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EVALUATION OF ENVIRONMENTAL IMPACT ASSESSMENT IN SELECTED ESCWA COUNTRIES

by

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List of Abbreviation

- ♦ ***DD for EIA*** : A draft decree for EIA in Lebanon.
- ♦ ***DGSEEI*** : Draft of the General System for Evaluating the Environmental Impacts in the Kingdom of Saudi Arabia.
- ♦ ***EEAA*** : Egyptian Environmental Affairs Agency.
- ♦ ***EEPL*** : Egyptian Environmental Protection Law.
- ♦ ***EIA*** : Environmental Impact Assessment.
- ♦ ***EIS*** : Environmental Impact Statement.
- ♦ ***EMUs*** : Environmental Management Units.
- ♦ ***ENGOS*** : Environmental NGOs.
- ♦ ***EPC*** : The Environmental Protection Council.
- ♦ ***EPCC*** : The Environmental Protection Coordinating Committee in the KSA.
- ♦ ***EPF*** : Environmental Protection Fund.
- ♦ ***EPGD*** : Environmental Protection General Directorate in KSA.
- ♦ ***EPly*** : Environmental Protection Law No. 26 of 1995 in Yemen.
- ♦ ***IEE*** : “Initial Environmental Evaluation” technique.
- ♦ ***KSA*** : Kingdom of Saudi Arabia.
- ♦ ***LA*** : Leading Agency
- ♦ ***MCE*** : Ministerial Committee for Environment in the KSA.
- ♦ ***MEPA*** : Meteorological & Environmental Protection Administration in the KSA.
- ♦ ***NGOs*** : Non-Governmental Organizations.
- ♦ ***PP*** : Project Proponent.
- ♦ ***RBO*** : Regional Branch Offices.
- ♦ ***UPP*** : Unit of Planning and Programming in the Ministry of Environment in Lebanon.

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Introduction

At the heart of sound environmental management is the assessment of actual and potential environmental impacts caused by business activities, as well as the effective implementation of appropriate measures to mitigate or avoid the environmental damage. Effective environmental management implies achieving the desired levels of production with minimum waste of resources and least adverse impacts on both the environment and the humans. Principle 17 of Agenda 21 calls for countries to establish EIA as a national instrument for decision making. Consequently, “Environmental Impact Assessment” (EIA) has received greater attention and gained a broad support as a tool for protecting the environment, enhancing its quality and achieving the long-run objective of sustainable development. It has been used for over 25 years in many of the developed countries. Recently, the number of countries with a national requirement for an EIA process has risen to over 100 countries (*Sadler B, 1995*).

With the continuous increase in environmental awareness in most countries of the ESCWA region, environmental management has taken a new urgency since the 1990s. Curbing the continuous deterioration of the environmental conditions and the resource base, in the ESCWA member countries (ESCWA-MC), stimulated the need for evaluating the environmental impacts of newly proposed investments in various production activities, as well as the extension and expansions of the existing projects. EIA is not an end in itself, but rather, a tool to identify and assess both of the negative and positive effects of the proposed projects, and hence, it promotes environmentally sound decision making. The most cost-effective environmental protection is obtained when the environment is considered before installing the physical capital and the production facilities, i.e., prior to the commencement of the project. The EIA study results reveal -as early as possible- the potential environmental implications of the proposed activity, so the project developer could modify his (her) plans and schemes to avoid adverse effects, while maximizing the anticipated benefits of the project.

A long-standing business complaint, in the ESCWA-MC is that EIAs represent additional sources of financial burdens on the projects. Experience in the developed economies, however, shows that EIAs rarely exceed one percent of the total costs of the project, whereas the expenses of the mitigation measures accounts for 3% –on average- of that cost. The benefits of anticipating and avoiding the environmental problems early in the planning

life of the project, could strengthen its economic productivity¹, avoid far more expensive clean-up and mitigation costs, and improve the relationship between the project proponent (PP) and the concerned governmental authorities as well as the local communities.

The essence of this report is to:

1. Evaluate the legislative, institutional and technical aspects of the EIA policies in a number of ESCWA-MC; namely, Egypt, Kingdom of Saudi Arabia (KSA), Lebanon, and Yemen.
2. Identify the major obstacles that restrict the formulation and implementation of the EIA policies.
3. Indicate the capacity enhancement measures for a proper formulation and implementation of the EIA policies in the concerned ESCWA-MC.

Methodology of the study:

1. Start with a brief sketch of the various stages involved in the process of assessing the environmental impacts of a potential project.
2. Evaluate the institutional and legislative aspects of the EIA policies in the selected ESCWA-MC.
3. Investigate the environmental screening techniques of proposed projects in the concerned countries, identify the criteria for deciding the need for a full-fledge EIA, and suggest measures and tools that can improve the screening mechanism.
4. Evaluate the project “scoping” in the selected ESCWA-MC and ways to enhance its effectiveness.
5. Investigate the review criteria and obstacle of the draft report of the EIA study and ways to improve its quality in the selected ESCWA-MC.
6. Evaluate of the post-decision monitoring and environmental management in the selected ESCWA-MC.
7. Assess the potential benefits and constraints of public participation in the selected ESCWA-MC, and ways to augment its effectiveness.
8. Provide multiple concluding remarks as well as recommendations.

¹ If the production process was modified to minimize waste and the cost of pollution abatement.

Chapter I

Environmental Impact Assessment: A Brief Review Of The Process

I-A. Definition of the EIA:

A *narrow definition*² indicates EIA as a systematic process of identifying, predicting, analyzing, evaluating, and mitigating the environmental and environmental-related effects of the proposed activity/project, prior to giving the permission to start that project.

Under the general objective of sustainable development, several studies, such as (*World Bank, 1991*), (*UNEP, 1993*), and (*Glasson et al., 1996*), indicate that in addition to the physical and biological environment, the socio-economic assessment should also be an integral part of the EIA process. However, many countries prefer to treat the socio-economic impacts separately. Accordingly, the EIA would encompass only those socio-economic impacts that relate to the environmental resources and the affected communities.

I-B. A summary of the EIA process:

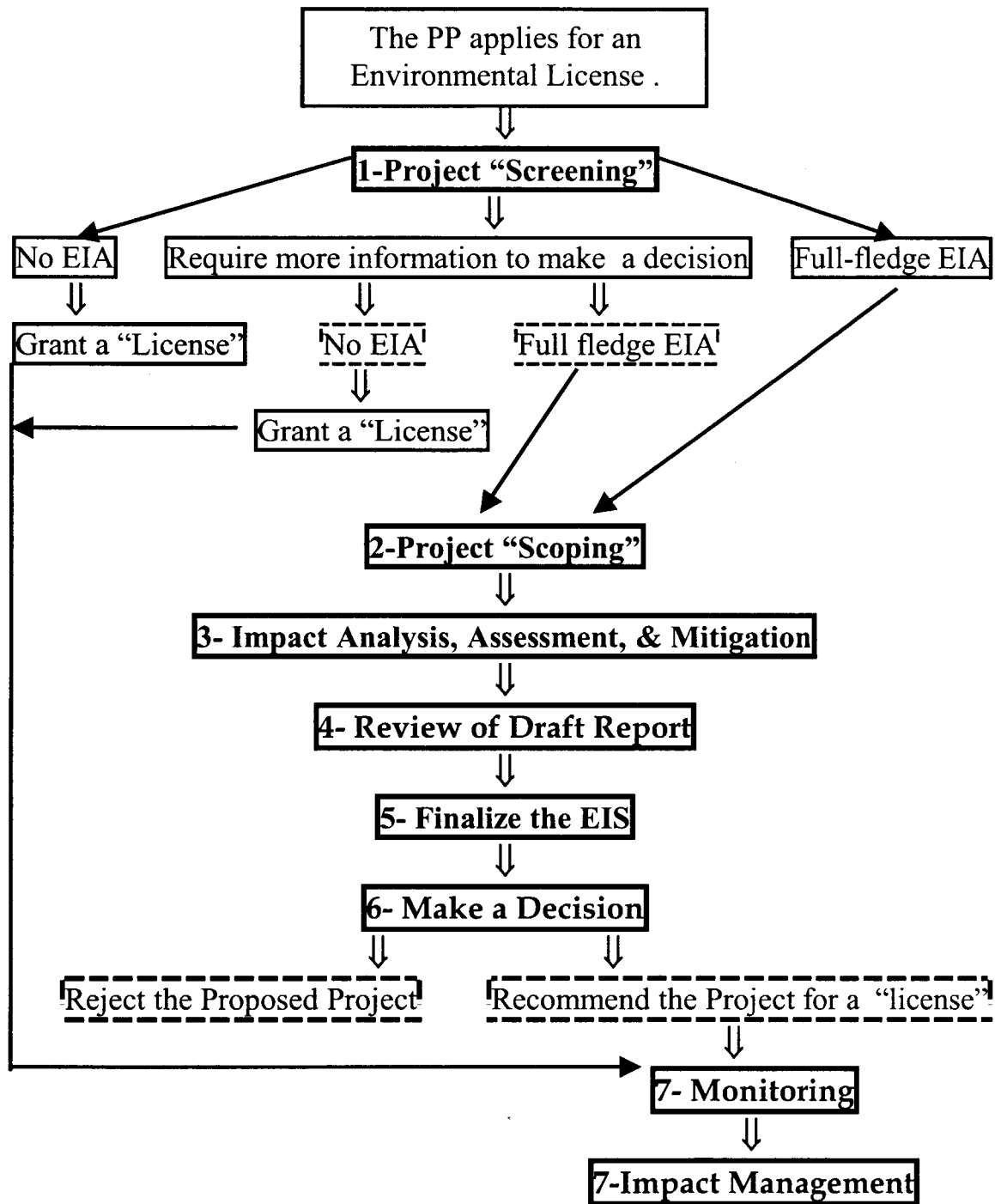
As indicated in many references, (*the World Bank, 1991*), (*UNEP, 1994*), (*Morgan, 1998*), and others, a “lead agency” should first be established to coordinate the whole EIA course. That “lead agency” (LA) should be a part of the environmental official authorities in the country.

