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*Report on Mission to  
Meteorological & Environmental Protection Administration  
The Kingdom of Saudi Arabia  
"The Ministry of Defense"*

**A PARTICIPATORY APPROACH FOR THE  
IMPLEMENTATION OF EIA POLICIES IN THE  
KINGDOM OF SAUDI ARABIA**

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## Executive Summary

The main objective of Environmental Impact Assessment (EIA) is to provide sufficient information about environmental impacts of a proposed project and/or wide-scale policy plan in order to enable the competent authorities to take environmental sound decisions or to establish environmental sound plans.

Following discussions with the Director of the Environmental Impact Assessment Division (EIAD) at The Meteorological and Environmental protection Administration (MEPA) and his senior staff, It became very clear that what was urgently required for the immediate short term for EIAD at MEPA was the development of an innovative and feasible mechanism to facilitate the implementation of EIA policies in KSA. The new EIA mechanism to be proposed should be used as a platform to debate and discuss its practicality and acceptance with the sectoral ministries of the Kingdom.

At the request of EIAD at MEPA, the devised EIA mechanism should fulfill the following requirements:

1. Shall be based on the participatory approach to encourage the involvement of sectoral ministries in the adaptation of the EIA policies to be implemented.
2. Shall be in line and conform with the general regulations adopted by their excellencies the Ministers of the Environment of The GCC Countries in their fourth meeting held in Abu-Dhabi on the 20th. of April, 1995.
3. Should be compatible and bear in mind the inflexible structures and uncompromising mandates of sectoral ministries in the Kingdom.
4. Should comply with the articles of relevance to EIA in the drafted "General Rule of the Environment" prepared by MEPA and submitted to the Council of Ministers for ratification (articles 2 & 3 of chapter 2; article 21 of chapter 3 and item 5 of article 27 of chapter 5).
5. Should clearly delineates MEPA's role and responsibilities in relationship to the Environmental Units (EUs) and Focal Points (FPs) in the individual Ministries for the effective implementation of a uniform EIA policy.
6. Should be clear and concise in order to translate it into an executive by-law.

The report presumes knowledge of previous efforts, policies, regulations, legislations, institutions, achievements and documents addressing and/or influencing the management of EIA in KSA. The report also provides a very brief assessment of the current practices utilized by MEPA to license activities of potential environmental impacts.

Recommendations designed to co-ordinate, standardize, harmonize and possibly upgrade the current environmental screening practices developed and currently adopted by some sectoral ministries are provided by suggesting feasible technical and administrative instrumentalities.

However, the plurality of the report has been devoted towards the development of an innovative and feasible approach to facilitate the implementation of EIA policies in KSA. A step-by-step (cook book) approach was utilized to illustrate how the proposed participatory EIA policy can be devised and/or imbedded into the already functioning institutional framework. The steps included the identification of the country strategy, an analysis of the institutional framework, identification of gateways, identification of the environmental legislation's in effect, and finally the institutionalization of a coordinated EIA.

Other pertinent issues related to EIA and of matter to MEPA such as the means for strengthening the EIA national capabilities and criteria for selecting EIA consultants were also addressed at the request of EIAD officials at MEPA.

# Table of Contents

	<i>Page no</i>
Executive Summary .....	ii
I .INTRODUCTION .....	1
II .INSTITUTIONAL AND LEGISLATIVE CONSIDERATIONS OF RELEVANCE TO EIA IN KSA .....	4
<b>A .Institutional Considerations</b> .....	4
<b>B .EIA Legislations, Policies and Regulations</b> .....	6
III .CURRENT ENVIRONMENTAL SCREENING PRACTICES IN KSA.....	8
<b>A .Assessment of the Environmental Screening Practices Currently Used by MEPA</b> .....	9
<b>B .Recommended Amendments In The Environmental Screening Forms</b> .....	10
<b>C .Suggested Measures to Facilitate and Harmonize the Screening Process</b> .....	11
<b>D .Tools For EUs and MEPA To Carry Out Environmental Screening</b> .....	12
<b>E .Criteria For Making Screening Decisions</b> .....	13
<b>F .How Can MEPA or EUs Assess the Significance of Impacts?</b> .....	14
<b>G .How Can MEPA and/or EUs Identify Alternatives</b> .....	14
<b>H .How Can EUs and MEPA Decide On Mitigation Measures?</b> .....	15
<b>I .Monitoring Measures</b> .....	15
<b>J .What Are The Possible Screening Decisions?</b> .....	16
IV .ESTABLISHMENT OF AN EIA PARTICIPATORY MECHANISM FOR EIA IN KSA .....	18
<b>A .Proposed Screening Procedure Using the Participatory Mechanism</b> .....	19
V .FORMULATION OF THE FULL FLEDGE EIA POLICY IN KSA.....	21
<b>A .Issues of Relevance to Full Fledge EIA Policies?</b> .....	21
<b>B .How EIA Procedure Can Flow?</b> .....	23
<b>C .Who Can Perform a Full Fledge EIA?</b> .....	31
<b>D .Institutional Problems Hindering EIA in KSA</b> .....	32
VI .LIST OF REFERENCES .....	34
VII .OFFICIALS MET.....	35

Table of Contents (Continued)

**APPENDIXES**

<b>APPENDIX I -</b>	Projects Requiring an EIA and Submission of a Statement in GCC Environmental Impact Assessment Regulations (1995) .....	37
<b>APPENDIX II -</b>	List of Activities in Which EIA Should be Applied as Stated In The Directive On EIA (85/337/Eur. Econ. Com.) .....	39
<b>APPENDIX III -</b>	Examples of Criteria and Thresholds for the Identification of Projects Requiring EIA Used in UK .....	40
<b>APPENDIX IV -</b>	World Bank Project Categories .....	43
<b>APPENDIX V -</b>	Criteria Elaborated in the Netherlands to Select Activities Requiring EIA .....	45
<b>APPENDIX VI -</b>	Example of Positive List of Activities Requiring EIA Used in The Netherlands .....	47
<b>APPENDIX VII -</b>	Criteria Elaborated in Poland in Order to Select Activities Requiring EIA .....	50
<b>APPENDIX IIX -</b>	Examples of a positive list of activities requiring EIA used in Finland .....	51



## I. INTRODUCTION

The Government of KSA is well aware that sound environmental policies will have a direct positive impact on the Sustainable Development (SD) of the Kingdom. At the policy making level, environmental management has received greater attention over the last few years with the popularization of the concept of SD. Following the Rio Earth Summit in 1992, it was no longer possible to debate environmental issues separately from development plans, nor was it enough to pay lip service to development issues when dealing with environmental concerns.

The newly developed trend has prompted policy makers in KSA to review the older ideas and tools of environmental management and to seek strategies to implement the intricate formula of co-ordination and integration of environmental issues in development planning. This necessitates the exploration of methods for accommodating disharmonies, and weighing trade-off, between environment and development. Among the most effective and basic preventive tools for the sound management of the environment is Environmental Impact Assessment (EIA).

In KSA, as is the case in most of the countries of the region, the introduction of modernistic environmental management policies stirred some concerns, controversy and attempts of obstruction in the implementation of these policies among sectoral ministries. This was mostly due to one or more of the following reasons:

- (i) The lack of proper environmental legislations directly related to EIA
- (ii) The compelling approach used by MEPA in the implementation of EIA
- (iii) What appeared to the sectoral ministries as an interference in their functions, policies and mandates.

As a natural consequence, EIA has been portrayed by some developers as an undesirable additional financial and bureaucratic burden. Meanwhile, some sectoral ministries consider the implementation of these policies by MEPA as intrusive to their jurisdictions and obstructing their functions. Moreover, EIA has also been labeled by smaller investors as unnecessary reason of delay to development while, its associated mitigation measures, monitoring routines, follow-up procedures are very costly and require a crowd of qualified and trained cadres. The lack of adequate background environmental base-line data and the shortage in data systems, GISs and environmental projection's and assessment's tools are also posing additional hurdles towards the implementation of EIA procedures by EIAD at MEPA.

In reality, the objective of an EIA policy is to devise a methodical system capable of providing sufficient information about environmental impacts of a proposed project and/or wide-scale policy plan in order to enable the competent authorities (MEPA in co-ordination with sectoral ministries and local municipalities) to participate in taking sound environmental decisions or to establish sound environmental plans.

The sub-objectives of EIA are:

1. To visualize the environmental impacts of proposed major projects or wide-scale policy plans.
2. To identify alternatives and additional environmental provisions and their respective impacts.
3. To identify environmental benefits and drawbacks of the proposed project.
4. To identify the critical environmental problems which require further study (the so called “gaps in knowledge and information”).
5. To examine and compare the impact of proposed activity and each of the alternatives.
6. To “hopefully” involve Non Government Organizations (NGOs) in the decision making process in order to obtain specific local information, and to raise the environmental awareness.

Following discussions with Director of EIAD and his senior staff, It became very clear that what was urgently required for the immediate short term for EIAD at MEPA was the development of an innovative and feasible approach to facilitate the implementation of EIA policies in KSA. The new EIA policy to be proposed should be used as a platform to debate and discuss its practicality and acceptance with the sectoral ministries of the Kingdom.

At the request of the Director of EIAD at MEPA, the devised unified EIA policy should fulfill the following requirements:

1. Shall be in line and conform with the general regulations adopted by their excellencies the Ministers of the Environment of The GCC Countries in their fourth meeting held in Abu-Dhabi on the 20th. of April, 1995.
2. Should be compatible and bear in mind the inflexible structures and uncompromising mandates of sectoral ministries and municipalities in the Kingdom.
3. Should comply with the articles of relevance to EIA (articles 2 & 3 of chapter 2; article 21 of chapter 3 and item 5 of article 27 of chapter 5) in the drafted “General Rule of the Environment” prepared by MEPA and submitted to the Council of Ministers for ratification.
4. Should clearly delineates MEPA’s role and responsibilities in relationship with the Environmental Units (EUs) and Focal Points (FPs) in the individual Ministries and Municipalities for the effective implementation of the uniform EIA policy.
5. Should be clear and concise in order to translate it into an executive by-law.

In addition, the mission report should presume knowledge of previous policies, efforts, legislations, institutions, achievements and documents addressing and/or influencing the management of EIA in the KSA.



In order to materialize the ultimate objective of having an effective and functional EIA policy in the KSA, the following consecutive activities have to be undertaken:

1. Development of a compatible and integrated EIA general policy that is based on a participatory approach. This policy can then be used as the main platform to debate and discuss its acceptance and practicality within the circles of the government.
2. After completion, the proposed policy should be forwarded to all relevant sectoral ministries, municipalities and concerned parties for their critical yet constructive review, evaluation and appraisal in terms of its (i) overlap; (ii) interferences; (iii) limitations; (iv) acceptability and (v) applicability within the government.
3. The feed-back should be compiled, studied by a task force at MEPA, put into perspective and considered for incorporation into the proposed EIA policy.
4. It will be the responsibility of EIAD at MEPA to call for a two days national consultation **to reach consensus**, finalize and implement the proposed participatory policy.
5. Preparation of an EIA executive by-law to regulate and harmonize the EIA process and make it concordant with the already drafted and proposed "General Rule of the Environment" currently presented to the Council of Ministers for ratification.
6. One or more guidance program should be sponsored and organized by MEPA in co-ordination with sectoral ministries. The guidance training program should provide and explain the guidelines pertaining to the implementation of the proposed participatory EIA policy.

