

MINISTRY OF ENVIRONMENT

وزارة البيئة

الجمهورية اللبنانية  
مكتب وزير الدولة لشؤون التنمية الإدارية  
مركز مشاريع ودراسات القطاع العام

الدورة التدريبية الأولى

حول

تقييم التأثير البيئي

FIRST TRAINING WORKSHOP  
ON  
ENVIRONMENTAL IMPACT ASSESSMENT

بيروت ، ٢٦ - ٣٠ حزيران ١٩٩٥

Beirut, 26 - 30 June 1995

Republic of Lebanon  
Office of the Minister of State for Administrative Reform  
Center for Public Sector Projects and Studies  
(C.P.S.P.S.)

أحد نشاطات "برنامج بناء القدرات" الذي ينفذه برنامج الأمم المتحدة للتنمية لوزارة البيئة في لبنان، بالتعاون مع برنامج الأمم المتحدة للبيئة.

An activity of "CAPACITY 21" Project, executed by UNDP for the Ministry of Environment, in collaboration with UNEP.

الدورة من إعداد وتقديم: "خرونتماي" - هولندا، بالاشتراك مع "المهندسون الاستشاريون للشرق الأوسط".  
Programme developed and presented by Grontmij Consulting Engineers - Netherlands, in association with Middle East Engineers and Architects.

## Report

### Training Workshop on Environmental Impact Assessment

UNDP/Lebanese Ministry of Environment  
26 - 30 June 1995

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## 1. Executive Summary

Within the framework of the Capacity 21 project, the United Nations Development Programme (UNDP) and the Ministry of Environment (MOE) organized a five-day training workshop on Environmental Impact Assessment (EIA) from 26 to 30 June 1995. Twenty-two people attended. The venue was the Alumni Club of the American University of Beirut.

The first days were directed towards introducing basic EIA principles. Active participation was induced through case studies, discussions and group work.

Guidelines for EIA were drafted in consultation with participants. They entailed :

- A list of particular development activities and projects to be submitted to EIA.
- An EIA procedure

Results of the Evaluation Questionnaire filled by the participants showed that the workshop was well received. Quality could be further improved by :

- Presentation of and participation in more case studies.
- Paying particular attention to the endorsement of the EIA tool in the legal/administrative situation of Lebanon.

## 2. Introduction

This workshop was the first of three planned for the EIA training programme for Lebanon organized within the framework of the **Capacity 21** project. It was attended by 22 participants representing both the private and the public sectors. These were civil servants from various ministries, NGO representatives, engineers from private consultancy firms and university professors. The list of participants is provided in Annex I.

Several instructional methods were employed, including lectures, case studies and group discussions. Lectures given by Grontmij experts provided the theoretical basis of EIA. These were supported by case studies from real life situations.

This document consists of the following chapters:

- Chapter 1: Introduction
- Chapter 2: Workshop objectives & scope
- Chapter 3: Workshop opening session
- Chapter 4: Proceedings
- Chapter 5: Guidelines
- Chapter 6: Closing session
- Chapter 7: Evaluation, conclusion and recommendations

### 3. Workshop Objectives and Scope

The primary objective of the EIA workshop was to enhance the capacity of stakeholders in sustainable development to participate in and apply the EIA process.

Stakeholders include governmental bodies, private sector enterprises, municipalities and NGO's. Beneficiaries will be involved in on-going and planned development and reconstruction projects in Lebanon.

The Workshop was organized by UNDP and the Ministry of Environment who commissioned Grontmij Consulting Engineers (GCE) of the Netherlands and Middle East Engineers and Architects (MEEA) for technical assistance. The combination of GCE -- having extensive experience with the EIA tool -- and the local firm MEEA reflects an optimal effort to combine international experience in EIA with local experience, appreciating the specific situation in Lebanon.

In particular, the objectives of the workshop were:

- To provide participants with basic training on EIA principles and procedures as a tool for predicting environmental impacts and for decision making.
- To match or combine the experience of Western Europe with the Lebanese experience in order to formulate guidelines viable in the Lebanese situation.
- To draft guidelines that will ultimately lead to a legal framework for Lebanon.

#### 4. Opening Session

The workshop was opened by Ms. Randa Nemer, Project Coordinator, who welcomed the participants and summarized the objectives of Capacity 21.

