

United Nations Environment Programme Regional Activity Centre for Cleaner Production Mediterranean Action Plan

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Meeting of Experts on Olive Oil
Production and Electroplating Industry

Barcelona, 9 -12 December 1997

UNEP(OCA)/MED WG.133/4
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REPORT

Introduction

1. The Meeting of Experts on Olive Oil Production and Electroplating Industry was held in the Catalonia's Waste Agency Building in Barcelona from 9 to 12 December 1997.
2. During the first two days, the issue of olive oil production was discussed while the last two days were devoted to the electroplating issue.

Participants

3. All the CP/RAC National Focal Points were invited to send an expert for each workshop.
4. Representatives from the following Contracting Parties attended the Olive Oil workshop: Albania, Croatia, Cyprus, Egypt, Israel, Lebanon, Malta, Morocco, Spain, Tunisia and Turkey.
5. Representatives from the following Contracting Parties attended the Electroplating workshop: Albania, Croatia, Cyprus, Egypt, France, Greece, Israel, Lebanon, Malta, Morocco, Spain, Tunisia and Turkey.
6. A representative from MEDU was also present.
7. The list of participants is attached as Annex I to this report.

Agenda Item 1: Welcome to the Experts Meeting on Olive Oil Production

8. Mr Víctor Macià, Director of the RAC/CP, declared open the Meeting on Olive Oil Production on Tuesday, 9 December 1997.
9. The Meeting was privileged to hear addresses by Mr Francisco Gutiérrez, Executive Manager of the Waste Agency.

Agenda Item 2: Introduction

10. Mr Mohammed El Baraka, representative from Morocco was proposed and unanimously elected by the Meeting as President.
11. The President after thanking the CP/RAC for convening the meeting, introduced the present situation of Olive Oil Production and its environmental problems in Morocco. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 3: The problem of olive oil waste, possibilities for action

12. The President invited the representative from Tunisia to introduce the Tunisian experience to reduce pollution produced by the olive oil industry. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.
13. The next presentation was made by the Lebanese representative who explained the Lebanon situation and the different stages of the process of olive oil production. Further details on the presentations may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 4: The traditional system of pressing. The continuous extraction system

14. After a coffee-break, the President introduced Mr Joan Borrell, Director of the Water Quality Area from the Catalonia Sewage Treatment Agency who explained the traditional system of pressing and the continuous extraction system. He also compared parameters of pollution generated by each system and show the mass balance for both systems. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 5: Technology and feasibility of new continuous extraction system

15. The President, after thanking Mr Borrell for his explanations, introduced Mr Manuel Hermoso, Agricultural Engineer, from the General Direction of Research and Agricultural Training of the Andalusia Autonomous Government.
16. Mr Hermoso explained the advantages and disadvantages of the continuous extraction system which not produces pomace, saves water and energy consumption and needs less investment. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 6: The Catalan experience

17. After the lunch time, the session was re-opened with the presentation made by Mr Hernan Subirats who explained the present situation of Catalan companies and how they have adapted their industries to the new continuous extraction system. He also pointed out investments, helps obtained from the Catalan Government and several recommendations about the use of pomace as fertilizer. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 7: Round-table conference. Questions and conclusions

18. The delegate of Egypt proposed to elaborate a guideline of advantages/disadvantages, cost indicators and real examples of the continuous extraction system and the new continuous extraction system.
19. The delegate of Turkey proposed to elaborate a list of suppliers that could provide the new systems and also the modifications needed for changing from one technology to the other one. He also pointed out the need for spreading the new continuous extraction technology and implementing the appropriate economic tools to promote the change from one system to the other one.
20. It was also denoted the necessity to elaborate systems of information and training to optimize and accurate the use both systems and the need for technical support from Spain by means of demo-projects, training, etc. At this respect, it was agreed that this recommendation would be presented to the Spanish Government and to the MAP Coordinating Unit to look for funding, etc..

21. The MEDU representative proposed to elaborate a document (1-2 pages) about the sector situation in each country, to be included on the documents of the meeting. He also pointed out that would be interesting to include on the CPNews some information about the meeting and technical information.
22. The delegate of France indicated the necessity to encourage the use of collective equipments, the reuse of by-products, etc. In particular from the extraction systems.
23. The delegate of Israel explained their experience and project of precipitation with CaO to separate solids. Its is possible to reduce 80% COD and reuse water to wash the olives. He also undertaken to sent the results at the end of the experience.
24. The delegate of Egypt expressed the idea of connecting with the several UNEP Group of Experts.
25. The delegate of Croatia presented their experiences and, in particular, she explained a pilot project of biocompost to treat solids by fermentation.
26. The delegate of Tunisia proposed to develop a demo-project in Tunisia with help from MAP and the RAC/CP.
27. The delegate of Cyprus presented the present situation in Cyprus. He explained that olive oil industry is reduced to a small quantity of companies and expressed the difficulty to implement the new continuous system extraction in his country. He also asked about what to do with pomace and vegetation water and the optimum situation for not polluting land and water.
28. The Turkish delegate clarified that its important to look for alternatives that minimize and prevent pollution and not treat it. At this respect, he considers interesting the promotion of this new continuous extraction system
29. The Spanish delegate pointed out that treatment systems make more expensive the system. She also agreed with the concepts expound by the Turkish delegate.
30. The RAC/CP Director explained that it is important consider as a first step waste minimization options and as a second step, if it is not possible prevent, the valuation, but that it is necessary to adapt this scheme to the situation of each country.
He also underlined that cleaner production is an strategy and not a technology and it is important to show all the alternatives to choose the most appropriate ones.