The report provides a very brief assessment of the current voluntary, ad-hoc and self initiated practices utilized by some sectoral ministries (Ministry of Industry and Electricity in particular) to license activities of potential environmental impacts. However, the plurality of the report is dedicated towards the development of a participatory EIA policy to be adopted on the long run in KSA. Other peripheral issues connected to EIA and of matter to the MEPA such as the means for strengthening the EIAD capabilities; means to minimize disputes between MEPA and sectoral ministries; and criteria for selecting EIA consultants are also be addressed as requested.

## II. INSTITUTIONAL AND LEGISLATIVE CONSIDERATIONS OF RELEVANCE TO EIA IN KSA

### A. INSTITUTIONAL CONSIDERATIONS

The success of EIA as an instrumentality to ensure that development projects are environmentally valid and sustainable, will depend to a large extent on the existing environmental institutions in the Kingdom. The purpose of this section of the report is to review the mandates of existing environmental entities in KSA, identify their capacity in carrying out EIAs and recommend reforms for their structures and functions.

The KSA Government established MEPA in 1980, as an autonomous entity to deal in an integrated manner with meteorological and environmental problems in KSA. Later, the United Nations Conference on Environment and Development (UNCED) held in 1992, has called on all countries to integrate environmental considerations into all development planning activities. In response to this call, a Ministerial Commission was created under the Chairmanship of H.R.H. "The Second Deputy President of the Council of Ministers" to ensure co-ordination in achieving National SD among sectoral ministries. The Ministerial Commission on the Environment consists of eleven Ministers and senior officials as follows:

- Minister of Agriculture
- Minister of Health
- Minister of Industry and Electricity
- Minister of Planning and Development
- Minister of Finance and National Economy
- Minister of Interior
- Minister of Petroleum and Minerals
- Minister of Municipality and Rural Affairs
- Minister of Foreign Affairs
- President of King Abdul-Aziz City for Science and Technology
- General Director of MEPA.

Within MEPA, an EIAD was developed with the main functions of initiating and coordinating for all EIA reviews performed by the administration. Among the basic responsibilities of the EIAD are the creation of an EIA program that involves all interested parties within and outside MEPA, the operation and direction of this program once implemented and technical responsibility for all MEPA activities relating to EIA policies, planning, or procedures. The department is supposed to both coordinate EIAs performed by others and conduct its own internal assessments.

The department is operated by a limited number (the head of the department and 4 EIA specialists) of trained and competent nationals. However, the range of expertise is not covering the whole spectrum of specialties needed for the scoping

and/or Environmental Impact Statements (EISs) evaluation processes. This situation has compelled EIAD to draw on the resources available in other departments in MEPA, particularly the Pollution Control Department. This procedure has unfortunately delayed some of the EISs evaluation processes due to its associated formalities.

The EIAD has developed a series of excellent operational procedures such as:

- Procedure No. 501 “Organization/functions of EIAD”
- Procedure No. 502 “Use of National procedures for EIA”
- Procedure No. 503 “Processing of applications from Ministry of Industry”
- Procedure No. 504 “Departmental filing procedures”
- Procedure No. 505 “Documentation of telephone calls - EIAD”

These procedures are judged as a valuable asset to EIAD and can be implemented immediately following the resolution of the conflict with sectoral ministries.

In this context it is important to recognize that there is no universal model or set of institutions that will be satisfactory in every situation. In addition, institutional arrangements will also be influenced by the sociocultural contexts of the Kingdom. If dramatic or complex policy changes are deemed necessary in order to realize EIA in KSA, it is preferable to implement them incrementally, allowing personnel and systems at the sectoral levels to assimilate the impacts of change gradually and providing the time for funding, staffing and training so that the new policies can be implemented as smoothly as possible. Experience does show, however, that EIA policies must be custom-tailored to the sociocultural and administrative contexts of each country and site. The two fundamental institutional reforms needed to implement an integrated and participatory EIA policy in KSA are as follows:

- Strengthening of EIAD at MEPA to enable it to manage, technically sponsor, control, audit, follow-up and enforce EIS contents
- Additionally, for each specific full fledged EIA, MEPA should have the capacity to establish an ad-hoc evaluation sub-committee, with expert members attached to it from sectoral ministries, administrations, Universities, National Research Institutions, etc., who possess specific knowledge of aspects involved in the proposed activity. These evaluation sub-committee or panel members should not be permanent elements of the panel, but should be contracted for each specific EIA independently as deemed necessary. The organizations represented in this sub-committee should agree to coordinate their actions in dealing with each specific activity.

## B. EIA LEGISLATIONS, POLICIES AND REGULATIONS

The purpose of this section of the report is to verify the existence of the adequate and proper environmental legislation's with the suitable framework that can accommodate procedures for the execution of a participatory EIA in the Kingdom.

The review of the environmental legislation currently in practice in the KSA, revealed that legislations concerning the organization of EIA methods and procedures are unfortunately not presently existing on a formal basis. Fortunately, general commitments concerning the protection of the environment, do exist in other environmental legislation's. Furthermore, it seems that difficulties are mostly emerging with the transliteration of these commitments into implementation by MEPA and sectoral ministries of relevance.

In response to UNCED call for participating nations to make it obligatory to introduce environmental concerns into the planning processes of development, MEPA drafted a "General Rule of the Environment" currently under consideration by the Council of Ministers for ratification. The proposed "General Rule of the Environment" encompassed EIA in articles 2 & 3 of chapter 2; article 21 of chapter 3 and item 5 of article 27 of chapter 5.

The drafted "General System of the Environment" has not specifically identified MEPA as the sole governmental institution with the authority to initiate and enforce EIA studies in the Kingdom. Following its ratification, the articles addressing EIA in the proposed legislation will apparently be subject to different interpretations by MEPA and by various sectoral ministries. The apologetic nature of the proposed EIA legislations and the existence of other multitude of acts and fragmentation of responsibilities among different sectoral ministries might lead into some overlap, competition, inefficiency and contradiction in the views of different sectors of the government. Given the current situation, it appears that the only approach available to MEPA for the effective implementation of EIA policies is through the establishment of a practical participatory approach.

At this stage, MEPA has already established some of the criteria, specifications, principles and regulations required for the EIA of projects, particularly, the identification and compilation of project categories likely to cause environmental degradation. However much more efforts are needed to establish the following:

1. Identification and compilation of environmentally sensitive areas within the Kingdom (historical and archeological sites, wetlands, coral reefs, natural preserve, public parks, etc.)
2. Identification and compilation of natural resource's categories and environmental problems of peculiar nature.
3. Specification of criteria and guidelines to identify whether the proposed projects require a full fledged EIA or not.

In general, the existing environmental laws and regulations in KSA are not providing adequate authority to begin integrated implementation of EIA policies. Under the new proposed legislation, the main role of MEPA will be limited to (1) the establishment of the principles, guidelines and procedures needed to conduct EIAs and (2) the review of EISs. In case the proposed "General Rule of the Environment" legislations are soon ratified by the Council of Ministers, MEPA will be in a slightly better situation in implementing the EIA policies.

In the present report, several attempts will be made to maximize MEPA's control on EIA guidelines and procedures without deviating from the main framework and mandates specified in the proposed legislations.

### III. CURRENT ENVIRONMENTAL SCREENING PRACTICES IN KSA

While each government in the Gulf region has its own approach to an EIA process (ESCWA, 1987), they all tend to start with a simplified environmental screening. Screening was mainly designed to encourage developers and agencies planning operations to incorporate environmental considerations into the conceptual stage of project development. However, It is important for EUs at sectoral ministries to recognize that these forms cannot be considered as an adequate replacement for full fledged EIA study upon which decisions can be taken regarding the environmental acceptability of the proposed activities.

At the current stage EIAD has developed environmental impact screening forms to be used as a necessary and routine part of the overall planning process in some of (but not all) the sectors concerned with development. Through use of these screening forms, EIAD is theoretically and partially enabled to identify all potential areas of adverse environmental effects in the very early stages, before irrevocable actions are taken and costly design changes, modifications or mitigation's are required.

It is important to note that due to its relatively high cost, it is very crucial that EIA's be cost-effective. Sound environmental screening of the proposed projects should ensure that "**nothing but**" only relevant projects are assessed with a full fledge EIA.

In order to minimize any conflict or disagreement between MEPA, sectoral ministries and investors on whether the proposed project needs a full fledge EIA or not, the environmental screening process has to be made very clear, methodical and systematic. The objective of this chapter of the report is to provide MEPA with all the available environmental management tools, methodologies and criteria utilized by more developed countries for decision making in the screening processes.

The use of these management tools, criteria and methodologies by both MEPA and the sectoral ministries will lead to the following:

1. Minimum controversy on the need of additional information
2. Minimum arguments on the proper mitigation measures needed to avoid certain environmental impacts
3. Minimum debates on the need for an IEE
4. Minimum disputes on the necessity for a full fledge EIA
5. Maximum efficiency in screening decision making

As a regular practice, the series of questionnaires developed by EIAD (Data Form) are filled by the proposed Project Proponents (PP) or their environmental consultants as a prerequisite for Environmental Licensing (EL). Once EIAD is

notified with the approval of the Ministry of Industry on the technoeconomic feasibility of the proposed project, the questionnaire, is then dispatched by EIAD directly to the applicant for filling. Once filled by the PP, the Data Form is presumed to be reviewed and validated by the EIAD staff at MEPA. If no impact is projected then, EIAD grants an approval, some times stipulating appropriate mitigation measures and monitoring programs. If an impact is projected, then EIAD may decide on the necessity for a full fledge EIA. The decision is presumed to be reached within few working days.

#### **A. ASSESSMENT OF THE ENVIRONMENTAL SCREENING PRACTICES CURRENTLY USED BY MEPA**

Generally, the questionnaires that are used in the environmental screening process are in line and very comparable to those utilized to environmentally license projects in other countries of the region. They represent, in principle, a typical screening at the conceptual stage of the project development and meant for the basic purpose of determination whether the proposed project requires a full fledge EIA or not. The currently available screening forms are covering three aspects of developmental activities namely, industrial, agricultural and general projects.

The proficient effort made by EIAD in developing these environmental screening forms has to be acknowledged. Without the first screening process of proposed developmental projects, it will be impossible to decide on the necessity to perform the expensive and time consuming full fledged EIA studies.

So far, the decision on whether the proposed project needs a full fledge EIA or not, appears to be mostly based on comparison with adopted national, regional and/or international emission standards. However, in many cases the decision are also stemming from the professional judgment, common sense, experience and some times the intellectual speculations of a uni-disciplinary assessor at MEPA.

Some sectoral ministries (The Ministry of Industry and Electricity in particular) have the courtesy to voluntary involve MEPA in their environmental screening and EIA decision making processes. Other sectoral ministries are more reluctant to involve MEPA in their EIA studies. However, after the ratification of the "General Rule of the Environment" by the Council of Ministers, the involvement of MEPA will have to be official, methodical, uniform and consistent.

As an integral part of the participatory EIA policy, it is advisable at this stage for MEPA to involve the sectoral ministries of relevance into the process of redesigning, amending and reconfiguring the screening forms. This can be accomplished by sending the already developed forms to the EUs at the sectoral ministries for their opinion and suggestions. Once these forms are amended, accepted and finalized by MEPA in co-ordination with the sectoral ministries, they can be distributed to EUs at the sectoral ministries to print their letterheads and logos and then attach them to their regular application forms for new projects. In this case the

sectoral ministries will act as the exclusive gateway accepting the applications from the PPs including the application for EL.