Afterwards, Dr. Elias Matly, Director-General of the Ministry of Environment, outlined the main objectives of this workshop, the first of its kind in Lebanon, specifying the need for proper control measures to protect natural resources in a manner that ensures sustainable development. He emphasized MOE's objective to maintain the balance between environment and development.

Referring to the importance of implementing EIA within its proper framework, Dr. Matly hoped that such workshops would provide MOE with qualified and well-trained personnel. Finally, he thanked all those who helped in organizing the workshop, hoping that it accomplishes its objectives.

Next, Mr. Christian de Clercq, UNDP Representative and Special Assistant to the UN Coordinator, underlined the role of UNDP in supporting MOE. He emphasized the importance of creating the capacity to set and implement norms and standards which are a main component of EIA.

De Clercq praised the current Lebanese engagement in major reconstruction programmes for economic and social development, particularly in the field of environment, and the role of EIA in these efforts. Indicating the need for capacities at the central level, he added that there should be more focusing on the awareness and skills of architects and engineers due to their vital role in implementing EIA. De Clercq urged donors and financiers to impose EIAs and wished participants and trainees a fruitful workshop.

## 5. Proceedings

### 5.1 Overview

The workshop programme, is listed in Annex III. Minor modifications were introduced based on practical suggestions of participants. The workshop sessions, as conducted, are detailed in Section 5.2.

The first two days elaborated on the scope and possible procedures of EIA in the international context. Specific attention was paid to the kind of projects to be submitted for EIA. Suggested procedures for EIA in Lebanon were drafted and discussed.

In the last three days, case studies were presented and discussed. The participants themselves performed a case study: they were split into three groups and briefed with environmental information in order to identify the best location for an incinerator plant. Results were reported by group leaders and discussed.

### 5.2 Workshop Sessions

#### 5.2.1 Session I: General Introduction to EIA

This session was devoted to introducing the notion of EIA. The main characteristics of EIA, as a process and as a tool to predict potential environmental effects of a proposed activity, were outlined. These included using maps, enhancing public participation and developing mitigation measures and better alternatives. Providing such information to decision makers leads to the production of a major document, the Environment Impact Statement (EIS).

The aim of EIA was described as three fold: (1) to fully appreciate environmental effects in the decision making process; (2) to anticipate potential problems and account for them at the planning stage; and (3) to facilitate public involvement and contribute to the approval of projects.

A discussion took place between trainers and participants regarding their views on Environmental Assessment (EIA) in the Lebanese context. Two broad categories were identified as institutionalization and technical methods of EIA in Lebanon.

The advantages of EIA were outlined as: identifying environmental liabilities, successful completion of the project, expected social and economic benefits and credit to proponent. These advantages become apparent when the project activities and outputs are compatible with the environmental goals.

Environmental Assessment was stated to be carried out when planned projects have potentially adverse effects on the environment ( building a dam, constructing a railway track, etc.)

The definition and importance of guidelines were discussed. It was noted that guidelines set the specific projects which need EIA. In general, guidelines are drawn on international, regional and national levels. Some donors, such as the World Bank, impose an EIA study.

Environmental Assessment, as explained, could be carried out at several levels of decision making: policy level, site selection level or design level.

Several examples were given and discussed. The discussion covered public participation, role of different ministries and environmental laws and legislations in Lebanon. Participants raised the issue of renewing permits. However, this point was found to fall under Environmental Audit which is beyond the scope of EIA. Yet, as auditing could be a tool in terms of enforcing EIA, it was pointed out that EIA evaluates and prioritizes the options. The selection of a specific alternative is generally undertaken by decision makers.

The parties involved in EIA were listed as follows:

- Proposer: a private person or a governmental agency
- Decision makers: the permit-granting agency, the competent authority, the policy-making agency or the financier
- Other governmental agencies involved in the project
- NGOs
- General public

However, it was noted that the involvement of parties depends on EIA guidelines and regulations adopted in the country.

### 5.2.2 Session II: EIA Procedure in the International Context

Once the participants defined the two basic categories, namely institutionalization and technical methods, in relation to the Lebanese context, the trainers elaborated on institutionalization in the international context (USA, Canada, World Bank and Holland).

This was followed by a discussion on the most serious environmental problems in Lebanon.

Participants and trainers discussed priority issues and projects for Lebanon that need EIA.

Waste management turned to be the top priority project requiring EIA. The situation was considered and discussed from an environmental and economic point of view.