The EIA process could be divided into several main stages. In all stages, some sort of public participation and consultation is essential. The concerns of the local non-governmental organizations (NGOs) as well as the communities affected by the proposed project should be integrated in the EIA and contribute to the final decision regarding the proposed project.

The chart in (figure:1) concisely exhibits the main stages of the process of the EIA. It is important to note that the steps shown are integrative rather than linear. This means that each activity (step) sets up and merges into the next. Moreover, technical analysis, public consultation, and process management (coordination of roles and responsibilities) are also integrated at each stage.

² A *broad definition* of the EIA stresses the need to identify and predict the impact of legislative proposals, policies, programmes, projects, and operational procedures on the environment, man's health and well-being, and meanwhile, to communicate the information about those impacts.

(Figure: 1)
Summary Steps of the EIA Process



The EIA process, precisely, comprises the following stages:

Stage I: The project screening stage. The EIA always starts with screening. It incorporates steps and functions that involve acquiring information about the proposed project/activity, examining the provided information, and probably ask for additional information, to reach a decision on whether the project should undergo a full-fledge EIA or not.

The project proponent (PP) provides a description of the proposed project and a clarification of its baseline direct and indirect environmental characteristics. The concerned environmental authority, i.e., the “leading agency” (LA), in collaboration with other involved ministries and agencies would, generally, evaluate the project’s anticipated environmental effects in terms of its magnitude, prevalence, duration, human risks and significance of those detected impacts. Such preliminary evaluation will result in making one of three decisions; namely:

1. No significant impact was detected, i.e., no need for an EIA study. In this case a recommendation would follow to grant the (PP) an environmental license, and a post-project monitoring and follow up plan should be designed.
2. The magnitude and/or the significance of the impacts are not clear, and additional information is needed for a more concise environmental assessment. Removing ambiguity may require more than one round of contacts between the (LA) and the (PP). The concerned public could also be involved to provide further information on the potential impacts of the proposed project. Then a decision is made to either grant the (PP) an environmental license, or require conducting a full-fledge EIA study.
3. According to a pre-set classification of projects and/or to the magnitude and significance of its environmental impacts, it would be decided that the proposed project should undergo a full-fledge EIA. In this case, the project proposal would move on to stage II for project scoping.

Stage II: “Scoping” for the projects that require full-fledge EIA. The general theme of “scoping” is to identify the major environmental impacts, set priorities, narrow down the range of issues to be analyzed and evaluated in the study, and prepare the terms of references for the EIA study.

Initially, the (LA), in co-operation with other agencies, would prepare a package of the available information on anticipated environmental impacts and project alternatives. This information should be available to all involved parties for examination and review. The (LA) would also contact the

concerned communities and NGOs to contemplate their views on the proposed project, study all their comments, and select the most significant issues to be analyzed in the study. The (LA) would develop the terms of reference for the EIA study and submit it to the (PP), or his consultant, who would take the responsibility of conducting the detailed impact analysis and assessment. The depth of the analysis required, the involved expertise, and the time schedule for conducting the analysis may also be specified in this stage. The (LA) may also require from the (PP) consultant to apply the “best practicable” scientific approach and mitigation technologies in the analysis.

Stage III: The impact analysis and assessment of significance. In this stage, it is the job of the (PP), or his consultant, to utilize a multi-purpose scientific approach to gather and analyze information and views to:

- ◆ Conduct impact analysis to identify, predict and evaluate the potential risks, magnitudes, effects, significance and consequences of the adverse environmental externalities associated with the project. Such analysis is done for the proposed project and a number of possible alternatives (different locations, designs, product specification, production techniques, etc.). The comparative analysis would help to establish the most environmentally friendly or the most practical environmental option.
- ◆ Investigate the various mitigation measures to prevent, minimize, remedy, or otherwise, compensate for the environmental loss and damage.
- ◆ Prepare a draft report to document the results of the analysis.

A deep review of the environmental standards and regulatory requirements is essential for conducting the analysis. The impact analyst should determine the significance of the predicted environmental changes by reference to the regulatory standards, objective criteria, and similar thresholds (*Sadler B., 1996*). Issues that should be subject to monitoring later on should be highlighted in this stage as well.

Stage IV: Review of the draft report to ensure that the study:

- ◆ abides by the terms of references,
- ◆ provides a satisfactory assessment of the environmental effects of the proposed activity,
- ◆ meets the standards of acceptable practice,
- ◆ examines the reasonable alternatives,
- ◆ deals, adequately, with mitigation requirements,
- ◆ represents, fairly, the public concerns and inputs, and

- ◆ supplies all the information needed for decision making.

The (LA), in collaboration with a team of experts, would review and evaluate the draft report of the analysis to confirm its consistency with the above mentioned requirements. In this stage, the public should be informed with the contents of the draft report. The recorded views and comments of the public, together with the assessment remarks of the experts, the advice and the recommendations of the (LA), would help the (PP) to refine the EIA study and prepare the final “environmental impact statement” (EIS), (or another draft report for review).

Stage V: Reviewing the final version of the EIS and making a decision regarding its feasibility. The EIS is the focal document that provides the essential information for decision making. The final EIS should supply information to a wide range of audience. It should clearly state the main assumptions on which the impact predictions are based. It is recommended that the EIS depicts no less than the following elements (*UNEP Trade & Environment, 1994*):

- ◆ A non-technical summary.
- ◆ Description of the project’s surrounding and the baseline conditions of the environment, i.e., existing pollution, vulnerable areas, etc.
- ◆ Identification of expected positive and negative environmental impacts with quantification of its magnitude.
- ◆ Presentation of the legal framework as well as of relevant standards and regulations essential for licensing.
- ◆ Analysis of feasible options for sustaining and/or enhancing the environment.
- ◆ Consideration of basic alternatives, its impacts and adequate mitigation measures.
- ◆ Identification of the standards employed in the assessment.

Once the final EIS is accepted and a decision of “no environmental objection” is reached, the (LA) should pass its recommendations to the responsible authority (or the gateway), to make arrangements for granting an environmental license.

Stage VI: The post decision-making stage, or the follow-up stage, encompasses: monitoring, impact management and environmental auditing. Ideally, an EIS may also provide proposals for a monitoring and auditing

programme with identified objectives, clear responsibilities, practical methodology, adequate duration, sufficient funding, and regular reporting.

- ◆ **Monitoring** is to check actions to ensure compliance and conformity with the EIA requirements, application of the mitigation measures, testing whether the impacts are within the predicted range (accuracy of the assessment). The public's opinion would be an important input into environmental monitoring and can contribute to effective project management. An ideal monitoring activity must develop as a partnership between the parties involved, and should be adapted to the dynamic nature of the environment. Unfortunately, some countries do not consider monitoring as a mandatory step in its EIA procedures.
- ◆ **Impact management**, i.e., to correct and/or deal with the unanticipated impacts and unexpected events.
- ◆ **Environmental auditing** relies on the monitoring results. Its main functions may concentrate on two issues:
 - First: comparing actual outcomes with predicted outcomes to assess the quality of predictions and the effectiveness of mitigation measures. This is known as "*environmental impact auditing*".
 - Second: "*environmental management auditing*", which focuses on examining the environmental structure of both public and private enterprises, as well as investigating their programmes for environmental and risk management. The objective is to learn from experience, enhance the EIA effectiveness and improve project planning.

In the remainder of this report, we intend to evaluate the legislative, institutional and technical aspects of EIA practices in four selected countries of the ESCWA region; namely, Egypt, Lebanon, the Kingdom of Saudi Arabia (KSA), and the Republic of Yemen. The problems hindering the effective implementation of EIA policies in the selected countries would be indicated and analyzed. Recommendations for enhancing the potential gains and benefits from conducting EIA studies in the ESCWA region would furnish our final contribution to this report.

Chapter II

Evaluating The Legislative, Institutional & Financial Aspects Of The EIA Policies In The Selected ESCWA Countries

Requiring the implementation of EIA studies comes as a part of a more general system of environmental management in a country. The development of that system takes time and efforts to construct and apply. As any environmental management policy, construction of an EIA policy should be based on a solid legislative base and a well-defined institutional foundation. The provision and requirement for EIA is usually prescribed by law (or policy), and amplified in regulations, directives, guidelines, procedures, administrative orders and other institutional arrangements. Therefore, prior to the actual preparation of the EIA policy, the following issues should be settled and resolved:

- 1- Create the necessary legislation, by-laws, administrative regulations that prescribe the responsibilities and obligations of all involved parties, and hence, furnish the legal base and the authorities for all actions taken towards designing and implementing the EIA procedures.
- 2- Ensure the uniformity and consistency of the EIA application to all projects and activities with potential environmental impacts.
- 3- Develop the institutions (and assign authorities) that would be in charge of making decisions to form, implement, monitor, and enforce the EIA.
- 4- Build up the essential human and technical capacity of these institutions (appoint experienced managers, specialists in various fields, and general service employees; provide training to upgrade skills of the manpower; create appropriate data base and information systems, equip the monitoring team with advanced laboratories and measuring tools, etc.).
- 5- Secure the common understanding of the process requirements and objectives.
- 6- Arrange for an uninterrupted supply of financial resources that would be required to implement the developed policy, build the institutional capacity, and accomplish the required tasks.
- 7- Persuade for political commitment towards achieving the goal of environmental protection.

Many of the ESCWA-MC have either passed, or in the process of passing, new EIA laws and regulations. Existing laws and regulations are –to some extent- providing adequate authority to begin implementation of the EIA in

several countries of the ESCWA region. As for the institutional structure, capacities, financial issues, and political support, the field is still wide-open for intensive development and strengthening exertions.