At the present time, the evaluation of the environmental screening process as practiced by EIAD for deciding on the necessity for a full fledged EIA is apparently suffering from the following significant difficulties:

- Inadequate human resources.
- Lack of adequate and/or accessible national environmental database and/or Geographic Information System (GIS).
- Lack of guidelines, conceptual and/or systematic methods for participatory evaluation and decision making.
- Lack of formal internal procedures to regulate the utilization of resource persons made available to EIAD from other divisions in MEPA.
- The exclusive reliance on the existing uni-disciplinary qualified expertise within MEPA without coordination and/or consultation with national leading agencies. Due to the multi-disciplinary nature of the process, it is frequently necessary to deliberate with experts in diversified fields (not available at EIAD or other departments at MEPA such as archeology, sociology, demography etc. It seems important to develop the network, mechanism, and resources needed to make such coordination, consultation and deliberation possible.

#### **B. RECOMMENDED AMENDMENTS IN THE ENVIRONMENTAL SCREENING FORMS**

The following are some suggested amendments to be considered for incorporation in the developed screening forms:

1. In order to avoid any environmental surprises, a “warning statement” has to be attached to the last page of the environmental screening data form to read the following “The developer is liable and will bear the cost of mitigation measures needed to control any unforeseen environmental impacts proofed to be resulting from the proposed project during construction, commissioning, operation and/or abandonment. The risk of ignoring a prescribed mitigation measure means that the subsequent expensive add-on control measures will need to be implemented”.
2. At the bottom of the screening data form the address and phone numbers of a skillful EIA officer (contact person) at MEPA or sectoral ministry should be provided to professionally assist PPs who are seeking help in filling the screening form and to respond to their inquiries.
3. EIAD and EUs at the sectoral ministries should recognize that their role cannot be abrupt or expire right after the screening decision is made or by the issuance of the Environmental Licensing (EL). A statement to this effect should also be added to the environmental screening data form. The suggested statement should read the following “In case the proposed project is environmentally licensed with stipulated mitigation measures,



EUs and/or MEPA staff have the legal right for access to the project site to conduct unannounced field inspections during the construction, commissioning, operation and decommissioning of the proposed project”.

4. A clear statement should also be added to read the following “The enclosed environmental screening form is an inherent part of the application process without properly filling it, the application will be disregarded”.

### **C. SUGGESTED MEASURES TO FACILITATE AND HARMONIZE THE SCREENING PROCESS**

The following suggestions might be adopted to up-grade, expedite and avoid disputes in the environmental screening decisions made by EUs in sectoral ministries.

1. MEPA should generate, collect, compile and publish information on environmentally sensitive locations in the country and delineate them on coordinated maps or on GIS. The list of Environmentally Critical Areas (ECA) should be communicated to the Ministry of Planning to avoid any further central exploitation of these areas in the future.

The ECA in which projects should be subject to full fledged EIA should include but not restricted to the following:

- Soil conservation areas
- Areas subject to desertification
- Habitats of value to protection and conservation and/or sustainable use of fish and wildlife resources, particularly wetlands, mangrove swamps and coral reefs.
- Areas of unique interest (historical, archaeological, aesthetic, scientific, etc.)
- Areas of particular social interest to specific vulnerable population groups (e.g. nomadic people).

The same lists and/or maps can be used by staff at MEPA and sectoral ministries as a common and uniform screening tool to decide on whether the proposed activity should undergo full fledged EIA or not.

2. MEPA should compile, publish and communicate its lists of positive and negative schedules of EIA exempted activities or activities requiring EIA known as Environmentally Critical Projects (ECP) to the EUs at the sectoral ministries. It is suggested that the lists developed by MEPA should be subject to deliberation among the EUs and MEPA officials before approval and implementation as a screening tool. The list of projects requiring full fledged EIA suggested and applied by EIAD at MEPA is basically derived from the GCC-EIA regulations (1995) listed in Appendix I.

At the request of the UNDP senior environmental adviser to MEPA, additional information are included to assist the EUs and EIAD at MEPA in decision making regarding the projects requiring full fledged EIA. The attached list includes the following:

- a) the European Economic Community directive on EIA (85/337/EUR. Econ. Com.) (Appendix II),
- b) The United Kingdom prototype of criteria and thresholds used for the identification of ECP (Appendix III),
- c) The World Bank Project Categories (1993) (Appendix IV),
- d) Criteria elaborated in the Netherlands to select activities requiring EIA (Appendix V),
- e) Examples of activities requiring EIA in the Netherlands (Appendix VI),
- f) Criteria elaborated in Poland to select activities requiring EIA (Appendix VII),
- g) Examples of positive list of activities requiring EIA used in Finland (Appendix IIX)

If MEPA decides on altering its lists of projects requiring EIA using the supplied information, it is strongly recommended that the amended list should be subject to deliberation among the EUs and EIAD officials before approval and implementation as a common official screening tool.

#### D. TOOLS FOR EUS AND MEPA TO CARRY OUT ENVIRONMENTAL SCREENING

The following segment is furnishing the proper methodologies to carry out an environmental screening as a part of an integrated EIA process. There are several available methods to conduct environmental screening. They include:

- General Assessment Method: It involves a general evaluation of an activity in terms of parameters such as land area affected, total project costs, etc. This method constitutes a part of the prepared environmental screening data form. Despite, the method is quick and simple, it suffers from relative inaccuracy.
- Sensitive Area Method: There are two approaches commonly used in the sensitive area method. **One** is to assess the capacity of the area concerned in accommodating the activity without adverse environmental impact. **The other** is to study the nature of the area in connection with the proposed activity. For instance, a residential district would be a critical area to noise pollution. Screening can also be achieved by checking if the proposed activity is falling within the ECA list that should had been compiled earlier by the MEPA.
- Positive and Negative List Method: These are the compiled lists of EIA exempted activities or activities requiring EIA. Screening can also be achieved by checking if the proposed activity is listed as ECP or not.

- The Matrices Method: It involves the setting-up of a matrix with the main project-related parameters along one axis and the environmental parameters along the other (Guide for Environmental Screening, 1978). The environmental and socio-economic interaction of each pair of parameters (one from each group of parameters) is examined for possible adverse impact. If certain areas of potential adverse impact are discovered, a second level matrix is constructed for these areas only. In the end, if there is no adverse impact or such adverse impacts even though exist can be resolved, there will be no need to go into detailed EIA.
- Initial Environmental Evaluation (IEE): If for some reason (such as lack of environmental data needed for screening, unconfirmed likely impacts etc.), all the above methods cannot be used for screening, then, as a last resort, it is advisable for EUs and/or MEPA to undertake a short and focused IEE.

## **E. CRITERIA FOR MAKING SCREENING DECISIONS**

There are several general criteria that EIA staff at MEPA and EUs in sectoral ministries can use when making a decision as to the environmental effect of an activity. These criteria are not mutually exclusive but are very much interrelated.

- Magnitude: This is defined as the probable severity of each potential impact. Questions that EIA staff at MEPA and/or EUs staff responsible for EIA should have an answer for are: (1) Will the impact be irreversible? (2) If reversible, what will be the rate of recovery or adaptability of an impacted area? (3) Will the activity preclude the use of the impacted area for other purposes?
- Prevalence: This is defined as the extent to which the impact may eventually extend. Each effect when taken separately might represent a localized impact of small importance and magnitude but a number of impacts could result in a widespread effect. In addition to the determination of cumulative and/or synergistic effects, the remoteness of an effect from the activity causing it should not be overlooked. The deterioration of fish production resulting from an industrial activity could affect fish yields in an area many miles away from a coastal industrial zone.
- Duration and Frequency: The significance of duration and frequency can be explained as follows. Will the activity be long-term or short-term? If the activity is intermittent, will it allow for recovery during inactive periods?
- Risks: This is defined as the probability of serious environmental or health effects. The accuracy of assessing risk is dependent upon the knowledge and understanding of the industrial activity and its potential impacts.
- Importance: This is defined as the value that is attached to a specific area in its present state. For example, a local community may value a short

stretch of beach for bathing or a small marsh for hunting. Alternatively, the impact area may be of a regional, provincial or even national importance.

- Mitigation: Are solutions to problems available? Existing technology might be able to provide a solution to most if not all industrial pollutant emission problem.

#### **F. HOW CAN MEPA OR EUS ASSESS THE SIGNIFICANCE OF IMPACTS ?**

Once the environmental effects of a proposed action have been identified, the next step for MEPA and/or EUs EIA staff is to decide on whether they are significant. **One group** of impacts is easy to estimate, i.e. impacts for which there are standards, criteria, codes, regulations or objectives. **A second group** have to be estimated on the basis of qualitative judgments, which should be assisted by some of the following:

- Opinions of qualified and experienced technical decision-makers in sectoral ministries.
- Past precedents and learned experience from similar documented projects from around the world.
- Opinion of specialists (environmentalists, ecologists, geographers, hydrologists, agronomists, sociologists, urban planners, etc.) from national leading agencies such as King Abdul-Aziz University for Science and Technology, EUs in multinational oil companies operating in the country (ARAMCO and Arab Oil Company), National Research Institutions, etc.
- Public opinion through NGOs.
- Concordance of the proposed activity with the government's general development policy and objectives.

#### **G. HOW CAN MEPA AND/OR EUS IDENTIFY ALTERNATIVES**

EIA staff at EUs in sectoral ministries and/or MEPA might also face a situation where alternatives should be approved in order to license a proposed activity. The optimum alternative assists the decision maker to achieve a stated objective with the least adverse and the greatest beneficial environmental, social and economic consequences (Bergman & Machenthun, 1992).

Alternatives to be considered for project approval include:

1. Alternative Locations: By choosing a better location the impact on the environment could be reduced. ECA should be avoided.

2. Alternative Technology: By choosing the right technology the sustainable use of raw materials, emissions, energy use and land use can be safeguarded.
3. Alternative Mitigation: Source oriented mitigative measures are to be preferred to effect-oriented measures.
4. Alternative Phasing: A stepwise approach can be better than a large development at once. By changing the scale of the project, problems can be avoided.
5. Autonomous Development: Not doing the project will induce the autonomous development. This alternative is also called the “**Zero Alternative**” can be considered in some cases as a realistic alternative. In most cases however, it is only used as a point of reference with respect to the impacts of the proposed activities or alternatives.

#### H. HOW CAN EUS AND MEPA DECIDE ON MITIGATION MEASURES ?

After the potential impacts have been identified and then minimized through alternative choices, the EIA staff at EUs and MEPA will be faced with the question “What can we do about them ?”

A wide range of actions may be proposed to prevent, reduce, remedy or compensate each of the potential adverse impacts as follows:

1. Design Changes: Changing project sites, routes, raw materials, fuels, methods, design, etc.
2. Environmentally Sound Technologies (EST): Interfacing EIAD at MEPA with the UN-EST network clearinghouse (currently under development) will provide free access to EST information. The information can be used to insure the adaptation of the best EST in the proposed project.
3. Waste Control: Introducing pollution control, waste treatment and monitoring.
4. Compensation: Offering the restoration of damaged resources, money to affected people etc.