### 5.2.3 Session III: EIA Planning

The basic requirements for EIA planning were presented. The contribution of a well planned EIA in terms of project quality, feasibility and progress was also elaborated. Legal and political conditions for a fruitful, efficient and well planned EIA procedure were discussed. These were defined as: a legal framework, norms and standards, public decision making and insight in the state of the environment, particularly important when environmental assessment is carried out for site selection.

A discussion session followed focusing on projects that should be submitted for an EIA procedure in Lebanon.

### 5.2.4 Session IV: EIA Techniques

In this session the techniques of EIA were presented. They included screening/initiation, scoping, drafting the EIS, reviewing and decision making.

Stages for preparing an EIA were described. **Screening** techniques were introduced. This was followed by a thorough elaboration on the **initiation** phase which mainly describes the detail level of EIA for the project, need and purpose, key impacts, extent of impacts and their importance in decision making. It was emphasized that the information generated in the initiation phase greatly influences the progress of the EIA process.

Examples of the **initiation phase** were presented with respect to the Netherlands and USA.

**Scoping** generally identifies key impacts, alternatives, required contents and the EIS level of detail, in order to produce a set of specific guidelines. Clarifying needed information and improving cost-effectiveness were also noted. Steps involved in scoping were presented and discussed.

An example of the content of an EIS was presented in detail. Items related to describing the proposed activity were discussed. They included: location, design and layout, construction and operation as well as technical characteristics.

### 5.2.5 Session V: EIS Proposed Activity and Alternatives

This session was directed towards the development and evaluation of alternatives for proposed projects.

It was explained that the main objective of EIS is to list alternatives for carrying out a proposed activity. This entails describing the alternatives and considering their environmental soundness. Development of alternatives for a proposed activity is

related to specific guidelines, type of decisions to be made ( policy, site or design alternative), legal restrictions, spatial and physical planning which can act as limiting conditions.

It was emphasized that the alternatives should be realistic, solve the problem and cover a range of possible solutions.

It was also mentioned that alternatives to be considered are: the original proposed activity; the no go alternative, i.e. not carrying out the proposed activity, or the no go "plus", i.e. the adaptation of existing infrastructure; the most favorable alternative to the environment, including both human environment and natural environment.

### **5.2.6 Session VI: EIS: Present Situation**

This session focused mainly on the need for data and information regarding the present environmental situation. The environmental aspects to be considered, the use of themes or values for predicting impacts as well as the importance of space and time boundaries were all presented.

It was emphasized that information on the present environmental situation of the project is the frame of reference for environmental impacts. Such information reflects the valuability and sensitivity of the environment. The first step in the determination of the present situation is knowing the space boundaries of environmental impacts, which would depend on the type of expected impacts and the type of EIA.

The use of existing data was highly recommended. This could be achieved by using national databases and information available from environmental groups. Considering the lack of information in Lebanon, additional field work might be needed for that purpose.

It was stressed that focus should be made on the most important environmental aspects and values affected by the proposed activity, which can be viewed as description, comparison and frame of reference forming a cycle. Moreover, impact, space (area) and time (period) boundaries must be defined specifically.

Other environmental aspects should be considered too, such as land use, soil, ground water, surface water, air, noise, vegetation, fauna, landscapes and human living conditions. Impacts could also be looked at in terms of environmental themes such as climate change, dispersion, acidification, eutrophication and disturbance.

It was pointed out that it is difficult to quantify the themes. This, however, is not equally true for environmental aspects.

It was also indicated that public/social values can have a role in judging the significance of impacts. Among these values are sustainable development, health, nature, recreation and cultural historical values. Some of these are quantified easily while others are not.

### 5.2.7 Session VII: Impact Prediction Methods

This session concentrated on predicting the environmental impacts of different alternatives by using computer models. Properties common to all models were outlined and a discussion relating to the Lebanese situation took place.

It was indicated that the environmental impact of all alternatives should be assessed in a comparable way with the same level of detail. This should be conducted for several environmental aspects, such as dispersion in air and water and noise pollution. Each aspect has different input parameters to be used in the model in order to predict the precise impacts.

It was indicated that the matrix structure is among the commonly used techniques for comparison purposes.

It was also mentioned that some environmental aspects cannot be easily calculated with a relatively simple model. In such cases, other techniques can be utilized such as Geophysical Information Systems (GIS) as a tool for data analysis, as well as photo montage and other methods.

Several other relevant techniques for impact assessment methods were presented and discussed.