II-A. The Legislative Requirements:

The environmental legislative systems in many of the ESCWA-MC, including Egypt, the KSA, and Yemen- highlight the need for the EIA as a necessary step in the chain of actions towards acquiring a license for operation of a new project or extending an existing project or activity. In Lebanon, a draft for a decree for EIA (DD for EIA) is ready and waiting for the official approval. However, articles (15) and (24) of the Decree No. 5591/1994 that organizes the Lebanese Ministry of the Environment and its functions indicates, in some of its parts, the necessity of examining the licensing requests of certain projects to make sure of their environmental safety.

All the environmental protection legislation, in the countries of concern, clearly indicates that the (PP) is responsible for conducting the EIA of the proposed activity. In those countries, the environmental laws and regulations outline –with different levels of details- the general process of the EIA. To elaborate:

- ◆ Articles (19) through (22) in the “Egyptian Environmental Protection Law” (EEPL) 4/1994 cover the issues concerning the EIA.
- ◆ Articles (17) and (18) of the “Draft of the General System for Evaluating the Environmental Impacts in the KSA” (DGSEEI in KSA) elaborate in details all the practical steps of the EIA process. It starts with the preparation of environmental surveys and basic data about the project and its surrounding environment, and proceeds to the screening and preliminary evaluation procedures, then move towards scoping and analysis of the alternatives as well as the technical and operational mitigation measures of the environmental effects. Co-ordination procedures with other relevant authorities and agencies are also indicated in article (18) of the (DGSEEI in KSA).
- ◆ Articles (4) and (24) in the “Environmental Protection Law No. 26 of 1995 in Yemen” (EPLY), highlight the requirement of conducting an EIA for national (private and public) as well as foreign projects and activities that take place in the Republic of Yemen (*EPC, 1995*). The procedures for EIA in Yemen was further defined in a “by-law” to:
 1. Determine the lists of projects that need EIA.

2. Determine the procedure for licensing new projects and for extending current projects (private and governmental).
3. Set the environmental standards and measures, in cooperation with the competent authority, for every activity.
4. Establish the principle of environmental assessments.

However, yet there exist no comprehensive regulatory framework for environmental management to support the environmental protection law in Yemen.

- ◆ Articles (4) through (16) together with the appendices of the “Draft for a Decree for EIA in Lebanon” give a detailed process for the EIA.
- ◆ Article (5) in the EEPL 4/1994 and article (23) of (DGSEEI in KSA) indicate the responsibility and significance of preparing and overseeing environmental *training programmes* and enhancing the *public concern* of environmental issues.
- ◆ Unlike the environmental protection law and regulations of both the KSA and Yemen, the published environmental protection legislation in Egypt does not provide enough details regarding the various steps and issues of *organizing the EIA process*.
- ◆ Both of the EEPL 4/1994 –article 14- and the EPLY 26/1995 –article 92- require the establishment of *an “environmental protection financing fund”* (EPFF), and specify the sources of the fund. However:
 - Aside from the government’s contribution to that fund, all other main sources of finance (foreign and international donations and grants, national donations from corporations or the individuals, financial penalties collected from environmental violators, etc.) are not easy to predict in advance to plan and ensure a stable base for financial obligations. This may affect the capacity and efficiency of the environmental institutions in performing its various function.
 - Non of the mentioned laws specify the share of EIA in such funds nor the procedures of mobilizing those funds.
- ◆ In Lebanon, article (16) of the (DD for EIA) explains in details how the (PP) would finance the whole process of EIA. In this respect, they indicate the responsibility of the (PP) to create a “*financial bond*” or a “*guarantee*” with 0.05% of the value of the proposed project. Non of the other countries of concern have such articles in their EIA legislation.
- ◆ The “*polluter pays principle*” was clearly indicated and approved only in the EPLY 26/1995, in article (79). The rest of the concerned countries neglected such principle, not only as an important tool in protecting and managing the environment, but also as a reasonable source of finance to be added to the (EPFF).

- ◆ The environmental legislation in the KSA not only overlooked the sources of finance and the need for an EPFF, but also neglected the role of *public participation* in the EIA process. This role was identified – though not fully- in the environmental legislation of Egypt, Yemen and Lebanon. In no case, the role of public participation in environmental decision making was clearly acknowledged.
- ◆ Despite its significance as a tool for enforcement and encouraging compliance, “*penalties*” of not abiding by the rules and requirement of the EIA were overlooked in the environmental legislation of both the KSA and Yemen, and were not stressed in the case of Egypt. Other acknowledged tools of environmental enforcement are almost nil in those countries. Only in Lebanon, the DD for EIA -article (15)- indicates methods of punishment in case of violation.
- ◆ Unlike Egypt, environmental legislation in all of the KSA, Lebanon and Yemen specify the length of the *time period* for every step in the EIA process. But this does not necessarily imply the applicability and cohesion to such time frames in practice. It is always useful and recommended to work within a specified time schedule. However, this time frame itself might be a source of inflexibility if it was not pre-set according to reasonable and realistic standards that take the existing capacities and institutional limitations in consideration.
- ◆ In the four countries of concern, no legal reference was directed to the *technical capacity* building issues.
- ◆ In all cases, many segments and formulations in the environmental legislation and regulations are *not well interpreted*, which creates confusions among the various users in the different agencies. For instances, in Yemen, terms such as “concerned bodies” and “responsible authorities” are not clearly defined, which opens a gate for several interpretations.
- ◆ The *post-decision monitoring* and impact management requirements are ignored in the legislative systems of all countries of concerns

Though environmental leading agencies, in cooperation with other agencies, are made responsible –by law- for setting environmental regulations and standards, this responsibility is still fragmented among several highly centralized agencies, which creates a lot of overlap, competition, inefficiency, and contradiction in comprehension, application and enforcement. An ample room still exists for strengthening the environmental legislation and the regulatory system. The environmental standards, which are mostly adopted from the developed countries as well as some of the international

organizations, are not considered comprehensive yet, i.e., many aspects of environmental assessment and management concerns are not covered by the existing standards. For instance, the existing standards do not address very important aspects such as the environmental “assimilative capacity” of the different sources and locations, the “cumulative/long-term impact” of certain major pollutants³, the technology standards⁴, etc.

II-B. Institutional Aspects of the EIA:

Broadly speaking, the term “*institution*” may indicate an authority, organization or any structure for leadership, that is equipped with a package of procedures, regulations or customs used to manage and handle specified issues in order to achieve certain objectives. A system of incentives, rewards, constraints, and penalties is also set to help in directing and controlling the behavior of the people involved in/with such structure.

The preparation of the EIS is only one step in a long full procedure. It should fit within a whole framework which defines the decision process throughout the various phases of the project. The institutional arrangements that are in force for the EIA implementation are a basic determinant of its effectiveness and success. The EIA process requires assigning responsibilities of handling its various functions (information collection and dissemination, plans preparation, designs’ approval, permits issuing, resources allocation, budgets development, monitoring progress, regulating activities, etc.), and granting authorities to deal with the multiple governmental and non-governmental agencies and organizations engaged in that process. Therefore, effective EIA policies require well-articulated interagency coordination that is tailored to fit the socio-cultural and political textile of each country and site. Meanwhile, a successful implementation of the EIA’s recommendations will depend on the monitoring and auditing capabilities of the institutions involved in environmental management.

II-B-1. Evaluating Institutional Aspects of EIA in Egypt:

In Egypt, the institutional structure needed for effective environmental management and enforcement was not quite developed till the foremost of the 1990s, when the government started to express its concerns regarding the

³ These are among what is known as “environmental performance standards”.

⁴ “Technology standards” include the “best available technology” (BAT) standards, the “best practical technology” (BPT) standards, the “best available technology not entailing excessive cost” (BATNEEC) standards, and others.

sustainable development goal and the tools required for approaching such objective.

In 1994, the *Egyptian Environmental Affairs Agency (EEAA)* was re-institutionalized as a central coordinating agency by the legislative context of the (EEPL) 4/1994 and its executive regulations. According to article (6) of chapter two of that law, the board of directors of the EEAA must be headed by the Minister of Environmental Affairs, whereas four out of its twenty members should be academic and non-academic experts in environmental affairs. Non-governmental organizations (NGOs) -with obvious interest in environmental issues- are represented by three members in that board. The rest of the members represent the business sector (3 members), six of the concerned ministries, a legislation interpreter, a high ranking employee in EEAA, in addition to the executive head of the EEAA.

The EEAA's current environmental duties –as listed in article (5) in chapter (2) of the EPL 4/1994- are varied. They include, among many other tasks, the following EIA-related functions:

1. Set the bases and procedures for EIA for projects and industries.
2. Set the standards and conditions that the (PP) should follow before construction and during operation.
3. Follow up and monitor the implementation of those standards and conditions, and take necessary actions against violators.
4. Prepare a list of national institutions, companies and experts who can participate in conducting environmental protection studies and provide consultancy to proposed and operating projects.

That is in addition to a number of other functions that are general in nature, but can be of good use for the EIA procedures and objectives; namely:

1. Create an environmental database -in cooperation with other national agencies- and assist in its dissemination and use for environmental planning and administration.
2. Design plans for environmental training.
3. Arrange programmes for enhancing environmental public awareness.
4. Prepare and publishing periodical reports on basic environmental indicators.

The EEAA organizes and implements its local and regional activities through its environmental management units (EMUs) in the 26 governorates of Egypt. In addition to the efforts spent to enhance the capabilities of the EMUs through continuous training programmes, EEAA has been implementing a policy to develop regional branch offices (RBO) –each with a jurisdiction of 3

to 5 governorates- to coordinate its policy at the governorate level. Accordingly, five (RBO) for EEAA were established in Greater Cairo, Alexandria, Gharbia, Dakhlia and Suez (EEAA, 2000). However, to date, the autonomous nature of the governorates' structure in Egypt obliges the EMUs to report directly to the Governor and not to the State.

The work and responsibilities of the EEAA require cooperation with several ministries, authorities and agencies (about 22 ministries and agencies). As a coordinator working through the line ministries, the EEAA prepares a series of cooperation protocols with other Ministries to establish division of tasks, the framework for information flow, personnel exchange (civil servants seconded to EEAA on permanent and/or short-term basis) and coordination in relevant areas.