31. The Meeting finally adopted the following recommendations:
- Elaborate a guideline of advantages/disadvantages, cost indicators and real examples of the continuous extraction system and the new continuous extraction system.
 - Elaborate a list of suppliers.
 - Elaborate systems of information and training to optimize and accurate the use both systems.
 - Elaborate a document (1-2 pages) about the sector situation in each country, to be included on the documents of the meeting.
 - Connect with UNEP Group of Experts.
 - Implementation of a demo-project.
32. The CP/RAC Director explained that all recommendations will be presented to the Contracting Parties meeting.

Agenda Item 8: Technical visits

33. The attendants to the meeting could see several examples on the technical explanations by visiting two companies that produce olive oil. During the morning it was visited Ferran, a company that obtain olive oil from dry pomace. In the afternoon it was visited an agricultural cooperative where the olives are pressed and where the new continuous extraction system to obtain olive oil is used.

Agenda Item 9: Welcome to the Experts Meeting on Electroplating Industry

34. Mr Víctor Macià, Director of the RAC/CP, declared open the Meeting on Electroplating Industry, on Thursday 11 December 1997.
35. The Meeting was privileged to hear addresses by Mr Blai Soler, Executive Manager of the Sewage Treatment Agency.

Agenda Item 10: Introduction

36. Mr Lofti Marouani, representative from Tunisia was proposed and unanimously elected by the Meeting as President.

37. The President after thanking the CP/RAC for convening the meeting, introduced the present situation of electroplating industry and its environmental problems in Tunisia. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 11: Surface treatment sector. Typical processes. Pollution generated

38. The President invited Mr J.M Parera, from Enthone-Omi to briefly introduce the sector. Mr Parera explained which are the most typical processes and also exposed which is the pollution generated on each stage. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 12: Degreasing baths. Minimization. New technologies

39. After the coffee-break, the President introduced Mr J. Amigó, from the company SIDASA. Mr Amigo introduced some of the new technologies in industrial degreasing and water emulsion oil separation system as a clean production alternative. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 13: Reduction of drifts. Recovering baths. Improving on wash and rinse stages. Reduction of water consumption

40. The President invited Dr Ramon Sans, from the Polytechnics University of Catalonia (UPC) to introduce ways to optimize the process in order to minimize water consumption. He finished his speech with a real example. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 14: Bath formulation. Substitution and recovery of raw materials

41. The President, after thanking Dr Sans for his explanations, introduced Mr J.A Ortega, Technical Manager of McDermid Española, SA. Mr Ortega gave an extend information about composition and chemical required of each bath on a typical electroplating process and about the possibilities of substitution and

recovery of them. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 15: Good-housekeeping practices. Segregation of waste stream

42. After lunch time, the session was re-opened with the presentation made by Dr. Josep Ma Renau from the Rovira and Virgili University (Tarragona). Dr Renau introduced good-housekeeping practices as a useful tool to reduce environmental costs associated to waste management and also explained the necessity to separate effluents in order to decide the most suitable management (reuse, recovery, treatment, etc.). Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 16: The experience of Catalonia. Working groups. The Pollution Prevention Diagnosis

43. Ms Elsa Climent, Chemical Engineer from the Centre for Cleaner Production Initiatives explained the experience of the Centre with companies of the electroplating sector and introduced the concept of "working group" as a tool used by the Centre to interact experts of the sector and companies in order to obtain general conclusions. She also commented the concept of pollution prevention diagnosis and showed some examples about Catalan companies. Further details on the presentation may be found on the document UNEP(OCA)/MED WG. 133/4.

Agenda Item 17: Round-table conference. Questions and conclusions

44. The delegate of France asked if there was a legislation about water consumption and explained that in France there is a legislation about limit parameters of dumping and water consumption (all together).
45. Dr. Sans answered the French delegate that in Spain there is only a legislation about limit parameters of dumping and it is not associated with water consumption. He also explained that this could generate problems of dilution and he also added that it should be take into account in BATs definition.