Impacts for which mitigation is unknown or poorly developed should be identified for scoping EIA studies.

#### I. MONITORING MEASURES

Monitoring and inspection of the approved projects should start immediately from construction to decommissioning. The needed capacity to conduct monitoring and inspection should be developed and coordinated at both MEPA and EUs at the sectoral ministries. During the transition phase, MEPA and EUs can sub-contract the

private sector or resort to the national human resources and laboratory facilities available at the Kingdom's universities and/or research institutions for assistance.

Environmental monitoring might be needed for the following three reasons:

1. To check that mitigation measures are implemented in the manner described in the environmental screening report and/or related documents
2. To ensure that legal standards for effluents are not exceeded
3. To provide early warning of environmental damage so that actions may be taken to prevent or reduce the seriousness of the unwanted impact.

It is of extreme importance for MEPA to develop its capacity in co-ordination with sectoral ministries to conduct the following monitoring activities:

1. Baseline monitoring which refers to the measurement of environmental parameters during a representative period including the determination of the nature and ranges of natural variation.
2. Impact monitoring which involves the measurement of parameters during project construction, implementation, operation and decommissioning in order to detect environmental changes which may have occurred as a result of the project.
3. Compliance monitoring which takes the form of periodic sampling of levels of e.g. waste discharge, noise levels or similar pollutant emissions to ensure that conditions are observed and standards met.

#### **J. WHAT ARE THE POSSIBLE SCREENING DECISIONS?**

Using the given criteria, the possible screening decisions can be as follows:

1. **No-Effect:** It should be very obvious when an activity is definitely not expected to have an effect on an area of the environment. For instance, if an industrial project site is at an inland area lacking contact with the marine environment of any description, environmental subject areas such as physical-chemical/marine water, sediment, ecological/aquatic, aesthetic/marine water will be identified as "No-Effect" unless the operation is expected to cause the generation of large volumes of wastewater that can reach and impact the nearshore marine environment.
2. **Potential Adverse Environmental Effects are Known But Are Not Considered Significant:** It is the responsibility of the PP and their environmental consultant to develop through their own resources or in coordination with MEPA and EUs in sectoral ministries an acceptable environmental design solution.  
**Unknown Significance of Potential Adverse Effects:** If for any activity there is a lack of knowledge on the possible environmental effects, then the activity should be rated as having "Unknown Significance".  
For example, if an industrial project leads to some nearshore pollution and the screener does not know the extent of use of that coastal area (fish spawning, migration, coral reefs, etc.), then the effect would be classified as unknown. For

these cases, it is suggested that a network of contacts should be installed at EIAD at MEPA with relevant national leading agencies (Universities, National Research Institutions, Line Ministries, etc.) in an attempt to fill in the information gaps whenever they exist. Such consultation could result in the identification of the adverse effects and environmental design solutions to mitigate them. If data are not available, then, an Initial Environmental Evaluation (IEE) on this particular aspect of the project would be indicated unless a conservative design is employed to avoid all possible adverse effects. If an IEE is required, the results of the screening would be extremely valuable in converging the IEE and for continued direction of the study to prevent data collection in unnecessary areas.

3. Significant Effects: Judgments on the significance of environmental effects are based on scientific/technical factors and/or the potential to create concern and controversy in the public/professional community. This means that a full EIA study is needed.

#### IV. ESTABLISHMENT OF AN EIA PARTICIPATORY MECHANISM FOR EIA IN KSA

In an effort to secure the co-ordination and participation of all concerned parties in the EIA process in the KSA, it is strongly recommended to establish a forum such as a National Committee for EIA (NCEIA). This committee should be headed by the Director of EIAD at MEPA. It is proposed that all sectoral ministries be represented in this committee by the heads of EIA sections in their respective EUs or sector's focal points. Additionally, members from other advisory agencies in the country can be appointed as observers. The structure, authorities, functions and operational modality have to be carefully determined by MEPA based on its previous experience and prevailing conditions encountered within the sectoral ministries. The benefits associated with establishing such a committee are as follows:

1. It will provide the proper forum for communication, co-ordination and co-operation between EIAD at MEPA and the Environmental Units at the sectoral ministries concerning EIA policies in the Kingdom.
2. It will ensure the consistency, equity and uniformity of EIA decision making process in the Kingdom.
3. It will avoid loopholes and hamper the free movement of non-sustainable project proponents browsing for a better economic opportunity on the expense of the environment.
4. It will ensure higher visibility and greater transparency.
5. It will streamline, focus and concentrate the efforts of the finite EIA expertise and capacity available in the Kingdom.
6. It will realize one of the most important mandates of MEPA by using the participatory approach called upon by the UN for the proper management of the environment.
7. It will act as the central EIA decision making authority in KSA under the auspices of EIAD in MEPA that can be responsible for the implementation, control, follow-up and "hopefully" enforcement of EIA.
8. It will act as the proper forum to settle controversial issues, debates and appeals concerning EIA.

It is presumed that the committee can be formed by a decree from the Ministerial Council on the Environment. The executive ordinance can be formulated by MEPA in close co-ordination with the sectoral ministries.

The NCEIA should have the supremacy to:

- Impose full fledged EIA on a specific activity
- Prevent an activity from being implemented if unacceptable environmental impacts are revealed
- Approve (i) mitigation measures, (ii) establishment of environmental management systems, (iii) assign self-monitoring programs, (iv) prescribe environmental reporting procedures etc.



The NCEIA is suggested to regularly convene on a monthly basis. However, the committee can convene whenever deemed necessary at the invitation of its Head. In case of urgency, the project can also be approved by circulation to members of the committee. The NCEIA is proposed to consist of the following members:

1. Head of EIAD at MEPA, Chairman
2. Head of EIA Unit at Ministry of Agriculture, member
3. Head of EIA Unit at the Ministry of Petroleum and Minerals, member.
4. Head of EIA Unit at the Ministry of Industry and Electricity, member.
5. Head of EIA Unit at the Ministry of Municipalities and Rural Affairs, member.
6. Representative from the Environmental Health Department at the Ministry of Health, member
7. Head of EU at the Ministry of Planning and Development, member
8. Two members of relevant specialties from national research institutions, observers.
9. Two faculty members from national universities, observers.

#### **A. PROPOSED SCREENING PROCEDURE USING THE PARTICIPATORY MECHANISM**

The envisaged systematic screening procedure will have the following sequence:

1. In addition to the regular techno-economic feasibility study at the ordinary gateway (sectoral ministry), the project applicants will fill and lodge the attached environmental screening form (with the possible assistance of a contact person at the EUs or MEPA).
2. Once the form is submitted, EUs at the local level will internally evaluate the environmental aspects of the proposed project and come to a tentative decision. This final decision has to be affirmed by MEPA.
3. A copy of the filled form with the evaluation and decision of the EUs should be faxed immediately to MEPA for review.

Based on the EUs decision and following the review of the environmental screening of the project, the only three possible judgments that MEPA can make are as follows:

1. In the event World Bank Category C projects “small projects” were found by the EUs to be “of no environmental impact-does not require EIA” according to the schedule provided by EIAD, MEPA will take one of the following steps in less than 10 working days:
  - Takes note and agrees with the decision of EUs and promptly respond with its approval.
  - Endorse the EUs decision pending the incorporation of some additional recommended mitigation measures.

If no reply is sent from MEPA to the EUs of concern within 10 working days, the decision made by EUs at the sectoral ministry concerning the project will be considered as affirmed by MEPA. Small projects of confirmed no environmental impacts will not be examined by the NCEIA.

2. In the event the World Bank Category B “medium size projects” were found “to have limited environmental impacts - might require Initial Environmental Evaluation (IEE)” and approved by the EUs with stipulated environmental control measures, MEPA will take one of the following decisions:
  - Agrees with the decision of EUs and then schedules the project for review and approval by the NCEIA.
  - Agrees with the EUs decision with some modifications to be discussed in the next NCEIA for amendment and final approval.
  - Disagree with the EUs. During the next NCEIA meeting, the subject will be deliberated and members of the committee will decide on the need for IEE or stipulated mitigation’s for the environmental licensing of the project.
  
3. In the event the project World Bank Category A Projects “major project” was found “to have significant environmental impacts” and a full fledge EIA has been requested by the EUs, MEPA will inform the committee members with such a decision and actively participate in co-ordination with the concerned EU in the scoping and evaluation of the EIA.

## **V. FORMULATION OF THE FULL FLEDGE EIA POLICY IN KSA**

According to item 7 of Article IV of the proposed “General System for the Environment” (articles 2 & 3 of chapter 2) the development of systems and procedures required for the management of full fledge EIA are the responsibility of MEPA. Within the adopted policy, some of the activities will be imposed on investors and developers. The financial sponsoring of EIA, preparation of Environmental Impact Statements (EIS), application of project’s alternatives, implementation of mitigation measures and performance of regular post-project environmental monitoring programs are some of these imposed activities.

It is also suggested that MEPA in co-ordination with EUs in sectoral ministries should extend their current role to include (at least) one field inspection visit during construction and another during commissioning to verify the compliance of the PP with mitigation measures cited earlier by EUs as a precondition for EL.

At the present time, the presumed role of MEPA in this connection seems to unfortunately stop at the level where decision is taken at the end of the environmental screening and EIA review processes. It should be recognized however, that EIA is a ceaseless process which commences during the project planing phase and concludes by project decommissioning and/or abandonment.

Even though, it is recognized that there is no set recipe for drawing an EIA policy, a step-by-step (cook book) approach (to the maximum possible extent) is attempted to elucidate how an EIA policy can be developed, institutionalized and implemented in KSA.

### **A. ISSUES OF RELEVANCE TO FULL FLEDGE EIA POLICIES ?**

#### ***1. Identification of Gateways***

Gateways are the places where a PP lodges his environmental screening form to be processed to obtain environmental licensing. At the present stage and based on article No. 3 of the proposed “General Rule of the Environment” it is suggested that the local authorities currently involved with licensing projects (sectoral ministries) should remain unchanged and enabled to process the environmental licensing papers. The only procedural difference will be the attachment of the environmental screening form to their regular techno-economic feasibility forms.

If for any reason MEPA decides on selecting new gateways, this selection should be based on a set of criteria such as the gateway mandates, experience in processing applications, pertinence, infrastructure, commitment and available manpower to meet their obligations with maximum efficiency.

The gateways should be efficient and organized to avoid any delays in the licensing process of new developmental projects. However, it is essential for MEPA to identify gateways to which developers have to lodge one single licensing application for their proposed projects. While lodging their applications and techno-economic feasibility studies for a new projects, the PPs will be given the proper environmental screening data form to be filled and submitted to the gateway as a part of the regular application package.

It is essential for MEPA to contact the various gateways to coordinate their efforts to avoid unnecessary duplication in information gathering.

## ***2. Commitments to be Made By MEPA and EUs:***

All parties involved in the EIA process in KSA should pledge their veritable intent to assist the developers by using their best available means and vow to meet their legal amenability. In an effort to build a general national confidence, particularly among the local authorities, investors and developers, EIAD at MEPA and EUs at sectoral ministries as the official regulators and sponsors of the national EIA studies should make the following commitments:

- They will coordinate activities to simplify the new project application process, render it impartial, rational, direct and transparent.
- They will provide the proper and fair forum for all concerned parties including the Non Government Organizations (NGOs) to actively participate in the EIA process.
- They will provide advises to reduce the environmental impacts of development projects to their minimum possible extent utilizing the best available technology.
- They will deal with new project applications expeditiously and not to slow down the development process unnecessarily.
- They will technically sponsor, manage, supervise, inspect, review, mitigate, monitor, audit, regulate and enforce all aspects of EIA studies for the proposed projects.
- They will reject projects only as a last resort when no alternatives or mitigation measures seems effective to minimize the environmental impacts to acceptable levels.