No doubt that the efforts spent are fruitful and sincere, taking in consideration the relatively short period elapsed since injecting the environmental reform efforts. However, a number of *critical deficiencies* still persist to curtail the performance of the environmental institutions and to hinder its capacity. For instance:

- ◆ The EEAA is building up its institutional capacity through technical cooperation training programmes with several donor agencies, recruiting new staff and secondments from other ministries. However, EEAA has a limited role in determining the qualification and skills of the seconded personnel. This partially explains its shortage in technical and managerial capabilities that are needed to accomplish and oversee its duties. Moreover, aside from the head-quarter office and the regional branch office in the Greater Cairo, the institutional capacity of EEAA at the RBO level –currently- is very poor, where almost no human capacity exists in those offices beyond the laboratory staff.
- ◆ In a recent documented study (ECDGGER, 1999), it was stated that “*EEAA in Egypt is still a relatively weak organization*”. Feeble EIA enforcement, review, and follow up are evidences on the serious deficiencies that EEAA is suffering in overseeing its major responsibilities.

II-B-2. Institutional Aspects of EIA in the KSA:

In the KSA, the *Meteorological and Environmental Protection Administration (MEPA)* was created in 1981 as the central environmental protection agency in the Kingdom. Later on in the 1980s, the Environmental Protection Coordinating Committee (EPCC) was created as a vital link between the central government and the field agencies like (MEPA). In 1990,

EPCC's role has changed to serve as a preparatory committee for the Ministerial Committee for Environment (MCE) which became responsible for the formulation of coherent national environmental policy in the Kingdom. Members of the MCE include representatives of all relevant ministries (Agriculture and Water, Interior, Municipal and Rural Affairs, Planning, Higher Education, Petroleum & Mineral Resources, Transport, Commerce, King Abdulaziz City for Science and Technology, Port Authority, and National Commission for Wildlife Conservation and Development) (*Dar Al-Taqniya*).

By law, MEPA is in charge of initiating and following up the various steps of EIA. Articles (21) and (22) of (DGSEEI in KSA) determine that MEPA, in coordination with other specialized agencies, is responsible and entitled for taking all necessary procedures to monitor and inspect the project's operations during the construction and operation phases, to make sure that it abides by the environmental standards and measures. Since 1985, the Ministry of Industry and Electricity, which plays the role of the primary licensing authority for new industrial projects in the Kingdom, coordinates actively with MEPA for the EIA process (*Dar Al-Taqniya*).

The ***National Procedure for EIA in the Kingdom*** was submitted around the year 1985 to:

- ◆ designate the development projects for which EIA are mandatory,
- ◆ provide guidance on development projects that may require EIA,
- ◆ list issues to be addressed in the EIA, and
- ◆ set the responsibilities of both MEPA and the (PP) with respect to handling EIA.

All MEPA decisions related to EIA must be consistent with the national procedures, but there is no guide of how to test and confirm such required consistency, and who is responsible for evaluating MEPA's adhesion to those national procedures.

MEPA charter established the Environmental Protection General Directorate (EPGD) to issue and implement standards as well as to evaluate environmental conditions. EPGD has an EIA department to pursue the following:

- ◆ Follow up the EIA procedures.
- ◆ Submit reports on environmental impacts of major projects.
- ◆ Follow up on applications of environmental standards.

- ◆ Assist in providing advice to industrial and agricultural activities to comply with environmental standards.

MEPA has other duties connected to the EIA:

1. Establishing and maintaining an EIA data-base for all project applications and reviews.
2. Developing draft regulations, procedures, standards and programme structures for EIA.
3. Determining the “scope” of the EIA, issues to be studied, and methodologies used in impact assessment.
4. Recommending the mitigation actions that should be taken to minimize adverse environmental effects during the construction and operation of the project.
5. Coordinating with other resource protection and planning agencies in the Kingdom to ensure that their views and concerns are fully addressed in the EIA process.

Theoretically speaking, this institutional structure looks neat. Nonetheless, a number of *observations* could be pointed out:

1. The environmental institutional structure is highly centralized, which may cause many delays and dissatisfaction on practical grounds.
2. The issues of human capacity, its sufficiency and adequacy for implementing all nicely articulated details of the EIA process are questionable.
3. Adequacy of financial funds channeled to organizing, designing, coordinating, monitoring, and following up the various steps of the EIA is another subject tailed with a question mark.

II-B-3. Institutional Aspects of EIA in Yemen:

In Yemen, the Environmental Protection Council (EPC) was constituted in 1990 by a Decree of the Prime Minister 94/1990, as an inter-institutional council with broad responsibilities to manage the nation’s environment. The Environmental Protection Law of 1995 has designated the EPC –in cooperation with other authorities- as the primary responsible for the EIA.

As of 1995, the EPC board of directors is composed of a Chairman appointed on a permanent basis, and members appointed on an ad-hoc basis. Those members represent the Ministries of Planning & Development, Housing & Urban Planning, Oil & Mineral Resources, Agriculture & Water Resources, Fisheries & Water, Transport, Industry, and Health, in addition to the Chairman of the National Water & Sanitation Authority. All ministries,

corporations and authorities are obliged to follow the directives of EPC, whereas, EPC reports directly to the Prime Minister (*UNDP, 1997*).

As the coordinator of the EIA activities, the EPC plays a role at many stages of the EIA process. However, its main role is in steering and manipulating the “screening” and “scoping” functions, in addition to evaluation and passing judgments on the EIS. Another part of the major duties of EPC –as stated in articles (30) and (33) of the EPLY 26/1995- is the definition of environmental standards -in cooperation with other authorities concerned with environmental quality- used in conducting the EIA process (*Euroconsult et. al., 1996*).

The EPC management is very centralized with lack of beneficiary participation and weak representation from local communities. The EPC manages its tasks through its “technical secretariat” which consists of three “general directorates” for environmental protection, planning & data, and financial & administrative affairs. As of 1997, 54 employees represented the human capacity of the technical secretariat in Sanaa. Less than 50% of that human capacity are university degree holders with shallow experience in environmental issues. A branch office is set in Aden (with 14 employees, six of them are university graduates) and liaison offices in Mukalla (with one officer) and in Socotra island (*UNDP, 1997*). Such structure reveals a chronic ***shortage of professional and management staff*** and sure absence of skills in some environmental fields.

The organizational structure of information and coordination among the various ministries and authorities involved in environmental issues is very inadequate and lacks clear jobs’ specification, lines of responsibility and authority. Moreover, the coordination of national and international agencies involved in activities with environmental implications is weak. Training objectives and awareness are not well developed. Not all appointed and invited participants actually attend the training programmes, due to either the lack of interest or the lack of finance.

II-B-4. Institutional Aspects of EIA in Lebanon:

The “Unit of Planning and Programming” (UPP) in the Ministry of Environment in Lebanon is currently in charge of undertaking the coordination responsibility for the EIA of the private projects. The unit is staffed with two qualified personnel who act only as organizers to facilitate and coordinate between the (PP) and other ministries, concerned authorities, government expertise, NGOs, consulting firms and private experts throughout the process of project screening and scoping. They also work on establishing

the EIA unit in the Ministry of Environment, which might be ready within a year. Those two employees are sponsored by the “Mediterranean Environmental Technical Assistance Programme” (METAP), financed by the World Bank.

II-C. Common legislative, institutional and financial capacity problems :

A number of common institutional capacity features apply in the ESCWA-MC:

1. In several ESCWA-MC, the objective of the EIA policy and its implementation is not too clear to many of the (PPs), especially the small and medium-sized entrepreneurs. This, accordingly, lowers their willingness of compliance and raises pressures to resist the EIA enforcement efforts.
2. The lack of applying scientific criteria in recruiting and employment, duties specification, together with unclear lines of responsibilities and chains of authorities, pose difficult constraints in developing institutional capacities in the countries of concern.
3. The environmental (LA) in the countries of concern are legally in charge of designing and preparing adequate training programmes to raise awareness and enhance the human capacity. In most of these countries, however, funds available for training may not be adequate. In case of Egypt, Lebanon and Yemen, most of the funds for training are mainly provided through foreign donors and international organizations. Meanwhile, in all countries of concern, not all levels of personnel are lucky enough to benefit from the offered training programmes, which does not remove major sources of inefficiency in the environmental institutions. The training programmes, in most countries of the region, often have little effect due to the followings factors:
 - (a) Improper selection of trainees.
 - (b) Training programmes are not always prepared to meet the actual needs of the concerned institutions.
 - (c) Trainees are placed in jobs not appropriate for their training.
4. In all concerned countries, no attention was directed to technical capacity building of the environmental institutions. Insufficient laboratories and equipment needed for environmental monitoring and complementing the EIA tasks, is a dominant feature specially in Yemen, Egypt and Lebanon.
5. Like many other aspects of the environmental protection management, enforcement of the EIA is generally weak in most of the ESCWA-MC. In some countries, there exists almost no enforcement of environmental decisions, decrees and legislation (*UN-ESCWA, 1999*). In Yemen, the institutional capacity to enforce environmental regulations and ensure

compliance with national and international laws lags behind what is anticipated by legislators. Unlicensed projects and illegal operation of some activities are not uncommon fact in many of the ESCWA-MC. Several factors weaken the enforcement capabilities and contribute to that conclusion, such as:

- (a) Contradictions and non-homogeneity of the legal system.
 - (b) A lack of motivation for enforcement.
 - (c) Social pressures.
 - (d) Weak political support and willingness to enforce environmental legislation.
 - (e) Inadequate technical and human capacity to interpret and implement the legislation and to monitor the violations.
 - (f) Lack or insufficient public and stakeholders involvement in the enforcement of environmental legislation.
6. Existence, accuracy and validity of the environmental database and the information systems are issues of considerable amount of concern in the countries of the ESCWA region. Shortage of accurate data that establish the environmental baseline not only undervalues the significance of the EIA studies, but also confines the ability of conducting those studies where the lack of valid data complicates the job for the project consultant. Even when data is available, it is often scattered among various sources and, in many cases, is unpublished. Lack of an adequate information system to mobilize such data and present it in ready to use forms as soon as it is requested, not only render the decision making process a hard task, but also increase the financial cost of the impact analysis and assessment. In both of Yemen and Egypt, for instance, many of the results and findings of the applied research conducted by academic institutions and specialized departments in the ministries, have not been widely disseminated.
7. To a significant extent, the EIA activities are built on coordination and collaboration with other governmental and non-governmental agencies. The quality of performing project screening, scoping and reviewing the EIS will be affected by the efficiency of the communication channels between those agencies. In many of the countries of concern, the red-tape still characterizes the governmental bureaucracy. Fragmentation of responsibilities and authorities among many agencies, together with the lack of coordination still hamper the efficiency of environmental management in those countries (though to various degrees). In Yemen, for instance, the lack of coordination is not limited to national authorities, e.g., coordination of the efforts of various foreign and international donors also is an issue of mismanagement. Although donors occasionally meet to organize and coordinate their activities, there has been little coordination –

on environmental issues- among “the donors” on one hand, and the Yemeni authorities on the other hand.