### 5.2.8 Session IIX: Case Studies

Three case studies were presented to elaborate on the techniques of impact prediction methods.

The first case study was on ground water extraction. This was used to emphasize the importance and execution of EIA for decision making and policy level.

The second case study involved a railway track of 125 miles. It addressed mainly the importance of multi-criteria analysis to compare several alternatives in terms of various environmental aspects such as noise hindrance, safety, air quality, etc.

The third case study concentrated on the design of a sanitary landfill, which elaborated the importance of EIA in decision making at the design level.

During the case studies, methods and tools used in comparing alternatives were presented.

### 5.2.9 Session IX: EIS: Review and Decision

The presentation concentrated on the evaluation of the EIS report. It was noted that in Netherlands, once the EIS is accepted by the competent authority, public participation takes place and the comments of the public are taken into consideration and integrated in the EIS. As soon as the EIS is finalized and sent to the EIA Committee, the Committee members hold meetings with the experts to discuss the reactions on the report which will be redrafted accordingly.

It was mentioned that a complete executive summary is needed in order to make the EIS report accessible to public in terms of readability and understanding.

After doing all this work, the decision of the EIA Committee might be negative, leading to the cancelation of the project and choosing another alternative or prescribing mitigation measures. But the competent authority must justify its decision.

Various indicators should be available for a sound decision making. In the Lebanese case, there is a lack of information with respect to indicators and standards, but this can be compensated with technical methods and tools. Alternatively, Lebanon can follow or use the standards of the US Environment Protection Agency (EPA), France or U.K.

A discussion was followed for clarifying indicators and standards.

### 5.2.10 Session X: EIA Requirements

The procedure for preparing EIS reports was explained. Preparation of EIS reports needs staffing. The proponent is usually responsible for drawing the EIS. The usual way is that a consultancy firm is contracted and staffing is discussed with the proponent and should include a member of the EIA Committee.

A typical project team was stated to include: a project leader, whose role is communication with proponent, coordination and quality control; EIA specialists to define and deal with uncertainties; an editor to write the report in a readable style so that it can be accessible to the public; other resources such as technical guidelines agreed upon with the competent authority.

In the Lebanese case, it is hard to state the resources and information about the environment. Analytical capabilities (library, research, field work, laboratory testing and photomontage), administrative resources, formal arrangement (public participation, consultation of decision makers, etc...), the time factor and money are other resources required for EIA. The time required for EIA preparation is 6-24 months. The cost is usually less than 1% of total project cost.

Common shortcomings that can occur in EIS reports were identified as follows:

- Objective of proposed activity is described too narrowly.
- Selection of alternatives doesn't take all environmental aspects into account.
- Key problems incurred by the activity are not described.
- Sensitive elements in existing environment are overlooked.
- Alternatives described do not comply with legal standards.
- Promising mitigation measures are not described.
- Outdated prediction models are used in comparing alternatives.

Real-life examples were presented to illustrate these shortcomings.

### **5.2.11 SessionXI: Site Selection for Solid Waste Incinerator - Group Work**

This session was devoted to group work for exercising on the practical application of the EIA procedure for site selection of a solid waste incinerator.

The participants were divided into three groups and provided with adequate environmental data (including maps).

The groups were briefed that planning a solid waste incinerator involves decisions on several levels, and that the site selection interferes with spatial planning, which is concerned with housing development, transport planning, agricultural functions, development of industrial and nature conservation areas. Also emphasized was the need to formulate excluding conditions for potential sites such as urban zones, natural areas and ecological connection zones, silence areas and airports. Formulation of conditions influencing the suitability of potential sites is also needed. Such conditions include the proximity of recreational areas (limiting), military areas (limiting), navigation waters and railways.

After a thorough briefing, the three groups worked separately on identifying the best location for a solid waste incineration plant. At the end of the session, the group leaders reported on their findings and gave justifications for their selection of the "appropriate" site. After each presentation, exchange of ideas took place.

With the provided environmental data, the groups were able to identify the best potential site(s) for locating an incineration plant.

The participants were well motivated and involved in this problem solving exercise. They expressed the need for additional problem solving sessions.

## 6. Guidelines

### 6.1 Definition and Prerequisites

Within the context of the conducted Workshop, guidelines were understood to be a working procedure for EIA in the Lebanese situation, including a list of activities for development to be subject to that procedure.

The implementation of such a procedure into the administrative system, including possible endorsement in an Environmental Act, was considered to fall beyond the scope of this Workshop.