### 3. *Application Fee and Performance Bond:*

In order to cover for the cost of processing EIAs, the PP might have to pay a fee. The value of the fee should be determined by MEPA in coordination with the proper Governmental Authorities (Ministry of Finance).

An estimated 500 to 1000 SR might be appropriate as application fee. The collected money should be earmarked for the following services:

1. Processing and evaluation of the environmental screening forms
2. Emolument for experts needed for the evaluation of EIS.

In addition, the performance bond is a form of insurance that the proposed project will be completed to the satisfaction of EUs and is typically equal to 5% - 10% of the total construction cost, held in escrow or bank guarantee and put up by the project proponents. If the job is badly completed, or the contractor pulls out before completion, the money is paid out to MEPA. The bond can be released only after the completion of the work and after a Certificate of Compliance (CC) is issued following monitoring and inspection during construction. If any condition or conditions attached to the approval are not adhered to, part or the whole of the performance bond could be used to fund remedial work and/or as compensation for environmental damage.

At this very early stage of EIA implementation, it is strongly recommended that MEPA bears and remunerates the cost associated with environmental screenings and evaluation of EISs. The performance bond should also be replaced by better inspection and enforcement mechanisms. This additional financial burden to be endured by MEPA will eliminate accusations and claims by sectoral ministries and investors that “EIA imposed by MEPA hampers development”. Following the full establishment and acceptance of the EIA policies in the Kingdom, the cost of screening and evaluation can be assigned to the PP in a later stage.

### **B. HOW EIA PROCEDURE CAN FLOW ?**

The EIA process should be imbedded into an overall procedure to obtain permission from sectoral ministries to start a specific activity, e.g. it could be a prerequisite for obtaining a building license, or for getting connections to the electricity, telephone, sewage collection networks or the water supply network.

In an attempt to simplify the task of explaining the flow of EIA process, the procedure was divided into three consecutive phases. The proposed procedural flow of EIA in KSA can be summarized in Fig. 1- A, B, and C. The legends used in Fig. 1 are listed in Fig. 1. D. In order to avoid or minimize conflict in decision making between EIAD at MEPA and sectoral ministries, paths (1) and (2) in the flow diagram illustrated in Fig. 1-A should be maximized. On the contrary, path (3) should be

minimized to the maximum possible extent by providing adequate criteria for decision making.

In the following segment we will focus on the procedural flow within the overall framework of EIA process. It is important to note that the proposed procedural flow for EIA using the participatory approach is neither solid nor final and might be subject to amendment and/or alterations following the prescribed national consultation.

### **First Phase: Initiation**

In this phase, the procedures related to the initiation of an EIA to license a project (as illustrated in Fig. 1 A) will be given in definite steps as follows:

1. All those (PPs) wishing to endeavor on an activity of any potential environmental implications are required by law to lodge an application for license to do so.
2. The application will be addressed to the appropriate gateway (sectoral ministry) as it is currently practiced and depending on the nature of the development activity.
3. Along with the application, the PP shall include the following: (1) Processing fees (if MEPA decides to do so ???), intended to cover the cost of processing and the cost of review and validation of the environmental screening document (2) Performance bond (if MEPA decides to apply it ???) in the form of bank guarantee intended as a surety that conditions attached to the Environmental License (EL) are upheld by the applicants, (3) techno-economic feasibility study report, (4) A comprehensive environmental screening report (Environmental Screening Data Form).
4. The gateway (sectoral ministry) will process expeditiously the application and will make one of the following decisions: (1) the project is of no environmental impacts according to the schedules provided by MEPA, (2) the project is of limited environmental impacts but does not need a full fledged EIA, (3) the project is of a significant environmental impacts and need a full fledged EIA.
5. Copies of the package will be sent to MEPA where EIAD will review and verify the validity of the environmental screening report according to the following scheme:
  - If no impact is projected, MEPA will respond positively to the EU at the sectoral ministry of concern in less than 10 working days. The EUs (gateway) will automatically grant an Environmental License (EL) as it is currently practiced.
  - If a limited impact is projected, MEPA will schedule the subject on the next NCEIA meeting. In this meeting the representatives from all sectors will be informed about the stipulated mitigation's and appropriate monitoring programs requested from the PP. In case of urgency, the head of the NCEIA might call for a special meeting to discuss the subject. On-the-other-hand, if possible impacts were overlooked by the concerned EU, then EIAD at MEPA will run a

short Initial Environmental Evaluation (IEE) to decide whether the project needs a full fledged EIA or the potential impact is not significant and Environmental Licensing (EL) can be granted by the sectoral ministry with conditional mitigation's.

- If the concerned EU find that a significant environmental impact is projected and a full fledge EIA is needed, MEPA will schedule the project to be presented in the next NCEIA meeting to inform all sectors that a full fledge EIA is required for this particular project. All the details of conducting the required EIA will be co-operated exclusively between MEPA and the concerned EU only.
6. In case the proposed activity needs to undergo a full fledge EIA study, MEPA in co-ordination with the concerned EU will call for an initial meeting with the PP, his EIA consulting team to convey technical information and agree on the EIA approach and methodology.

### **Second Phase: EIA**

In this phase, the EIA study will proceed as follows:

1. EIAD at MEPA in co-operation with the concerned EU will call and organize a scoping meeting to set the terms of reference and guidelines to be followed by PP to conduct EIA. Participation of collaborating agencies, advisory agencies and NGOs is fundamental and represent an inherent element of the process.
2. PP with the help of his EIA consulting team will implement EIA as approved at no cost to both MEPA and/or the concerned EU.
3. PP will prepare a Preliminary Draft EIS (PDEIS) for both MEPA and the concerned EU to review.

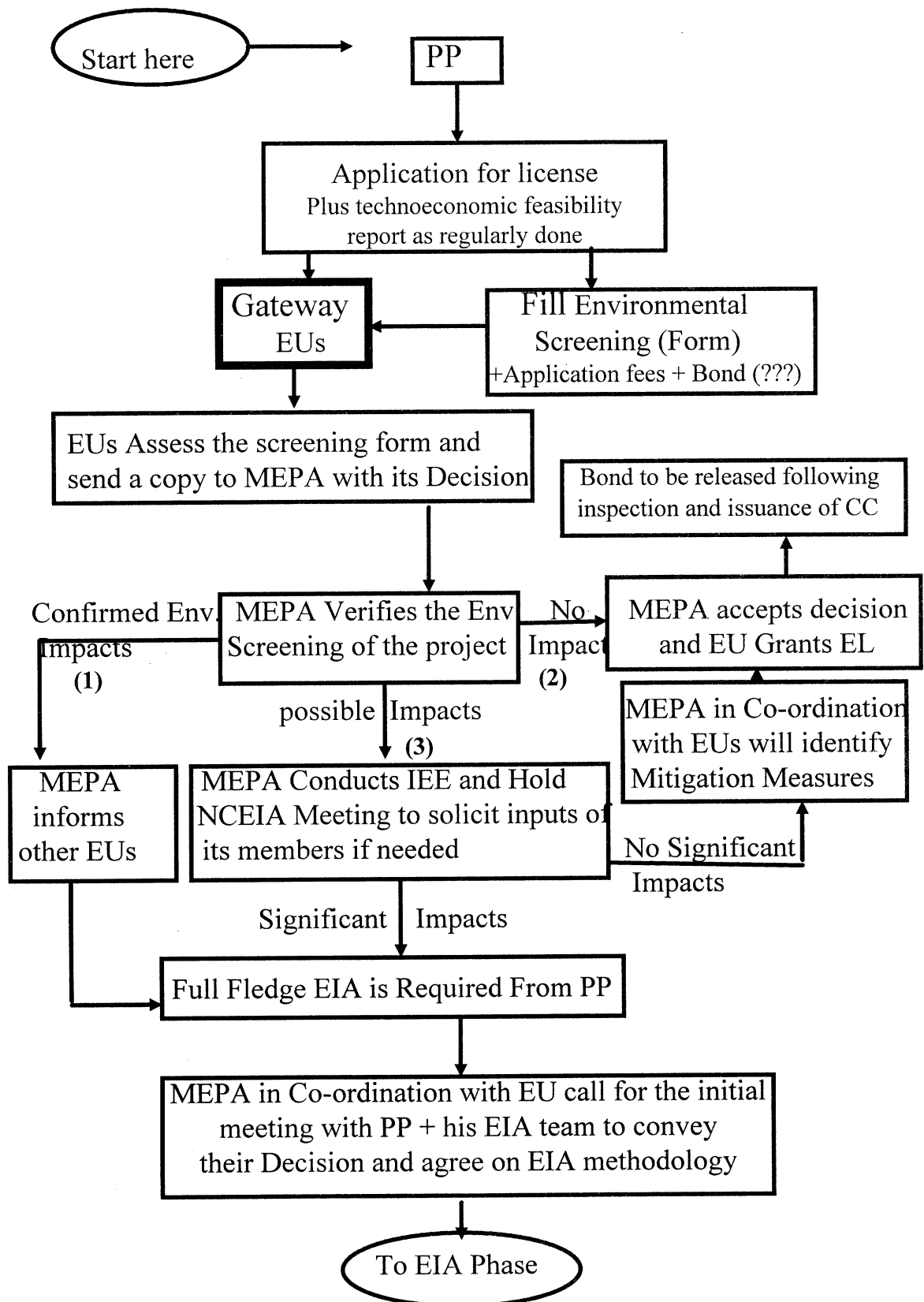


Fig. 1 A. EIA procedural flow for KSA (screening phase).



