							31	10	6	52
Greece			3							7	2	1	13
Israel			1							4		1	6
Italy			4							1			1
Lebanon										1			1
Libyan Arab Jamahiriya													
Malta			1							1		1	3
Monaco													
Morocco			1							8	2		11
Spain			1							6	2	1	10
Syrian Arab Republic										3		1	4
Tunisia			2							5	2	1	10
Turkey										2		1	3
Yugoslavia			2							13	5	3	23
Grand Total													156

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Annex VIII

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## ANNEX IX

## PAP COURSES, SEMINARS, MEETINGS OF EXPERTS

(Number per year)

<u>Country</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>Total</u>
Algeria			1								7	1	9
Cyprus		1	1								5	5	12
Egypt		1									2	4	7
France		4	3								7	6	20
Greece		2	6								4	28	40
Israel		1	1								5	5	12
Italy		4	5								12	12	33
Lebanon													
Libyan Arab Jamahiriya		2	1									2	5
Malta		7									3	2	12
Monaco													
Morocco		1	1								3	2	7
Spain		1	1								5	6	13
Syrian Arab Republic		1									2	3	6
Tunisia		4	1								4	5	14
Turkey		3									4	4	11
Yugoslavia		3	3								16	19	41
Grand Total													242

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## ANNEX X

## OTHER COURSES, SEMINARS, MEETINGS OF EXPERTS

(Number per year)

<u>Country</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>Total</u>
Algeria			1									1	2
Cyprus			1									1	2
Egypt												2	2
France			2										2
Greece												1	1
Israel												1	1
Italy			2									1	3
Lebanon													
Libyan Arab Jamahiriya													
Malta												1	1
Monaco													
Morocco			1									1	2
Spain												2	2
Syrian Arab Republic												1	1
Tunisia			2									1	3
Turkey			1										1
Yugoslavia			1									1	2
Grand Total													25

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Annex X

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