During all the discussions it was tabled that, in any guideline to be drafted, two elements would require particular attention:

- public participation in decision making;
- the establishment of an independent body, responsible for quality assurance and quality control for all matters related to EIA (hereafter called: EIA Committee).

In the following, it is assumed that a Lebanese EIA Committee is established and provided with adequate administrative power to enable a well balanced decision making with respect to the execution of relevant projects, addressing related Environmental Impacts in such a way that public acceptance is enhanced.

### 6.2 Projects

This section provides a list of projects that, as put forward by the workshop participants, should be subject to an EIA procedure.

Further, it was agreed that the EIA Committee would decide if, and to what level of detail, an EIA would be needed. It was felt impractical to put forward generic standards with respect to size, impacts, level of impact, etc.

The derived list of projects subject to an EIA procedure included the followings:

- 1 Waste Treatment Installations
  - \* incinerators;
  - \* solid waste treatment and recycling facilities including landfilling.
  
- 2 Industrial Activities
  - \* factories dealing with chemicals or minerals;
  - \* planning of industrial areas;
  - \* agro-industries.

- 3 Infrastructure Projects
- \* airport (extensions), highways, railways;
  - \* harbours and marinas;
  - \* roundabouts;
  - \* sewage collection systems.
- 4 Water Treatment Installations
- \* construction/reconstruction of waste water treatment plants.
- 5 Power Generation
- \* thermal power plants (+ expansions);
  - \* hydropower plants;
  - \* renewable energy plants;
  - \* transmission and distribution of installations and networks.
- 6 Groundwater Extraction
- \* all extractions;
  - \* well construction and aquifer recharge.
- 7 Recreational and Touristic Facilities
- \* coastal projects;
  - \* sports cities;
  - \* skiing resorts.
- 8 Projects in Nature Conservation Areas
- \* any project, including those potentially affecting marine resources.
- 9 Mining
- \* quarrying, sea-sand extractions;
  - \* sand excavations on land.
- 10 Urban Development
- \* residential development;
  - \* commercial development;
  - \* schools.
- 11 Hydraulic Structures
- \* dams;
  - \* reservoirs;
  - \* irrigation projects;
  - \* water supply works (urban and rural).

12 Pipelines and Connected Installations (on/off shore)

- \* sewage outfalls in the sea

13 Irrigation and Drainage

- \* agricultural land development;
- \* agroforestry;
- \* watershed management;
- \* water re-use projects and rainwater harvesting.

This list is of importance for the screening of projects to be submitted for EIA.

It was also emphasized that the EIA procedure is intended for activities that are planned to be executed (EIA is a tool in the planning phase of a project).

### 6.3 EIA Procedure

All along the training workshop, EIA procedures to be adopted in Lebanon were discussed.

Participants' recommendations with respect to EIA in Lebanon concentrated on institutionalization (agency networking, connecting) and authorization. Possible places for public participation were suggested, in terms of involvement in alternatives and monitoring at a later stage.

The independence of the EIA committee was also stressed. It was clarified that the purpose of the EIA procedure is to predict the environmental effects of projects and not to justify projects already decided upon.

Based on discussions with the participants, the following procedure (see figure) is suggested for EIA in the Lebanese situation.

With respect to the mentioned procedure, two remarks must be made:

1. It is compiled from suggestions, and comments of the workshop participants.
2. The EIA Committee is considered as an independent body that, on the basis of its technical knowledge,
  - decides whether the project should be subject to EIA;
  - if so, compiles the guidelines (scoping);
  - checks whether the EIA is of sufficient quality and approves quality;
  - checks if the effects are as anticipated.

The key decisions to be taken -- related to the need of EIA procedure, approval before execution and possible need for additional measures -- would have to be regarded in



broader context than environmental alone. Social/economic effects will play a role as well.

In this respect, participant considered establishing an Environmental Council, able to take decisions in a wider context while taking due notice of any adverse environmental impacts. In this council, members of NGOs or public may be seated, so as to warrant public participation and enhance public awareness.

