



**United Nations  
Environment  
Programme**



UNEP(OCA)/MED WG.97/3  
14 September 1995

Original: ENGLISH

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**MEDITERRANEAN ACTION PLAN**

Third Meeting of the Task Team on  
Implications of Climate Change for  
the Coastal Area of Fuka-Matrouh, Egypt

Alexandria, 12-14 September 1995

**REPORT**

**OF THE THIRD MEETING OF THE TASK TEAM ON IMPLICATIONS  
OF CLIMATE CHANGE FOR THE COASTAL AREA OF FUKA-MATROUH**

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## BACKGROUND

As part of the efforts of the United Nations Environment Programme (UNEP) to analyze the potential implications of predicted climate change and to assist the governments in designing policies and measures which may avoid or mitigate the expected negative effects of this change, or to adapt to them, task teams on the implications of climate change were established in 1987 for six regions covered by the UNEP-sponsored Regional Seas Programme (Mediterranean, Wider Caribbean, South Pacific, East Asian Seas, South Asian Seas, and South East Pacific regions), with the initial objective of preparing regional studies on expected climate change on coastal and marine ecosystems, as well as on the socio-economic structures and activities within these regions. Additional task teams were later established for the West and Central African, Eastern African, Persian/Arabian Gulf and Black Sea regions.

During the work on the Mediterranean regional study<sup>1</sup>, in the period from 1987 to 1989, it was felt that while the general effects might be similar throughout the Mediterranean region, the response to these effects would have to be highly site-specific. Therefore in the framework of the Mediterranean Task Team six specific case studies were prepared (deltas of the rivers Ebro, Rhone, Po and Nile; Thermaikos Gulf and Ichkeul/Bizerte lakes) in 1989. The final results of the work on the Mediterranean regional studies and on the six case studies were published as a book in 1992<sup>2</sup>.

In preparing these case studies it had become apparent that prediction of impacts was constrained by the absence of scenarios of future climates on a regional, sub-regional and local scale. Accordingly the Climatic Research Unit of the University of East Anglia had been commissioned by UNEP to attempt to produce a Mediterranean Basin scenario and to develop scenarios of future local climate for the selected case study areas.

Using the experience of the "first generation" case studies, in 1990 the preparation of the "second generation" of site-specific case studies was initiated for the island of Rhodes, Kastela Bay, the Syrian coast, the Maltese islands, and the Cres-Losinj islands.

The objectives of these studies were:

- to identify and assess the possible implications of expected climate change on the terrestrial, aquatic and marine ecosystems, population, land- and sea-use practices, and other human activities;
- to determine areas or systems which appear to be most vulnerable to the expected climate change; and
- to suggest policies and measures which may mitigate or avoid the negative effects of the expected impact, or adapt to them, through planning and management of coastal areas and resources;

using the presently available data and the best possible extrapolations from these data.

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<sup>1</sup> Implications of expected climate changes in the Mediterranean. MAP Technical Reports Series No. 27. UNEP, Athens, 1989.

<sup>2</sup> L. Jeftic, J.D. Milliman and G. Sestini (eds.): "Climatic Change and the Mediterranean". Edward Arnold Publ., London, 1992.

The final results of these five case studies were presented at the meeting on Implications of Climatic Changes on the Mediterranean Coastal Areas (Island of Rhodes, Kastela Bay, Syrian Coast, Malta and Cres/Losinj), held in Malta in September 1992<sup>3</sup>.

A third generation of case studies was launched, in 1993, in the framework of the site-specific Coastal Areas Management Programme (CAMP). So far three such studies are being developed (Fuka-Matrouh coastal region, the Albanian coast, and the Sfax region in Tunisia).

While the first generation of the case studies was prepared by individual experts, the preparation of the second and third generation case studies was entrusted to multidisciplinary task teams established by UNEP in close cooperation with the relevant national authorities. Each Team consists of about ten national experts, and a few (1-2) external members who assist the work of national experts. The final reports of the Task Teams are a collective work of the teams as a whole.

The Task Team for the Fuka-Matrouh region was set up in mid-1993, and it held its first (preparatory) meeting in Matrouh, 28-30 November 1993. The meeting considered the temperature and precipitation scenarios prepared for Northern Egypt by the Climatic Research Unit of the University of East Anglia, and the experience gained by the other task teams in preparing their reports. On the basis of these information, the meeting agreed on the time horizons (years 2030 and 2100), as well as on the scenarios for temperature, precipitation and sea level rise which will be used in the preparation of the Task Team's report. The meeting also agreed on the outline of the final report, on the distribution of the tasks among the members of the Team, as well as on the workplan and timetable for the preparation of the report<sup>4</sup>.