8. Financial issues are not handled adequately, neither in the legislation nor in the institutional framework. The EIA process contains very costly functions that require sustainable sources of finance. A number of alternatives could be thought of to enhance the environmental protection funds which were established in some ESCWA-MC:
 - (a) Levying processing fees for various functions in the EIA. For instance, screening fees at the application level, fees for the provision of terms of reference at the scoping level, fees for organizing the public participation, fees for evaluating the EIS, etc.
 - (b) A certificate of compliance bond, in the form of a bank guarantee, may be determined as a percentage -5% for instance- of the total construction cost, to ensure the completion of the project according to the requirement of the EIA (*UN-ESCWA, 1997*).
 - (c) Environmental monitoring deposit-refund system, where a pre-specified small percentage of the project’s working capital is deposited in the bank at the licensing time. A part of that deposit is to be released/refunded if the monitoring results confirm the project’s compliance with the required standards and pre-set conditions. On the other hand, the percentage of the required deposit could be elevated in case of inadequate environmental performance.
 - (d) A minimal registration fee to be collected on a biannual basis from accredited consulting firms to develop, up-date and maintain the register or data-base that includes their names and addresses.
9. At present, market-based economic instruments (pollution charges, pollution taxes, tradable pollution permits, deposit-refund systems, etc.) are almost absent in the field of enforcing implementation of EIA and compliance to its conditions. The problem is that the introduction of such instruments requires primary legislation, which often find opposition from polluters in the various production sectors. Moreover, a prerequisite for the efficient application of those instruments -if introduced- is the presence of a non-distorted market mechanism that allows for accurate transfers of price responses and market signals.

Box: 1
Environmental Funds: A Brief

Environmental Funds (EFs) are increasingly popular environmental financing mechanism in developing and transition economies. It substitutes for the governments failure to tackle environmental problems by implementing economic incentives, environmental regulations and enforcement mechanisms, as well as failure of the financial and capital markets to provide access to financing at reasonable terms.

Three main categories of EFs can be distinguished:

Earmarked Tax Funds (ETFs): it is created by governments to compensate for environmental damage and create incentives to change polluter behavior. Environmental taxes, charges, and other environmentally-related levies are the main sources of financing those funds. They lack transparency, as well as the public participation and influence in decision-making. In practice, these funds are extensively used in the transition economies.

Directed Credit Funds (DCFs): established as financial intermediaries (commercial institutions) by donor organizations and/or by the governments, to finance small pollution abatement projects. It provides soft-term loans with grant elements, technical assistance or low interest rates.

Green Funds (GF): is typically financed by external donors contributions to finance expenditures on nature and biodiversity protection. In some cases, domestic sources of finance, such as royalties and eco-tourism revenues- are added to the fund. It requires transparency of spending and participation of main stakeholders in decision-making.

Source: (The World Bank, 1997).

Chapter III

Environmental Screening Of Proposed Projects In The Selected ESCWA Countries

Screening is a process to determine whether the proposed project requires a substantial EAI or not. Specifically, the **objective of the screening** mechanism is threefold:

- 1- Singling-out the proposed projects with potentially significant adverse environmental impacts or where the impacts are not fully known, in order to ensure that these projects would not be licensed without adequate consideration and mitigation of its negative implications on the environment.
- 2- Cutting down the time and costs, by narrowing down the implementation of a full-fledge EIA only to those projects that may have significant environmental impacts.
- 3- Screening enables the authorities to reject the proposed project at an early stage, if its potential environmental impacts are too large/serious to mitigate.

III-A. Assessing the “screening” practices in the selected ESCWA-MC:

Currently, many of the ESCWA-MC (Egypt, KSA, Yemen, the GCC states, and others) include, at least theoretically, the “environmental licensing” as one of the required qualifications for a project to obtain a legal operational status. In some countries, such as in Egypt, no permission is granted for the (PP) to obtain certain basic services, such as electricity, municipal water facilities, telephone, etc., before acquiring the environmental license. Accordingly, administrative regulations assure some sort of initial screening in those countries.

The screening process starts at the time of applying for an operational license at the license authorization agency or department (the gateway), where the (PP) provides a summary information regarding his proposed project on a special “environmental screening form”. (Appendix I, provides an example of those forms used in the KSA, while Appendix II, provides another form that was suggested for use in the United Arab Emirates). Unfortunately, “gateways” in most countries of concern do not include “environmental units”. Accordingly, the gateway transfers those “screening information forms” to the environmental (LA) for review and forming a decision on what sort of further information may be required from the (PP), to judge whether

the proposed project would require a full-fledge EIA or not. (Figure: 2 display the basic steps of the screening process).

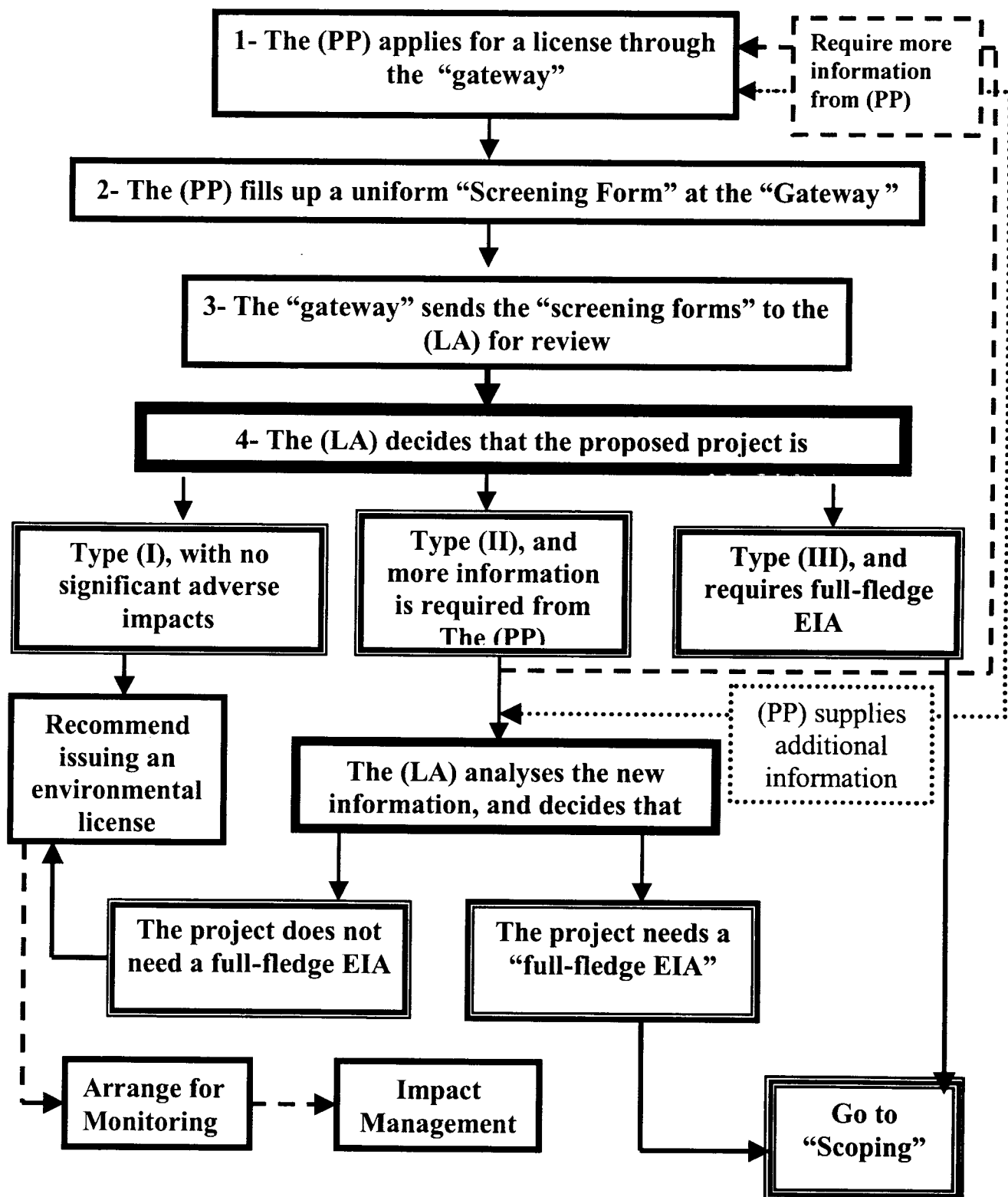
Based on the review of the supplied information, the (LA) normally makes one of three alternative decisions:

1. The proposed project is of “no significant environmental impact”, (type I project), and, hence, an environmental license could be granted.
2. Additional information is needed for a preliminary assessment to decide – after examining the required information- on the exemption or the necessity of a full-fledge EIA study, (type II projects).
3. The proposed project is of significant environmental impacts and requires a full-fledge EIA, (type III project).