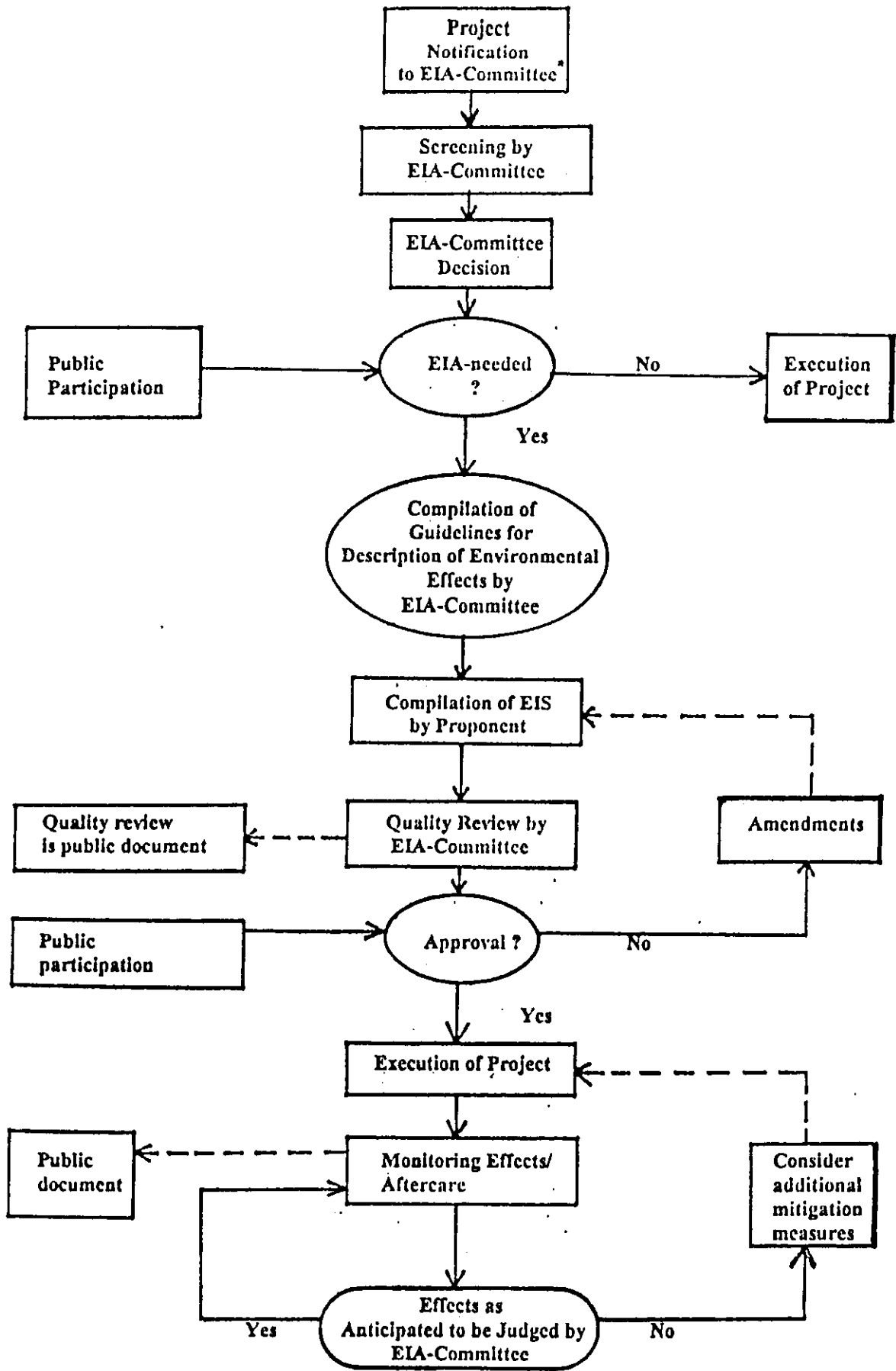
The endorsement or implementation of the above-mentioned bodies into the administrative framework will have to be elaborated in further detail.

#### **6.4 Additional Statements**

During the Workshop, feelings and expectations were tabled with respect to the implementation of the EIA tool. These related both to technical matters and to organizational aspects. A particularly important aspect was felt to be the way in which EIA had to be implemented in the complex administrative structure of Lebanon.

As the above-mentioned aspects seemed to trigger uncontrolled discussions during the Workshop, due notice of the issue was taken, and it would require to be addressed in particular in the future.

Derived EIA Procedure for Lebanon



\* On basis of project list (section 4.2)

## 7. Closing Session

Ms. Randa Nemer, Project Coordinator, thanked the participants for their attendance and active participation hoping this workshop would be a start for a close cooperation and coordination in environmental activities in the future.