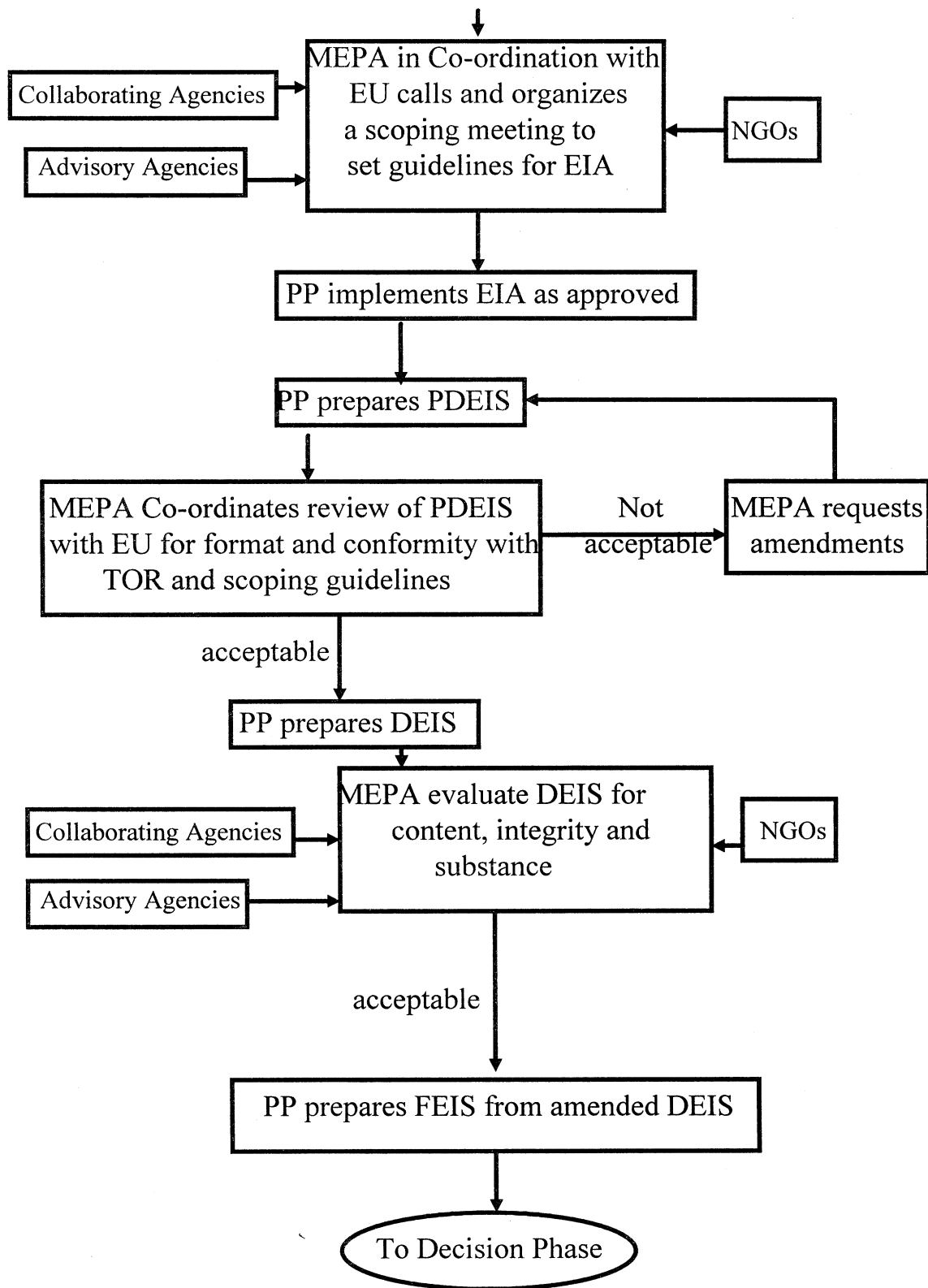


Fig. 1B. EIA procedural flow in KSA (EIA phase).

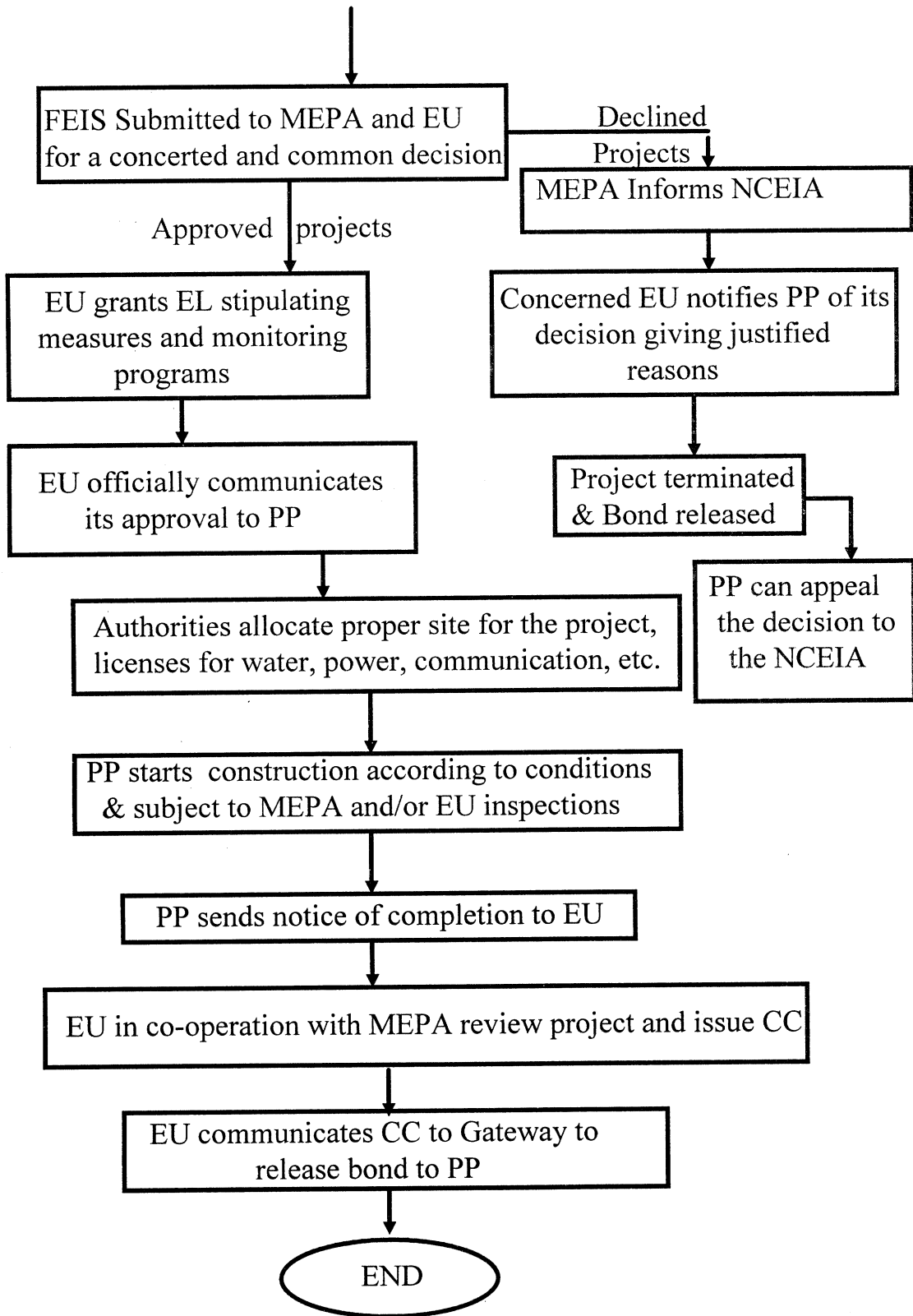


Fig. 1C. EIA procedural flow in KSA (Decision phase).

- **Gateway:** can be and not limited to: Ministry of Industry and Electricity, Ministry of Agriculture, Ministry of Petroleum and Minerals, Investment Authorities, etc.
- **Collaborating Agencies:** can be and not limited to: Ministries or Authorities for Agriculture, Irrigation and Water Resources, Fisheries, Tourism, Public Work, Natural Resources, Provincial and Local Agencies, Archeological, Historical and Cultural Agencies etc.
- **Advisory Agencies:** can be and not limited to: Departments in University, Research Institutions, Museums, Legal and economic advising frames etc.
- **PPs:** Project Proponents
- **CC:** Certificate of Compliance
- **EIA:** Environmental Impact Assessment
- **NCEIA:** National Committee for Environmental Impact Assessment
- **EIS:** Environmental Impact Statement
- **PDEIS:** Preliminary Draft Environmental Impact Statement
- **DEIS:** Draft Environmental Impact Statement
- **EU:** Environmental Units at the Sectoral Ministries
- **EIAD:** Environmental Impact Assessment Department at MEPA
- **EL:** Environmental License
- **IEE:** Initial Environmental Evaluation
- **NGOs:** Non-Governmental Organizations
- **TOR:** Terms of Reference

Fig. 1D. Legend for EIA procedural flow.

4. MEPA in co-operation with the concerned EU will review PDEIS for format and conformity with the scoping guidelines.
5. If acceptable to both parties, PP will be asked to prepare a Draft EIS (DEIS) for MEPA and concerned EU.
6. MEPA in co-ordination with the concerned EU will form a temporary ad-hoc EIA evaluation sub-committee. MEPA in co-operation with the concerned EU and with the help of the special EIA sub-committee of experts will technically evaluate and validate the EIA procedures and its drawn conclusions.

7. If approved, PP will prepare and submit to the concerned EU the Final EIS (FEIS) incorporating all valid recommendations and suggestions raised during the evaluation process.

### **Third Phase: Decision making**

In this phase a decision will be taken by MEPA in co-operation with the concerned EU in environmentally licensing the proposed activity as follows:

1. Depending on the EIA results, MEPA in co-operation with the concerned EU will either approve or decline the project. In the very unlikely event of denial, the concerned EU will convey its decision to the PP attached with justified reasons. The proposed project will be terminated.
2. MEPA will inform all members of NCEIA with the decision.
3. In the event of conflict of opinion, PP can appeal MEPA and EU decisions to the NCEIA.
4. In the very likely case of approval, and based on the recommendations of MEPA, the concerned EU will grant EL stipulating mitigation measures and monitoring program. The decision will be officially communicated to the PP.
5. The local municipality will then license the allocated site for the specific development activity and will issue licenses for utilities such as water, power, telephone lines, connection to wastewater collection systems, etc. as it is the case.
6. PP will break ground and start construction according to the conditions prescribed in EIS and subject to inspections by EU and/or MEPA.
7. After finishing the project and before commissioning, PP will send a notice of completion to the concerned EU.
8. The concerned EU in co-operation with MEPA will inspect, review and evaluate the environmental aspects of the project and then issue a Certificate of Compliance (CC).
9. MEPA will officially circulate its decision attached with the executive summary of the EIS (2 to 3 pages) to all members of the NCEIA for their information.

### C. WHO CAN PERFORM A FULL FLEDGE EIA?

During deliberation with EIAD Director and his senior EIA officers, questions were raised concerning who might be qualified enough to conduct EIA studies and what are the criteria and/or minimum requirements needed for an EIA consultant to be hired?

The quality of EIA will greatly depend on the expertise of the analyst; and on the availability and commitment of the people using it.

The preparation of an EIA requires input from several scientific and technical disciplines. In practice some specialist contributions could be short term and the bulk of the EIA preparation could be undertaken by a small team of qualified staff. Not all specialists are capable of this multi-disciplinary approach. The choice of the “core” team, and specially the choice of the team leader, is crucial.

It is advisable for MEPA to prepare a list of accredited and/or certified national and international consulting firms capable of conducting EIA studies. This roster or directory should be disseminated to EUs at sectoral ministries to be used by PP whenever needed.

EIAs require interdisciplinary analysis and are therefore prepared by teams, i.e. members working together in the field. The disciplines listed below are generally represented on the core team for any EIA.

- **Project Manager:** Often a planner, social or natural scientist, or environmental engineer; has experience in preparing several, similar EIAs; has management skills and sufficiently broad training and/or experience enabling him to provide overall guidance to integrate the findings of individual disciplines;
- **Ecologist or Biologist:** Aquatic, marine or terrestrial specialization's, as appropriate;
- **Sociologist /Anthropologist:** Has experience with communities similar to that of the KSA;
- **Geographer or Geologist / Hydrologist / Soil Scientist** as appropriate and
- **Urban or Regional Planner:** Has experience in developing countries and preferably in the Arabian Gulf region.

This core team needs to be supported by various specialties, depending on the project and its setting.