The screening process itself is based on one or a multiple screening techniques, (see Box: 2). For instance:

1. The “**general assessment**” method –which may not give very accurate information in all cases- constitutes a part of the “environmental screening data form” in the KSA, Egypt, Lebanon and Yemen.
2. The “**sensitive area method**” is also applied in the KSA, Lebanon and, to some extent, in Egypt. In the KSA, for example, they have a separate form designed for that purpose and provided with the other forms analyzed by the MEPA staff (*MEPA, a*). In Lebanon, the (DD of EIA) encompasses a definition of the areas that are considered sensitive.
3. The “**positive and negative lists**” method is always used in the KSA, Egypt, Lebanon and Yemen. Environmental authorities prepare –in advance- lists to classify projects according to its potential environmental impacts. Typically three types of lists are prepared, one for each type of projects (type I, type II, or type III). The EPC in Yemen, for instance, has lists for all three types of projects, whereas both of the UPP in Lebanon and the MEPA in the KSA have lists of projects classified under category (II) and category (III).
4. The “**matrix method**” is commonly used in countries such as the KSA and Egypt. Its use is more common with the proposed projects that could be classified under type (II), since it involves much more analysis and judgment compared to the above mentioned methods.
5. The “**initial environmental evaluation**” (IEE) method, though might be the most accurate, is not commonly used in the countries of concern, because it is costly, time consuming, and often require some expertise that may not be available as part of the human capacity of the (LA).

(Figure: 2)
Detailed Steps of the Screening Process



Box: 2

Screening Approaches

Two main approaches could be utilized to screen the proposed projects:

1. **Screening based on project's delineation**: The following methods could be used:
 - (a) **The general assessment** of the proposed activity, in terms of key features (land area, total cost of the project, number of employees, etc.) of the project itself or the local environment.
 - (b) **Sensitive area criteria** that evaluates the capacity of the chosen area to accommodate the proposed activity without adverse environmental impacts.
 - (c) **Positive and negative list method**. It uses compiled "lists of activities" that are exempted of EIA, or activities that require EIA. Those lists are prepared according to other criteria, such as those mentioned above.
2. **Screening based on preliminary study**: It starts with identifying possible effects of the proposed project and evaluating the significance of those effects, to reach a decision regarding the need for an EIA. Two main techniques could be used:
 - (a) **The matrix technique** forms a matrix with the main parameters describing the project along one axis, and the environmental parameters along the other axis. The environmental and socio-economic interaction of each pair of parameters is examined for possible adverse impact. If certain areas of potential adverse impacts are discovered, a second level matrix is constructed for these areas only. At the end, if no adverse impacts are detected, or if they exist but could be resolved by mitigation measures, there will be no need to go into a detailed EIA.
 - (b) **Initial Environmental Evaluation technique (IEE)**: If for some reason (such as the lack of environmental data needed for screening, unconfirmed impacts, etc.) all of the above methods cannot be used for screening, then it is advisable to undertake a short and focused (IEE). It could be looked at as the first part of a full EIA. In this case a form or an outline is used to check on the likely environmental impacts and their relative significance. This may involve the use of matrices, checklists, or other methods favored by the assessors.

Actually, the methods of screening mentioned above are not mutually exclusive, i.e., the use of one of them does not imply that none of the other methods could be used in the same process.

On practical grounds, the environmental leading agencies in the countries of concern (Egypt, KSA, Lebanon and Yemen) depend on its available human capacity in conducting the project “screening”. Therefore, the use of pre-specified lists of projects simplifies the screening process for the (PP), facilitates the screening procedure for the (LA) personnel, and cuts down the wasted time. It also limits the value judgment practiced by the (LA) employees, because that categorization of projects is usually built on the use of multiple standards criteria and/or the qualitative judgment of specialists, to assess the significance of its potential environmental impacts (see Box: 3).

Box: 3

Assessing the Significance of Impacts

Two groups of environmental impacts could be distinguished in terms of the ease of determining whether it is significant or not:

- 1- Impacts for which there are standards criteria, codes, regulations or objectives.
- 2- Impacts that should be assessed on the basis of qualitative judgment built on some of the following:
 - ◆ Opinions of qualified decision-makers in municipalities, and sectoral administrations in related-ministries.
 - ◆ Opinion of specialists (environmentalists, ecologists, hydrologists, geographers, agronomists, sociologists, urban planners, etc.) from the (LA), universities, research institutions, and specialist in national or multinational companies.
 - ◆ Past experience (national and international) from similar documented projects.
 - ◆ Public opinion surveys.
 - ◆ Coherence of the proposed project with the general objectives of the government’s development policy.

Source: (Khordagui H., 1996)

III-B. Problems of “screening” in the selected ESCWA-MC:

The screening process as exercised in the ESCWA-MC, in general, and in the selected countries, in particular, is hindered by many significant deficiencies and constraints. The following are some examples:

1. The “cumulative environmental impact” is ignored, almost completely, in the project screening phase. The “screening” process is handled on a case by case basis, i.e., without any assessment of what each single proposed project may add to the total balance of the different major pollutants.
2. Standards needed for detecting and assessing the significance of the adverse environmental impacts are either absent, in some countries, or insufficient in others.
3. Sustainability implications of the proposed projects; such as the effects on the assimilative capacity of the environment, the resource productivity, and biological adversity, are often overlooked in most countries of concern. Other factors of high significance such as social impacts and health risks are not given proper weight.
4. Environmental database is mostly inadequate and/or inaccessible.
5. Interpretation of available data and standards may vary according to the qualification and experience of the employees in charge.
6. There exist no guide on the general rules that should be used in determining the “significance” of impacts. Assessing “significance” often depends on the intuition and professional judgment of the assessors in the executive (LA).
7. In some countries, the environmental (LA) has no branch offices in the different localities/districts. As a result, the screening process would be very much centralized, which causes serious delays in decision making.
8. Human capacity in the (LA) and its branch offices –if it exists- is considered –at the best case- inadequate.
9. In many cases, the final decisions stem from professional judgment, common sense, experience or intelligent speculations of a uni-disciplinary assessor at the (LA). Therefore, qualification and competency of decision-makers may represent another source of deficiency in most countries.
10. Involving the concerned public or NGOs is not the general rule of doing business in the “leading agencies” in most of the ESCWA-MC. Accordingly, the public contribution in the screening decision is almost nil in most countries of concern. Accordingly, if a wrong decision is made, such as passing a particular project without requiring a detailed EIA, it could erode the conscious public’s confidence in the validity of screening.
11. Inefficient contact and communications between the gateways and the (LA) could be another source of problems and delays.

**III- C. Suggested measures to improve environmental “screening” in
The selected ESCWA-MC:**

1. Upgrade the “lists” of projects’ classification periodically to include the:
 - (a) Up-to-date environmental standards.
 - (b) Cumulative environmental impacts of projects and the assimilative capacity of the environment in critical areas.
 - (c) Results of past experience.
 - (d) Previously un-predicted impacts.
 - (e) New advancements in the techniques of assessing the significance of impacts.
 - (f) The views of scientists, researchers and specialists in all related fields.
2. Upgrade and enhance the decision-making capacity to deal sufficiently with new developments and advancements in the environmental field. Continuous training, higher levels of education, and employing new blood could be good tools for achieving such goal.
3. Increase decentralization of decision making, by establishing additional branch offices of (LA) supplied with adequate and efficient human capacity.
4. Include the public views regarding the anticipated impacts of the proposed projects. This could be achieved by issuing public notes –through the gateways, Chamber of Trade & Industry, Municipalities, etc.- on the proposed project together with the projected environmental impacts, and ask the concerned public to submit their opinions and recommendations.
5. The assessor should keep in mind significant indicators, such as the long-term impact, the irreversibility of the impact, the effects on human safety and health, the magnitude of the impact, the probability of the impact, and other criteria.
6. Prepare a structured checklist or framework to guide the assessor through the key issues, and to give him/her more confidence that all of the major areas of significance have been addressed.
7. It might be advisable to the (LA) to issue a public report –through the gateway- explaining the decision of “no significant impact”. Concerned public communities and NGOs can be referred to that report when required.

Chapter IV

Project Scoping

In The Selected ESCWA Countries

Once a decision has been made that a full-fledge EIA is required, project scoping should start.

IV-A. Significance of Scoping:

Scoping is the foundation for any effective EIA study. The *overall goal of scoping* is to structure and organize the EIA study. Through scoping, the major anticipated environmental impacts of the project would be pointed out, priorities would be highlighted, and the project proposal would be finely tuned to the particular circumstances of the environment by designing the appropriate mitigation measures.

Scoping involves identifying the appropriate terms of reference that would guide the (PP) –or his consultant- in conducting the EIA study. It is important that the EIA is focused on the important issues, rather than being a superficial description of all possible interactions between the proposed project and the environment. Accordingly, the terms of references should specify the guidelines of the most significant environmental issues that ought to be studied and analyzed in depth; namely:

1. The most significant potential environmental impacts.
2. The alternatives to be examined and compared.
3. The feasible and cost effective mitigation measures.
4. The institutional capacity and training requirements for implementing those measures.

Meanwhile, incorporating the public concerns and social values should be planned at the earliest possible in the scoping stage. Such perspectives should be adequately reflected in electing the most significant issues to be analyzed in details in the EIA study.

IV-B. Evaluating the “Scpoing” process in the selected ESCWA-MC:

In general, the process of scoping should be initiated, designed and administered at the environmental (LA). The (LA) scoping crew proceeds as follows:

1. Start by utilizing the available information to conduct a preliminary analysis of the potential environmental effects of the project, and consider how the different impacts might be studied.
2. The results of that preliminary analysis are, then, disseminated to all involved parties (ministerial departments, authorities, NGOs, local communities, etc.) for examination and supplying feedback.
3. Organize meetings with all involved and interested parties, including the (PP) and his consultant, to improve mutual understanding, identify gaps and information needs, discuss mitigation measures, etc.
4. Review the results of the previous steps to identify the major issues to be studied (key impacts, project alternatives, feasible mitigation measures, etc.)
5. Finalize the terms of references of the EIA study and transmit it, along with other instructions and time schedule, to the (PP) and his consultant for in depth analysis.