46. The meeting asked Dr. Renau to define what are good-housekeeping practices and to explain which of them have immediate results. Dr. Renau explained that good-housekeeping practices are part of the work system, he also remarked that it is very important to involve all statements of the company and that it is necessary to show the results and savings obtained.
47. The delegate of Egypt explained their experience about pollution prevention diagnosis. They made some diagnosis to big companies and they saw that pollution prevention alternatives with no cost were non attractive enough for the companies to implement them. The delegate of Egypt explained that they followed up the implementation of pollution prevention opportunities and only a 3% of companies had implemented something. Nowadays, the government and the World Bank subsidize companies but they had to implement the detected alternatives.
48. The delegate of Greece asked if pollution prevention diagnosis are EMAS. The CP/RAC Director explained that certification is different but diagnosis are useful as previous step in a certification process.
49. The delegate of France explained that it is very difficult persuade people for changing habits. He said that it would be necessary to help managers to be more responsible with the environment, by means of sewage treatment plants for sectors, reuse of sludges if possible, etc.
50. The Meeting finally adopted the following recommendations:
 - To prepare a list of conditioning that have an effect on water quality (baths and rinsings).
 - To publish a list of good-housekeeping practices that could be implement in the sector.
 - To promote training, information and awareness between the companies to implement good-housekeeping practices.
 - To adapt the diagnosis concept for the Mediterranean area (adapting and improving the idea explain by the CP/RAC).
 - Elaborate a document (1-2 pages) about the sector situation in each country, to be included on the documents of the meeting.
 - To prepare a video about pollution prevention alternatives on the electroplating sector.

Agenda Item 18: Technical visits

51. The attendants to the meeting could see several examples on the technical explanations by visiting three electroplating companies. During the morning it was visited Elhco, a company that has implemented a vacuum evaporator system and they have closed their effluents system by recovering. In the afternoon it was visited Linecrom, a company that electrolyses plastic components and it has installed cascade rinses and recuperation baths. It was also visited Plating Decor, a company that works jewellery pieces. Plating Decor recovers some baths, has also introduced closed recuperation baths and has changed the sequence of working to minimize the effluents.

ANNEX I

**LIST OF PARTICIPANTS
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**EXPERTS MEETING ON OLIVE OIL PRODUCTION
RÉUNION D'EXPERTS DE L'INDUSTRIE DE L'HUILE D'OLIVE**

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AGENDA
OLIVE OIL WORKSHOP
Barcelona, 9 - 10 December 1997

9.12.97	9:00 - 9:05	Wellcome
	9:05 - 9:15	Introduction <i>Mr. Mohamed El Barraka - Morocco</i>
	9:15 - 10:15	The problem of olive oil waste, possibilities for action <i>Mr. Loffi Marouani - CITET - Tunisia and Ms. Olfat Handam - Ministry of the Environment - Lebanon</i>
	10:15 - 10:40	Coffee break
	10:40 - 12:00	The traditional system of pressing. The continuous extraction system <i>Mr. J. Borrell - Sewage Treatment Agency - Catalan Ministry of the Environment - Spain</i>
	12:00 - 13:00	Technology and feasibility of new continuous extraction system <i>Mr. M. Hermoso - Dirección General de Investigación y Formación Agraria - Spain</i>
	13:00 - 15:00	Break
	15:00 - 16:30	The Catalan experience <i>Mr. H. Subirats - Territorial Delegation of Tarragona - Spain</i>
	16:30 - 16:45	Coffee break
	16:45 - 18:00	Round-table conference. Questions and conclusions. Closure
10.12.97	9:00 - 13:30	Technical visit to Ferran (Les Borges Blanques)
	13:30 - 15:30	Lunch
	15:30 - 17:00	Technical visit (Tortosa) and return to Barcelona

ELECTROPLATING WORKSHOP
Barcelona, 11 - 12 December 1997

11.12.97	9:00 - 9:05	Wellcome.
	9:05 - 9:15	Opening of the session <i>Mr. Loffi Marouani - CITET - Tunisia</i>
	9:15 - 10:15	Surface treatment sector. Typical processes. Pollution generated <i>Mr. J.M. Parera - ENTHONE-OMI - Spain</i>
	10:15 - 10:30	Coffee break
	10:30 - 11:30	Degreasing baths. Minimization. New technologies (membranes, Oil adsorption, degreasing in vapor stage, vacuum evaporator) <i>Mr. J. Amigó - SIDASA - Spain</i>
	11:30 - 12:30	Reduccion of drifts. Recovering baths. Improving on wash and rinse stages. Reduction of water consumption <i>Dr. Ramon Sans - UPC University - Spain</i>
	12:30 - 13:30	Baths formulation. Substitution and recovery of raw materials <i>Mr. J.A. Ortega - McDermid - Spain</i>
	13:30 - 15:30	Break
	15:30 - 16:30	Good-housekeeping practices. Segregation of waste stream. <i>Dr. J.Ma Renau - URV University - Spain</i>
	16:30 - 16:45	Coffee break

	16:45 - 17:45	The experience in Catalonia. Working groups. The Pollution Prevention Diagnosis <i>Ms. Elsa Climent, Mr. Victor Macià - CCPI - Spain</i>
	17:45 - 18:15	Round-table conference. Questions and conclusions. Closure
12.12.97	9:30 - 12:30	Technical visit to Elhco
	12:30 - 15:30	Lunch offered by the Waste Agency and travel to Sant Just Desvern
	15:30 - 16:45	Technical visit to Line-Crom
	16:45 - 17:00	Travel to Sant Feliu de Llobregat
	17:00 - 18:30	Technical visit to Plating Decor and return to Barcelona