Generally, the lack of sufficient national manpower, expertise and commitment is acute in KSA like other countries of the region. It is imperative that KSA produce local experts to reduce the reliance on expensive foreign expertise to bare the minimum. In KSA, many local research centers, laboratories or universities

have the advantage of knowing the local conditions (eco-systems, social fabric, culture, etc.) and are in a favorable situation to contribute to the EIA process.

The selection of a consultant to conduct an EIA should be based primarily on technical competence and experience. Under technical competence, the following should be examined:

- Past experience of the firm or joint venture in EIA
- The adequacy of the proposed work plan in terms of demonstrated understanding of the project, responsiveness to the terms of references, and effective management of the work.
- The qualifications of the personnel to be assigned, in terms of education, training and experience; suitability to perform the duties to be assigned; successful EIA experience in similar situations; experience in developing countries; in the Arabian Gulf Region; or in KSA itself.

#### **D. INSTITUTIONAL PROBLEMS HINDERING EIA IN KSA**

In KSA, serious but common institutional environmental management problems do currently exist. MEPA is venturing into the field of EIA without any clear legal authority and responsibility regulating its relation with counterparts (sectoral ministries). The existing qualified managerial, professional, technical, and administrative manpower (5 persons) at EIAD at MEPA are absolutely inadequate in numbers to carry out the designated responsibilities. The institutional EIA problems that could be identified during the mission appeared to be as follows:

- Lack of clear EIA legislations, policies and commitments.
- No legal authority for community (NGOs) involvement in EIA.
- Fragmentation of EIA responsibilities and authorities among different Government Agencies and sectoral ministries.
- MEPA is relatively isolated and not integrated into the socioeconomic development planning and decision making in KSA. Personal contacts are constantly exercised by the senior staff at MEPA to overcome drawbacks of this nature.
- Absence of mechanisms for forming ad-hoc sub-committees to perform objective reviews and evaluations of DEIS.
- MEPA and most probably EUs at the sectoral ministries are not adequately staffed to manage, inspect, follow up, audit, maintain, enforce and monitor over lifetime of EIA approved projects.
- MEPA has a very limited authority and restricted power to influence socioeconomic development decision by individual sectoral ministries or to resolve environmental conflicts among them.
- Lack of fund allocations to EIA process and for its follow-up functions.
- Lack of cost recovery systems to generate funds for EIAs by imposing fees (extrapolation of the polluter pay principle).

- Inadequate criteria and procedures to evaluate and review environmental screenings and DEISs.
- Inadequate monitoring programs to provide baseline data for EIA from various environmental compartments.
- Inadequate national, regional, and international information exchange.
- Lack of follow-up or supervision of approved projects, especially mitigation measures, during construction and operation.
- Inadequate, inconsistent and some time total absence of enforcement mechanisms.
- Total absence of public and NGOs involvement in EIAs.
- Limited facilities and resources for EIA education and training
- Lack of support in term of equipment, technical information, etc.

## VI. LIST OF REFERENCES

- Bregman, J. and K. Mackenthun, (1992), "Environmental Impact Statements" Lewis Publishers, Ann Arbor, MI, USA.
- ECE (1991), "Policies and Systems of Environmental Impact Assessment" UN-ECE report ECE/ENVWA/15, Geneva
- ESCWA (1987), "Industrial Environmental Impact Assessment in Western Asia: Retrospect and Prospect" UN-ESCWA report 87-0974, Amman, Jordan.
- GCC, (1995), "Environmental Impact Assessment Regulations" Riyadh, Kingdom of Saudi Arabia.
- Guide for Environmental Screening, (1978), Federal Environmental Assessment and Review Process of Canada, Federal Activities Branch, Environmental Protection Service. Minister of Supply and Services Canada, Catalogue Number: En 21 - 26/1978.
- World Bank, (1991), "Environmental Assessment Source-book" Washington D.C., USA.



## VII. OFFICIALS MET

### **Meteorology & Environmental Protection Administration (MEPA):**

Dr. Nizar Ibrahim Tawfiq	Vice President
Dr. Abd Al-Wahab Dakak	Assistant Dir. of Env. Protection
Dr. Samir Ghazi	Head of EIA Division
Dr. Abdalah Al-Fawaz	Head of Env. Pollution Control
Mr. David Olson	Senior Adviser
Dr. Zeyad Abu-Garar	Env. Engineering Consultant
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Dr. A.F.M. Ahmed	Air Quality Consultant
Dr. Mohammed Al-Amin	Consultant
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### **UNDP: Riyadh**

Dr. Salah-eddin Elgowhary	Chief Environment Adviser to MEPA
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## **APPENDIXES**

## **APPENDIX I**

### **Projects Requiring an EIA and Submission of a Statement In GCC Environmental Impact Assessment Regulations (1995)**

#### **General Provisions:**

The activities that require an EIA include the following:

1. Projects likely to affect ecologically important areas from the environmental aspects; these include mountain areas, wetlands, forests, rangelands, valleys, coastal areas, inland, coral reefs, estuaries, shallow bays, unique ecosystems and protected areas for plants and animals.
2. Projects that may impact archaeological or historical sites or areas of profound scientific, teaching or aesthetic values.
3. Projects that include exploiting natural resources especially the non-renewable or rare resources.
4. Projects that include land allocation for special purposes as urban development, industrial areas and new neighborhoods.
5. Major Engineering projects such as high voltage networks, telephone networks, pipelines, transportation facilities as express ways, docks, railroads and airports.
6. Public works that may have significant impact on the nature and ecologically of value and water dams and the water stored therein. Projects that may influence groundwater aquifers, irrigation and drainage systems are also included.
7. Establishment of industries, or other projects that may cause air, water or soil pollution, including chemical, biological or thermal pollution. Pollution by radioactive material, noise or any other type of pollution is also included.

#### **Specific Projects Requiring EIA:**

Projects with adequate capacity to cause significant impact on the ambient air quality, in particular:

1. Cement plants, including plants for manufacture or grinding of cement clinker.
2. Production of earthen and chinaware with capacities exceeding 2000 tons/year. This include manufacture of bricks, tiles, pipes, pottery, refractory materials and glass.
3. Concrete manufacturing, producing 2000 tons or more per year of concrete or concrete products by mixing sand, gravel, water and cement.

4. Industries that manufacture ferrous or non-ferrous material which smelt, process, glaze or paint these materials.
5. Asphalt batching plants including rock and gravel crushing and mixing with asphalt.
6. Crushing and sieving of rocks, ores, metals, chemicals or grain products that include separation of different sizes by sieving or by airlifts or any other method of sorting to different size fractions.
7. Petroleum refineries and petroleum distillation plants in general.
8. Petroleum storing and manufacture of different petroleum products. This include the storing of petroleum in tanks of 2000 cubic meters or reclamation of used oil or in which greases are manufactured.
9. Metallurgic industries in which ores are smelt for extraction of metals or ores.
10. Reclamation of raw metals from scrap metals, this include firms that smelt scrap metals by using any type of fuel or by electric ovens for reclamation of refined metals.
11. Any facility that have any equipment that would consume, alone or in combination with other machines 200 kg of fuel/hour.
12. Any facility manufacturing pesticides, insecticides, herbicides, or any other toxic chemicals.
13. Paper manufacture or reclamation.
14. Industries likely to emit into the air without using control measures 100 tones of pollutants/year. Industries that may cause individually or collectively with similar undertakings significant impacts on the air quality are also included in this category.

## **APPENDIX II**

### **List of Activities in Which EIA Should be Applied as Stated In The Directive On EIA (85/337/Eur. Econ. Com.)**

1. Major crude oil refineries and installations for the gasification and liquefaction of coal.
2. Thermal power stations and other combustion installations and nuclear power stations and other nuclear reactors.
3. Installations solely designed for the permanent storage or final disposal of radioactive waste.
4. Integrated works for the initial melting of cast-iron and steel.
5. Installations for the extraction of asbestos and for the processing and transformation of asbestos and products containing asbestos.
6. Integrated chemical installations.
7. Construction of motorways, express roads and lines for long-distance railway traffic and major airports.
8. Trading ports and also inland waterways and ports for inland-waterway traffic.
9. Waste disposal installations for the incineration, chemical treatment or landfill of toxic and dangerous wastes.

## **APPENDIX III**

### **Examples of Criteria and Thresholds for the Identification of Projects Requiring EIA Used in UK**

#### **1- Agriculture:**

New pig rearing (Cattle in case of KSA) installations will not generally require EIA. However, those designed to house more than 400 cattle or 5000 fattening calves may require EIA.

#### **2- Extractive Industry:**

Whether or not mineral workings would have significant environmental effects so as to require EIA will depend upon such factors as the sensitivity of the location, size working methods, the proposals for disposing of waste, the nature and extent of processing and ancillary operations and arrangements for transporting minerals away the site. The duration of the proposed working is also a factor to be taken into account.

For oil and gas extraction, the main considerations will be the volume of oil or gas to be produced, the arrangements for transporting it from the site and the sensitivity of the area affected. Where production is expected to be substantial (300 tones or more per day) or the site concerned is sensitive to disturbance from normal operations, EIA may be necessary. Exploration deep drilling would not normally require EIA unless the site is in a sensitive location or unless the site is unusually sensitive to limited disturbance occurring over the short period involved. It would not be appropriate to require EIA for exploratory activity simply because it might eventually lead to the production of oil or gas.

#### **3- Manufacturing Industry:**

New manufacturing plants requiring sites in the range 20-30 hectares or above may well require EIA.

In addition, EIA may occasionally be required for new manufacturing plants on account of expected discharge of waste, emission of pollutants, etc. Among the factors to be taken into account are the following:

1. Whether the project involves a process designated as a "scheduled process" for the purpose of air pollution control;

2. Whether the process involves discharges to water which require the consent of the water authority;
3. Whether the installation would give rise to the presence of environmentally significant quantities of potentially hazardous or polluting substances
4. Whether the process would give rise to radioactive or other hazardous waste.

#### **4- Industrial Estate Development Projects:**

Industrial estate developments may require EIA when:

1. The site area of the estate is in excess of 20 hectares; or
2. There are significant numbers of dwellings in close proximity to the site of the proposed estate, e.g. more than 1000 dwellings within 200 meters of the site boundaries.

Smaller estates might exceptionally require EIA in sensitive urban or rural areas, particularly if associated with other scheduled works (e.g. roads, canalization projects, flood relief works).

#### **5- Urban Development Projects:**

The need for new urban development schemes on sites which have not previously been intensively developed should be considered in the light of the sensitivity of the particular location. Such schemes (other than purely housing schemes) may require EIA when:

1. The site area of the scheme is more than 5 hectares in the urbanized area;
2. There are significant numbers of dwellings in close proximity to the site of the proposed development, e.g. more than 700 dwellings within 200 meters of the site boundaries.
3. The development would provide a total of more than 10,000 square meters (gross) of shops, offices or other commercial uses.

#### **6- Local Roads:**

The construction of new motorways will always require EIA. Outside urban areas, the construction of new roads and major road improvements over 10 km. in length, or over 1 km. in length if the road passes through a national park or through or within 100 meters of a site of special scientific interest, a national natural reserve or a conservation area, may require EIA.

7- **Airports:**

The construction of airports with basic runway length of over 2,100 meters will always require EIA. Smaller new airports will also generally require EIA. EIA may also be required for major works such as new runways or passenger terminals at larger airports, the original development of which would have required EIA.