IV-B.1 Is “scoping” satisfactory in the selected ESCWA-MC?

No sort of generalization could be made in this respect. Initially, we could differentiate between two groups of projects:

1. ***Projects sponsored by foreign donors and foreign grants***: In Egypt, Lebanon and Yemen, the role of foreign donors and international organizations in shaping the frame of the EIA studies is quite obvious. The World Bank and other foreign sources of funds interfere in designing the terms of references and the detailed contents of the EIA studies, including emphasizing the role of public participation. So, when it comes to large development and infrastructure projects that rely on foreign loans and grants, the EIA studies are articulated –to a great extent- according to the international “scoping” procedures.
2. ***Projects that rely on national sources of finance***: In some countries of the ESCWA region, the EIA study is considered a pre-requisite for approving the provision of financial credits and loans. Nonetheless, not all banks in those countries are strict and abiding by such rules. Meanwhile, it is not uncommon that political and/or social influences may lead to passing some large development projects with great environmental impacts without conducting a significant project “scoping” or a serious analysis of the potential environmental impacts of such projects.

Generally speaking, and before going into the details of “scoping” in the selected ESCWA-MC (in the following sections), practical experience with scoping is ***considered unsatisfactory*** in many of the ESCWA-MC. The process is often undisciplined and hindered by a number of recurring

problems, including the difficulty of securing agreement on the key issues, impacts and alternatives to be examined in the EIA study. Many of the problems are induced by institutional constraints, while others are triggered by methodological aspects. Negligence of public concerns and prospects is also a shortcoming.

IV-B-2. Who is in charge of scoping in the selected ESCWA-MC?

In Yemen, legally, the EPC in cooperation with the other responsible authorities supported by external experts, should formulate the “scoping” guidelines and requirements of the EIA.

In the KSA, MEPA employees should schedule and coordinate meetings with the project representative to discuss the scope of the EIA and confirm its terms of reference. In case of governmental projects, the terms of references are jointly prepared by both of the governmental authority and MEPA.

In Egypt, according to article (19) of law 4/1994, the different licensing authorities are made responsible for evaluating the environmental impacts - according to the rules and standards set by the EEAA- of the activities and projects asking for licenses. Those licensing authorities should send copies of the indicated EIA to the EEAA for advisory comments and suggestions. The EEAA should reply within a period of 60 days (article 20) (EEAA, 2000).

In Lebanon, according to article (7) of the proposed (DD of EIA), the (PP) in coordination with the UPP, determine the scope of the EIA study which would be conducted by the (PP) or his consultant. Meanwhile, the (PP) is made responsible for informing all parties that may be concerned with the proposed project (ministries, official authorities, municipalities, NGOs, affected parties, academic and research centers, unions and syndicates, etc.).

So, unlike the cases of both Yemen and the KSA, project scoping in Egypt and Lebanon is not a major responsibility of either the EEAA or the UPP. Instead, these agencies act as “advisory bodies” either to the licensing authorities, as in Egypt, or to the (PP) directly, as in Lebanon.

In fact, some advantages could be linked to this “advisory” role of the leading environmental agencies in Egypt and Lebanon:

1. A dominant advantage is that, it lowers the work-load on the shoulders of the EEAA and the UPP staff.
2. Another major accomplishment is that, it reduces the level of centralization in the administrative chain and decision making.

3. Lessening the financial needs and burdens of those leading agencies, is an additional benefit.

On the other hand, several disadvantages may also evolve from this advisory role:

1. The licensing authorities in Egypt, though guided by the rules and standards set by the EEAA, may possess neither the technical capacity nor the qualified human capacity needed to perform the assigned job. Likewise, the Lebanese (PP), or his consultant, may not be able to identify the major impacts to be assessed, or may not adequately approach all the aspects and issues that should be focused on in the study.
2. Environmental impacts and requirements of many projects are multifaceted and cover a wide range of aspects that are not easy to handle by a sole licensing authority or a consultant.

IV-B-3. Determination of the “key impacts” in selected ESCWA-MC:

To determine the major environmental effects of the proposed project, certain criteria are normally used as a guide. Most of these criteria are very much interrelated and should be used simultaneously (*UN-ESCWA, 1997*) and (*EC, 1996*). Ideally, the following factors should be considered:

1. The magnitude of each potential impact. It is affected by: the size of the impact, whether the impact is irreversible, the size of the affected communities, the size of affected area, the rate of recovery or adaptability of the affected area, and whether the activity will impede the use of the impacted area for other uses.
2. The duration and frequency of the impact.
3. The cumulative effects of the impact.
4. The remoteness of an effect from the activity causing it.
5. The risks attached to the impact, such as the human health risks.
6. The significance of the impact, which is measured by the value of human, resources, cultural and welfare losses attributed by the specific impact.
7. The possibility of mitigating the impact.
8. The potential conflict with other policies, such as industrial development, land use, agricultural expansion, environmental conservation, protection of endangered species, etc.
9. The level of public and political concerns.
10. Availability of information regarding the various impacts, and methods of predicting uncertain impacts.
11. The likelihood of transboundary impacts and the effective international agreements and obligations.

In the selected ESCWA-MC, however, a number of obstacles may curtail the (LA) capability of pointing out the key impacts:

1. The existing manpower in most of the (LAs), its departments, its local offices, and its branches may not be qualified enough or possess the required differentiated-multiple-expertise to handle the various aspects that should be assessed. Even in countries where the leading agencies have specialized departments, as EPGD in the case of the KSA, the required expertise for determining the major impacts may not be available, still. For instance, the risk assessment issues, valuing the signification of the impact, identifying the validity and feasibility of mitigation measures, appraising the long-term effect on other development projects and programmes, etc., are subjects that need highly qualified specialists.
2. The use of external experts –even national experts- requires not only adequate funds but also adequate time to proceed for assessment. According to the regulations set by MEPA in the KSA, the EPC in Yemen, and the UPP in Lebanon, all responses to evaluations, opinions, and reviews are scheduled with a pre-set maximum time limit.
3. Moreover, in assessing the prevalence of the impact and determining its cumulative effects, we need to reckon to the environmental baseline that must be initially identified and established. The problem here is in the availability of a complete and accurate baseline data on the environment. Part of the environmental database is invalid and may not represent the actual environmental conditions in the countries of concern. The available baseline data suffer from one or more of the following shortcomings:
 - (a) Incomplete information, time series, variables, etc.
 - (b) Inaccuracy of available data and information.
 - (c) Outdated information.
 - (d) Contradictions from one source to another, etc.
4. Even when the data is available, other technical and institutional problems may limit the access to the needed information and degrade its usefulness, such as:
 - (a) Unsatisfactory data analysis, interpretation and presentation.
 - (b) Poor techniques of information communication and data dissemination.
 - (c) Fragmentation of environmental data and information among various institutions.
 - (d) Lack of good coordination among data users and providers, i.e., needs vs. supplies of information.
 - (e) Some environmental information and data are classified, by the authorities, to be not for publication and of limited circulation among various institutions.

- (f) Due to certain political concerns, accessibility to some environmental information and data may be completely forbidden.

The net outcome of those obstacles could be a wrong or inaccurate prediction of potential environmental impacts of the proposed projects. Consequently, inappropriate decisions would be made, leading to:

1. Focusing the EIA study on the wrong/unnecessary impact(s), and/or leaving out very significant impact(s).
2. Defining inappropriate terms of references for the EIA study, which eventually adds to the list of wrong decisions.
3. Developing irrelevant mitigation measures that do not resolve the actual environmental impacts.
4. Wasting money, time and efforts of all involved parties.
5. Spoiling the credibility of the environmental (LA).
6. Speeding up the resources and environmental degradation in the countries of concern.

IV-B-4. Methods of identifying the “key impacts” in selected ESCWA-MC:

In the ESCWA–MC, two relatively simple methods are widely used to identify the key impacts; namely, the “checklists” of impacts (Box: 4) and “matrices”. Other methods that rely on manipulating some interactive computer programmes; such as the “quantitative methods”, “networks”, “overlay maps”, etc., though well developed and refined, are considered complex to use in the countries of concern. The major problem is that their application requires advanced technical and human capacities that are not in adequate supply in the environmental agencies of most ESCWA-MC. Such sophisticated methods are only used, in some countries such as the KSA, when the (PP) approaches a big foreign consulting firm to prepare the EIA study for the proposed project, or when the project is financed by a foreign donor, such as in Egypt, Lebanon, and Yemen. The problem that may arise in the case of using such sophisticated techniques is that they are not usually neutral. In other words, as those techniques get more complex, it becomes much more difficult for many of the regular (LA) staff as well as the concerned public, to interpret its results.

IV-B-5. Specification of “alternatives” & “mitigation measures”:

The identification, analysis and comparison of the “alternatives” of the proposed project, is the key to a creative decision-relevant assessment. Usually, two to four options, including the “no project” option, should be examined. The alternatives could be different in terms of the location, the technical aspects, the design, the mitigation measures, and the scale of the

project. The objective is to proceed with the best and most practicable environmental option, or the most environmentally friendly one. In the selected ESCWA-MC, consideration of the project's alternatives and its environmental impacts is considered optional, in most cases.

Indicated mitigation measures may involve changing the use of certain inputs, changing the process of production, minimize waste, etc. In most cases, aspects such as providing the institutional and training requirements for implementing the indicated mitigation measures, are not given a considerable weight in the scoping process in the selected ESCWA-MC.