The second meeting of the Task Team was held in Alexandria (30 August-1 September 1994). The meeting reviewed the first draft of the chapters contributing to the final report which were prepared by the Task Team in the intersessional period, and agreed on the programme of work for the finalization of the report<sup>5</sup>.

The present meeting is the third meeting of the Task Team for the Fuka-Matrouh case study. The meeting was called to review the draft of the final report and to assist in the preparation of the final report, expected to be completed by November 1995.

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<sup>3</sup> The report of this meeting, containing the main findings, conclusions and recommendations of the five studies, was published as document UNEP(OCA)/MED WG.55/7.

<sup>4</sup> Report of the first meeting of the Task Team on Implications of Climatic Changes on the Coastal Area of Fuka-Matrouh (Matrouh, 28-30 November 1993). UNEP(OCA)/MED WG.78/2.

<sup>5</sup> Report of the second meeting of the Task Team on Implications of Climatic Changes on the Coastal Area of Fuka-Matrouh (Alexandria, 30 August-1st September 1994). UNEP(OCA)/MED WG.86/2.

## REPORT OF THE MEETING

### Opening of the meeting - Agenda Item 1

1. The meeting was opened, on 12 September 1995, in the premises of the Coastal Research Institute (CRI) in Alexandria, by Mr A. A. Khafagy, Coordinator of the Task Team on Implications of Climate Change for the Coastal Area of Fuka-Matrouh. He welcomed the participants on behalf of the Egyptian Environment Affairs Agency (EEAA) and expressed appreciation for the support of the United Nations Environment Programme (UNEP) and of the Coordinating Unit for the Mediterranean Action Plan (MAP) in preparing for the third meeting of the Task Team on the Implications of Climate Change for the Coastal Area of Fuka-Matrouh.

2. Mr L. Jeftic, Deputy Coordinator of the Mediterranean Action Plan (MAP) welcomed the participants on behalf of UNEP and MAP. He expressed his appreciation for the support provided by the Egyptian authorities, thanked Mr A. A. Khafagy for providing premises and facilities for the meeting, and commended the Task Team for the considerable work carried out since the second meeting of the Team in August/September 1994. He continued by recalling that the purpose of the present meeting is to review the second draft of the Team's final report and to agree on the steps leading to the finalization of the report. In concluding his address, Mr Jeftic expressed the hope that both the present meeting and the future work of the Task Team would be a success.

3. The meeting's participants are listed in Annex I to this report.

### Election of officers - Agenda Item 2

4. The meeting unanimously elected Mr A.A. Khafagy, Coordinator of the Task Team as the Chairman and Mr S. Keckes as the Rapporteur of the meeting. Mr L. Jeftic acted as the technical secretary of the meeting.

### Adoption of the agenda - Agenda Item 3

5. The provisional agenda as proposed by the secretariat was adopted and appears as Annex II to this report.

### Presentation and review of the draft chapters - Agenda Item 4

6. The draft report was reviewed and discussed chapter by chapter and detailed comments and concrete suggestions for amendments of substantive and technical nature were provided to their authors.

7. The need to achieve the highest possible level of uniformity and consistency in the terminology used in the report was recognized. In this context it was agreed:

- (a) to use consistently throughout the report the following terms, expressions and notations:
- "climate change" instead of "climate changes", "climatic change" or "climatic changes";
  - "sea level" instead of "sea-level" or "sealevel";
  - "percent" instead of "%", with exception in the tables and figures;
  - "man-made" instead of "manmade" or "man made";