8- **Other Infrastructure Projects:**

A broad indication of likely environmental effect may be given by the land requirement for an infrastructure project. Projects requiring sites in excess of 100 hectares may well be candidates for EIA.

9- **Waste Disposal:**

Installations, including landfill sites, for the transfer, treatment or disposal of household, industrial and commercial wastes with the capacity of more than 75,000 tonnes a year may well be candidates for EIA even when the special considerations relating to hazardous wastes do not arise.



## **APPENDIX IV**

### **World Bank Project Categories**

#### **Category A: Projects/Components**

The projects or components included in this list are likely to have adverse impacts that normally warrant classification in Category A.

- dams and reservoirs
- forestry and production projects
- industrial plants (large-scale)
- irrigation, drainage, and flood control (large-scale)
- land clearance and leveling
- mineral development (including oil and gas)
- port and harbor development
- reclamation and new land development
- resettlement and new land development
- river basin development
- thermal and hydropower development manufacture, transportation, and use of pesticides and other hazardous and/or toxic materials.

#### **Category B: Projects/Components**

The following projects and components may have environmental impacts for which more limited analysis is appropriate.

- agro-industries
- electrical transmission
- aquaculture and mariculture
- irrigation and drainage (small-scale)
- renewable energy
- rural electrification
- tourism
- rural water supply and sanitation
- watershed projects (management or rehabilitation)
- rehabilitation, maintenance, and upgrading projects (small-scale)

**Category C: Projects/Components**

These projects are likely to have negligible or minimal environmental impacts. No environmental assessment or analysis is required.

- education
- family planning
- health
- nutrition
- institution development
- technical assistance
- most human resource projects

## APPENDIX V

### **Criteria Elaborated in the Netherlands to Select Activities Requiring EIA**

1. Discharge of toxic substances into the air:
  - Discharge of large quantities of substances into the air which cause serious pollution, photochemical smog or serious ecotoxicological impacts.
2. Accidental discharge of inflammable, explosive, toxic or radioactive substances which may affect human health in a serious way.
3. Discharge of toxic substances directly to ground water or surface water, or via the soil:
  - Discharge in large quantities to ground water or surface water, of substances which cause serious pollution or affect the functional use of soil or water in a serious way.
4. Discharge of waste material which is difficult to process:
  - Discharge in large quantities of waste material which, because of its characteristics or the context, causes serious negative impacts.
5. Discharge of non-ionizing substances, with large-scale, serious negative radiation impacts.
6. Bringing about of serious interference in the composition and structure of the ground-water table.
7. Serious interferences in the composition and structure of the soil; including those which may affect soil functions.
8. Important changes in the macro- or micro-climate.
9. Serious injury to the diversity, coherence, visual manifestation or cultural historical aspects of town and countryside (landscape).
10. Harmful influence on the biotic environment so that species or ecosystems, especially those which are unique or rare, are endangered.
11. Influence of sensory intrusion, especially that caused by:
  - (a) Excessive emissions of noise or vibrations;

- (b) Perceived risk of personal hazard;
- (c) The adverse visual manifestation of an activity (an “eyesore”);
- (d) Noxious odours.

## **APPENDIX VI**

### **Example of Positive List of Activities Requiring EIA Used in The Netherlands**

- 1.1 Construction of a state road to serve as trunk road.
- 1.2 Construction of a motorway, motor road or any four-lane road, other than as referred to under item 1.1.
  
- 2.1 Construction of a railway.
- 2.2 Construction of a railway other than as referred to under item 2.1, or of a tramway or underground railway,
  
- 3.1 Construction of a navigable waterway.
- 3.2 Widening or deepening of a navigable waterway.
- 3.3 Diverting a navigable waterway, when it is a river.
  
4. Construction of:
  - (a) A naval port; or
  - (b) A port for civil use for inland shipping or for seagoing shipping.
  
5. The fastening of installations in any way to the bed of, or raising the level of the bed of the continental shelf.
  
- 6.1 Construction, fitting and use of an airfield as referred to in section 1, part g., of the Aviation Act.
- 6.2 Construction fitting and use of an airfield in cases where the airfield will have a runway of 1,800 meters or more in length.
- 6.3 Change in the location of a runway or the extension or widening thereof; or the intensification of the use of the airfield.
  
7. Construction of a military training ground.
  
- 8.1 Construction of a main transmission pipeline for natural gas.
- 8.2 Construction of a main transmission pipeline for carrying a liquid other than water or a gas other than natural gas.
- 8.3 Construction of a main transmission pipeline for carrying water.
- 8.4 Landing a pipeline.
  
9. Land Development.
  - 10.1 Construction of a recreational or tourist facility.
  - 10.2 Construction of a site for stop-over recreation.
  - 10.3 Construction of a marina.

- 11. Construction of housing.
- 12.1 Construction of a dike.
- 12.2 Construction of a dam.
- 12.3 Construction of a storm-surge barrier.
- 13. Land reclamation, drainage or impoldering.
- 14.1 Changing the mean high and low water levels
- 14.2 Structural lowering of the (target) level of a surface water.
- 15.1 Expansion of the infrastructure of drinking and industrial-process water supplies.
- 15.2 Ground-water production or infiltration of water into the soil for drinking and industrial-process water supplies.
- 15.3 Construction of a water reservoir.
- 16.1 Production of surface minerals.
- 16.2 Production of minerals on the continental shelf
- 17.1 Production of coal and lignite.
- 17.2 Exploration and production of petroleum and natural gas on the continental shelf.
- 18.1 Disposal of domestic refuse, car wrecks and other wastes, originating from industry or other sources, with the exception of wastes originating from intramural and extramural healthcare institutions.
- 18.2 Erection of an installation for:
  - (a) Incineration of wastes;
  - (b) Disposal of wastes on or in the soil;
  - (c) Treating, processing and destruction of wastes with the exception of the processing of rubble.
- 19.1 Incinerating, treating, processing and destruction of chemical waste or used oil.
- 19.2 Permanent disposal of chemical waste and used oil on or in the soil.
- 20. Construction of an industrial estate.
- 21.1 Erection of an installation for the refining of petroleum.
- 21.2 Erection of an installation for:
  - (a) Roasting, pelletizing or sintering of ores;
  - (b) Production of crude iron or crude steel;
  - (c) Production of primary non-ferrous metals;
  - (d) Production of coke from coal.
- 21.3 Erection of a petrochemical installation or follow-up plant for cracking or gasifying naphtha, gas oil, liquefied petroleum gas or other petroleum fractions.

- 21.4 Erection of installation for conversion by means of chemical processes of :  
per (a) Unsaturated aliphatic hydrocarbons with fewer than five carbon atoms molecule;  
(b) Unsaturated cyclic hydrocarbons -including aromatics- with fewer than nine carbon atoms per molecule
- 21.5 Erection of an installation for the treatment and processing of asbestos and products containing asbestos.
- 22.1 The application of fuels, fissile materials or wind energy in existing and envisages electric power stations and other installations for generating electricity.
- 22.2 Erection of an electric power station other than a nuclear power station.
- 22.3 Conversion of an electric power station.
- 22.4 Erection of one or more integrated installations for generating electricity by means of wind energy.
- 22.5 Erection of a:  
(a) Nuclear power station or some other nuclear reactor  
(b) Establishment for reprocessing irradiated fissile materials.
- 22.6 Construction of an underground facility for storage of water or steam for the supply of electricity.
- 23.1 Erection of an establishment exclusively intended for the permanent storage or definitive disposal of radioactive wastes, including wastes in the form of fissile materials (other than nuclear fission waste) or ores.
- 23.2 Erection of an establishment, other than an establishment as referred to under items 22.5 or 23.1, for the accumulation and processing or for the storage of radioactive waste, including nuclear fission waste and irradiated fissile elements.
24. Construction of a high-voltage transmission line.
- 25.1 Erection of an establishment for storage or transshipment of liquefied natural gas.
- 25.2 Erection of an establishment for storage of coal and ores.
26. Erection of an establishment for gasification or liquefaction of coal.
27. An activity for which the designation of a nature reserve or a national nature reserve is rescinded.

## APPENDIX VII

### **Criteria Elaborated in Poland in Order to Select Activities Requiring EIA**

1. Emission of pollutants into the atmosphere in quantities exceeding:
  - (a) 5,000 tons of dust and gas per year in environmentally sensitive areas;or
  - (b) 20,000 tons of dust and gas in other areas.
  
2. Release of sewage requiring purification:
  - (a) Into flowing waters in amounts exceeding 2,000 m<sup>3</sup>/day; and, in environmentally sensitive areas requiring special protection, amounts exceeding 1,000 m<sup>3</sup>/day; or
  - (b) Directly into the Sea, lakes, water reservoirs or ground water in quantities exceeding 1,000 m<sup>3</sup>/day; or
  - (c) into boundary waters in any quantity.
  
3. Production and storage of waste in quantities exceeding:
  - (a) In environmentally sensitive areas, 5,000 tons/year of first-category wastes, or 20,000 tons/year of wastes of other categories;
  - (b) In other areas, 10,000 tons year of first-category wastes, or 1 million tons/ year of other categories.
  
4. Worsening of water quality in areas of special socio-economic value.
  
5. Projects over 50 hectares which will have a negative impact on soils and agricultural plants and forests.
  
6. Removal of water from:
  - (a) Surface reservoirs in quantities exceeding 40,000 m<sup>3</sup>/day
  - (b) Underground reservoirs in quantities exceeding 4,800 m<sup>3</sup>/day;
  - (c) Boundary waters in any quantity.
  
7. Transmission of electricity exceeding 400 V by overhead lines.
  
8. Generation of noise exceeding set limits.
  
9. Generation of an electromagnetic field, with the frequency range of 0.1 - 300,00 MHz, in quantities exceeding limits set for non-ionizing radiation for people and the environment.
  
10. Production of highly active radioactive substances.



## **APPENDIX IIX**

### **Examples of a positive list of activities requiring EIA Used in Finland**

1. Factories producing chemical pulp.
2. Iron and steel plants, sintering works, or plants manufacturing ferrous alloys.
3. Plants manufacturing cement, lime, asbestos products or mineral-based fibers.
4. Plants for the treatment of hazardous wastes.
5. Waste combustion plants or any plants at which at least one ton an hour or 5,000 tons a year of waste are burned.
6. Plants manufacturing artificial fibers or their raw materials.
7. Power plants using oil, coal, wood, peat or any other combustible substance, or boiler plants with a maximum fuel output in excess of five megawatts (MW) or at which the annual amount of energy in the fuel used exceeds 54 terajoules (TJ).
8. Plants refining non-ferrous metal and calcination plants.
9. Plants producing inorganic industrial chemicals such as acids alkalies, chlorine, pigments or titanic dioxide.
10. Fertilizer plants.
11. Crude-oil refineries.
12. Plants producing basic organic chemicals.
13. Ferrous metal foundries whose annual production is at least 500 tons or any other foundry or smeltry whose annual production exceeds 200 tons.
14. Plants producing fodder protein or bone meal.
15. Plants manufacturing artificial rubber or raw materials for the plastics industry.
16. Stationary stone-crushing plants of asphalt station as well as those which are transportable and operate at a specific location for a period of more than a year.
17. Plants manufacturing accumulators.
18. Plants manufacturing chipboard or plywood.

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