Thanks forwarded to GCE and MEEA for delivering the workshop and for their efficient response to the queries and requests of the participants, as well as to their financial support of the project. Special thanks were addressed to UNDP Resident Representative, Mr. Hendrick van der Kloet.

In his turn, Mr. van der Kloet addressed the audience, stressing the importance of Impact Assessment especially at this particular period when the country is involved with massive reconstruction at all levels. He anticipated an increase in the depth and activity of the Ministry of Environment to bring about a change in people's mentality and attitude towards environmental management and sustainable development.

Distribution of certificates to the participants followed.

## **8. Evaluation, Conclusion and Recommendations :**

A summary of the evaluation of the workshop appears in Annex III (22 evaluation forms were filled in ).

The general appreciation of the workshop was good. On the basis of the reactions, two particular points need to be taken into consideration for the future :

- shorter workshop
- more case studies, to enhance active, working exercise with the theory.

Guidelines for adapting EIA to the Lebanese situation have resulted in:

- a list of activities for development projects potentially to be submitted for EIA.
- a procedure for EIA.

These issues will be subject to amendment in the next workshop. Furthermore, specific attention should be paid to the implementation of the EIA tool within the Lebanese socio-political context in such a way that development may serve both environmental and economical goals.

## Annex I: List of Participants

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## **Annex II: Initial Workshop Programme**

**Date:** 26-30 June 1995  
**Location:** American University of Beirut  
**Trainers:** Messrs. Roelofs, Van Ommen, Ghougassian

### **Day 1: June 26**

- am:** 1 General introduction to Workshop  
2 General introduction:  
• What is Environmental Assessment  
• Aim of EIA  
• When EIA  
• Who are involved
- pm:** 3 EIA procedure in international context  
• Legal framework  
• Steps  
• Guidelines  
• Public participation  
EIA procedure Canada  
EIA procedure USA

### **Day 2: June 27**

- am:** EIA procedure World Bank  
Discussion session:  
• Projects in Lebanon  
• EIA guideline in Lebanon  
4 Planning of EIA
- pm:** Discussion session: legal and administrative conditions  
5 products and methods of EIA:  
5.1 Screening/initiation  
5.2 Scoping  
5.3 Environmental Impact Statement (EIS)  
• Purpose and need



Day 3: June 28

am: 5.3 EIS (cont'd)  
• Description of environment  
• Alternatives  
Case: Waste incineration plant

pm: • Effects  
• Methods  
• Models  
Case: Ground water extraction

Day 4: June 29

am: Case and discussion: Railway alignment: development of criteria  
• Comparing alternatives  
• Presentation methods  
• Thematic appraisal  
• Mutli criteria evaluation

pm: • GIS  
Case: residential development  
5.4 Review and decision making

Day 5: June 30

am: Exercise: design landfill site/or: coastal management  
6 Requirements of EIA  
Discussion: draft guidelines and procedures for Lebanon

pm: Evaluation and conclusion

9.3 Annex III: Summary of the 22 Evaluation Forms

**WORKSHOP EVALUATION FORM**

Republic of Lebanon  
Office of the Minister of State for Administrative Reform  
Center for Public Sector Projects and Studies  
(C.P.S.P.S.)

Workshop : Environmental Impact Assessment  
Date : 26-30 June 1995  
Trainers : ir. H.J. Roelofs, dr.ir. H.C. van Ommen, B. Ghougassian  
Location : Alumni Club American University Beirut - Lebanon

*The results of this evaluation will be utilized in further achieving our objectives with respect to client/target group satisfaction.  
Please be so kind to contribute to our quality improvement strategy.*

**APPRECIATION**

Clarification

*Please appreciate the specific issues by ticking the relevant box.  
The box in the middle expresses neutral appreciation, the adjacent ones relate to higher or lower appreciation.*

General impression	7	10	3	1	1	
	very positive.....poor					
Quality of the course material	3	14	3	2	0	
	very good.....poor					
Presentation method	6	7	5	3	1	
	very good.....poor					
Relation between theory and workshop	6	5	3	6	2	
	balanced.....unbalanced					
Applicability to daily practice	0	5	11	4	1	1 blank
	much.....poor					
Speed of the workshop	2	7	8	2	3	
	too fast.....too slow					
Length of the workshop	3	4	7	7	1	
	too long.....too short					
Organization	6	9	3	3	1	
	very good.....poor					

Main Suggestions:

- More case studies and working exercises in groups
- Shorter workshops