- "Ras El-Hekma" instead of "Ras El-Hikma";
  - "feddan" instead of "hectare" or "ha"; whenever the term "feddan" appears for the first time in any of the two-digit sub-chapters, it should be qualified with footnote saying: "2.44 feddans = 1 hectare";
  - ", " i.e. commas instead of "." i.e. full stops to separate thousands from hundreds, as in 45,950; "." should be used as decimal point separating decimals from full units, as in 5.88;
  - "salinity" instead of "o/oo", e.g. "the salinity of the water is 36.77";
  - "L" instead of "l" as abbreviation for litre;
  - negative exponents instead of "/"; e.g. "gL<sup>-1</sup>" instead of "g/l"; however, when such notation in text related to biology may cause confusion or misunderstanding, the more traditional forms could be used, such as "organisms/m<sup>2</sup>";
  - "and" instead of "&"; and
  - "c.f." instead of "according to", "from" or "after" in reference to publications listed in the list of references;
- (b) not to be written with capital letters, unless they appear at the beginning of a sentence:
- seasons of the year ("winter", "summer", etc.); and
  - vernacular (i.e. the non-scientific) names of animal and plant species;
- (c) to indicate, whenever available, the local vernacular names of plant and animal species along with their scientific and English vernacular versions; after the local vernacular versions have been used for the first time, it would be preferable to use only these local vernacular names in the further text of the report;
- (d) to use "Fig. Y" as abbreviation in the narrative part of the report; however, this term should appear in full:
- at the beginning of a sentence, i.e. "Figure Y indicates ..."; and
  - in caption of figures, i.e. "Figure X. Population distribution ...";
- (e) to indicate the source of information contained in tables and figures by adding at the end of captions the relevant reference in bracket, e.g. "(source: Jones, 1992); and
- (f) to refer to tables and figures in the narrative part of the report by reference to the respective number of the table or figure and not by indication of page on which they appear.
8. In addition to the agreed procedures indicated in the paragraph above, the authors were reminded to follow in the finalization of the report the procedures agreed at the second meeting of the Task Team, i.e.:
- references should be consolidated in a list at the end of the report and should be listed in a standard (uniform) style and format;
  - no reference should be included in the list of references unless it is quoted in the main body of the report, and vice versa;

- there should be no inconsistencies in the presentation of the report's factual basis (chapter 2), nor contradictions between the predicted impacts (chapter 3) and the measures recommended to counter these impacts (chapter 4);
  - whenever possible, the degree of uncertainty underlying certain predictions should be emphasized; and
  - the recommendations should be formulated as alternative options, whenever feasible.
9. The Coordinator and the members of the Task Team were invited to ensure that the main findings, conclusions and recommendations of the report are appropriately reflected in the reports being prepared for the Fuka-Matrouh CAMP.
10. The substantive changes and amendments suggested and accepted by the Task Team for the various chapters and sections of the draft were noted by the respective authors and will appear in the final report.
11. No structural changes were agreed upon for the layout of the final report, although the titles of some chapters and sections were slightly amended.
12. It was agreed to revise the executive summary of the report in order:
- to make it less technical;
  - to increase the emphasis on the major expected impacts and on the options suggested for their mitigation or avoidance, or for the adaptation to these impacts;
  - to highlight the impacts which may have a potentially beneficial effects on the socio-economic development of the Fuka-Matrouh region or on the environmental conditions of the region;
  - to stress the uncertainties in the predicted climate change and in the identified potential impacts of the change on the Fuka-Matrouh region; and
  - to stress that the impacts of climate change will probably be only a minor, but not negligible, factors influencing the future socio-economic development of the Fuka-Matrouh region.
13. The recommendations contained at present in chapter 4 were considered as requiring major revision so that they convey in a more specific and clear language the suggested actions as well as their underlying rationale.

#### Programme of the finalization of the report - agenda Item 5

14. It was agreed that each author will amend the part of the report for which he was specifically responsible and submit his amendments to the Coordinator (by the end of October 1995).
15. On the basis of the received amendments, the Coordinator will consolidate the draft of the final report and convene a meeting of the national members of the Task Team to review and clear it with the members of the Team, particularly the executive summary and the recommendations of the report.
16. The version of the report cleared by the Task Team as a whole will be submitted by the Coordinator (by mid-November 1995), as hard copy and on diskette, to Mr L. Jetic who will be responsible for the finalization (by mid-December 1995) and printing of the report in the MAP Technical Report series (by end of January 1996).

Adoption of the report - Agenda Item 6

17. The draft report of the present meeting, including its annexes, was considered and adopted by the meeting, as it appears in this document.

Closure of the meeting - Agenda Item 7

18. In his closing remarks, Mr L. Jetic expressed satisfaction with the remarkable work done by the Task Team members in the preparation of the draft report, as well as with the results of this meeting, and the constructive spirit in which the meeting had been conducted. He also thanked the participants, the Chairman and the Rapporteur for their hard work.

19. An exchange of courtesies followed after which the Chairman closed the meeting on 14 September 1995.



## ANNEX I

### LIST OF PARTICIPANTS

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## **ANNEX II**

### **AGENDA**

1. Opening of the meeting
2. Election of officers
3. Adoption of the agenda
4. Presentation and review of the draft final report
5. Programme of the finalization of the report
6. Adoption of the report of this meeting
7. Closure of the Meeting