Box: 4

A Checklist of Impacts

A simple list of impacts could be utilized to ensure that no impact is forgotten. It may contain elements such as:

- ◆ impacts on water resources quality and quantity,
- ◆ impacts on the resource base,
- ◆ impacts on cumulative pollution and environmental deterioration,
- ◆ impacts on habitat of wildlife, plants, etc.,
- ◆ violation of standards and regulations,
- ◆ conflict with established uses of the resources or plans of use,
- ◆ impact on humans' safety and health,
- ◆ creation of hazards,
- ◆ impact on traffic intensity,
- ◆ impact on displacement or concentration of people, etc.

Such impacts may evolve in different phases of the project (location preparation phase, construction phase, operation phase, decommissioning and reinstatement of the site phase).

IV-B-6. "Public participation" in "scoping" in the selected ESCWA-MC:

Public scoping is very essential. Consultation with the affected groups and communities usually reveals a range of impacts and opinions that are hardly obtained by other means. Simple methods of acquiring the public views and comments (checklists, matrices, etc.) may suffice for describing and communicating information on the potential impact.

In the ESCWA region, in general, community participation at this stage is extremely weak. Discussion with interest groups, local communities, landowners, etc., to identify the alternatives which they wish to address in the EIA study, measures of curtailing negative environmental impacts and other issues, are very much limited to a few bodies of the effective NGOs in some of the selected ESCWA-MC. In countries such as the KSA and Yemen, even such a practice is considered rare.

The public participation problem in those countries, however, has another side. Some of the public groups –though might be negatively influenced by the project- may not show interest in participating and revealing their opinions. This might be explained by some common social, cultural and political constraints, such as:

- ◆ Environmental ignorance or insufficient realization of the extent of the adverse environmental impacts triggered by the project.
- ◆ Skeptic public is usually unconvinced that their opinions and concerns will be acknowledged and taken in consideration.
- ◆ Relationship between the public and governmental authorities could be described –in some countries- as being “authoritative” to a high extent.
- ◆ Some cultural constraints, such as those that limit the women’s participation in public events or decision-making.

IV-B-7. The “terms of references” for EIA studies in selected ESCWA-MC:

Well articulated terms of references is what culminate the scoping process. It is an essential requirement for a sound and effective EIA study. Terms of references set the guidelines on which the (PP), or his consultant, would build his analysis. So it should be addressing the main issues of concern, and must be clear and objective-led. At the same time, as the terms of reference specify the boundary of the analysis, it decides how far should the analyst proceed in identifying and assessing the significance of the environmental impacts. This is a matter of judgment that depends on the type of the proposed project, on one hand, and on the expertise of the decision-maker, on the other hand.

In practice, however, the terms of references developed by the national parties in the selected ESCWA-MC, are often characterized by being very general, not focused on the most significant issues, and not geared towards facilitating the decision making. Whether the correct decisions regarding the project boundaries are made or not in the selected ESCWA-MC, depend on the project individual cases.

IV-C. “Interagency coordination” and the effectiveness of scoping:

Scoping procedures involve a loop of interactions between the (LA) and several institutional bodies; including the “gateways”. Such interaction takes the form of transfers and manipulation of documents, data, information, as well as experts’ opinions, and reports. A connection failure in a part of this circuit of intercommunication may cause long delays, poor decisions, dissatisfaction, and high cost. Many of the ESCWA-MC, including the selected countries, are characterized by its “red tape”, fragmented regulatory systems, non-integrated communication circuits, and, consequently, insufficient interagency coordination. Such built-in institutional dilemma may cause long delays and intensify sources of inefficiency in the scoping process.

IV-D. Enhancing the effectiveness of “scoping” in selected ESCWA -MC:

Several issues could be indicated in that respect, but the following are worth being highlighted:

1. Generally, the scoping stage is the best time for incorporating the “technology standards”, such as the (BAT), (BPT), and (BATNEEC). So, it is advisable that such standards should be developed and implemented in the countries of concern.
2. To augment the effectiveness of “scoping”, it is also crucial to manipulate various measures and tools to:
 - ◆ enhance the capabilities and experience of the decision makers,
 - ◆ boost the public and NGOs’ involvement, and
 - ◆ reflect their opinions in the terms of references.
3. The role of the (LA) and the associated group of experts, should continue through out the analysis phase, by being ready to provide any necessary advice to the (PP) or his consultant while conducting the study. In the KSA, for instance, a monthly contact between MEPA employees and the project representative should be scheduled (theoretically) to determine the status of the study and the estimated completion date.
4. It is also essential to keep the EIA scope under continuous review as the study proceeds, to ensure that new issues are identified and addressed.

Chapter V

Evaluation Of The EIA Study & Decision Making In The Selected ESCWA-MC

As soon as the (PP), or his consultant, finishes the required analysis, he should present a 'preliminary draft' of the EIS to the (LA) to review its general format and consistency with the terms of references and the scoping guidelines. If the (LA), initially, accepts the general structure and contents of that preliminary draft report, consequently, a "draft EIS" could be prepared for evaluation.

V-A. Who should participate in reviewing the "draft EIS"?

The institutional arrangement for reviewing the draft report of the EIA study varies. Ideally, both formal and informal procedures should be used to check on its quality. In many countries, such as the United Kingdom, the review phase is an internal responsibility of the (LA). Other countries (such as Canada, Australia, and Belgium) make explicit provision for review by an EIA or environmental agency. In the United States, an inter-agency technical group is in charge of reviewing the draft report (*Sadler B., 1996*). Several countries have also established mechanism for independent public reviews of draft EIS. According to the revealed social as well as technical results of the revision, the (PP) might be asked to do some modifications.

At this stage, experts' opinions and various forms of public participation is critically important, since their comments would be of value in recommending and requiring the final adjustments and including the adequate mitigation measures in the study. *In Lebanon*, for instance, the (DD of EIA) indicates, in articles (7) and (10), that the EIS should be available for review by concerned public and authorities. Article (10) indicates that the concerned municipality should post the final decision on its announcement board for a period of 12 working days. Also *in the KSA*, copies of the EIS draft report should be sent to the involved EPGD departments and participating agencies outside MEPA, for detailed review and writing comments to identify the adequacy of technical analysis as well as any deficiencies and corrections required before the EIS can be finalized. *In Egypt*, the law 4/1994 provides support for capable local expertise to undertake this responsibility. On practical grounds, however, the draft of the EIA study is reported in a document for internal review, solely by the specialist(s) of the (LAs) in those countries. In other words, the involvement of outside expertise and/or the

public communities is not the common practice for the EIS draft report review in the selected ESCWA-MC.

V-B. Criteria for reviewing the “draft EIS”:

The EIS report is the focal document in providing information for decision making. Therefore, the technical quality of this document is considered very important. A satisfactory review of its draft report is based on using a multi-disciplinary criterion and ensuring that the process involves extensive consultation with specialists and concerned public.

The review criteria would ensure the following:

1. The compliance of the presented report with the initial guidelines and terms of references.
2. The legislative requirements and local concerns are appropriately considered.
3. The baseline study is satisfactory and built on valid data.
4. The assumptions of all conducted analysis are clearly stated and rationalized.
5. The impact prediction techniques are reasonably accurate and logical.
6. The most feasible alternatives are satisfactorily analyzed.
7. The most appropriate criteria are selected for evaluating the significance of impacts (Box: 5).
8. The most appropriate impact mitigation measures are included and analyzed.
9. Statistical confidence limits are assigned to the different predictions.
10. The anticipated application problems are highlighted, along with its managing techniques.
11. The areas of agreements and disagreements among the involved parties are clarified.
12. The conclusions are clearly stated in plain language, easy to understand and interpret by the decision-makers and the public.
13. The contained information is relevant to the decision making.

V-C. Obstacles restricting the application of the review criteria :

In the selected ESCWA-MC, unfortunately, the competent authorities:

1. May not have the full range of technical expertise needed to assess the adequacy and comprehensiveness of an EIA study according to the above criterion. To compensate for such deficiency, external consultants (individuals or institutions) may be called for. Local and national academic and research institutions may provide an adequate advisory service in that respect. In practice, however, some countries may not be able to rely on

such national advisory service. In Yemen, for instance, the universities of “Sanaa’a” and “Aden” have developed some research and training in the environmental field, nonetheless, both institutions are understaffed and poorly equipped. In the KSA, foreign consultancy is common.

2. May not have adequate funds to finance the services of external national or international consultants.
3. May not allow for stakeholders and public consultation in the review phase of the EIA.

The end-result of those deficiencies, and others, could be the improper review of the draft EIS report.

Box: 5

Appraising the Significance of Predicted Impacts

Evaluating the significance of the predicted impacts is part of the EIA analytical study. Ideally, however, it is not a once and for all practice, i.e., it should take place throughout the process. Appraisal techniques range from the intuitive to the analytical, from qualitative to quantitative, from being formal or informal (*Glasson et.al., 1996*).

In general, **impacts could be separated in two main groups:**

1. A group of impacts that should be appraised on the basis of educated guesses and qualitative judgments, built on:
 - ◆ Past experience from similar documented national and international projects.
 - ◆ Opinions of specialist, experts, and qualified decision makers.
 - ◆ Opinions of the public closely affected by those impacts.
 - ◆ Opinions of concerned NGOs.
 - ◆ Coherence with the general sustainable development objectives.
2. A second group of impacts for which there exist certain acknowledged regulations, documented standards, accepted codes or accepted goals. Most of the selected ESCWA-MC are equipped, to different extents, with sets of defined standards against which the significance of certain impacts could be assessed. Here, we have to emphasize the following differences:
 - (a) ***Environmental quality standards*** (or ambient standards) related to water, air, and –to a less extent- land, are available in both of Egypt and the KSA, while in the process of being developed in Yemen and updated in Lebanon. Most of those standards are adapted from the experiences of developed countries as well as from the studies of international organizations. Those standards set the maximum allowable levels of the specific pollutant in the receiving medium (air, water or soil).

Continue Box: 5

- (b) ***Environmental performance standards*** (emission and effluent standards) that limit the amount or rate of particular chemicals or discharges that a facility could release into the environment in a given period of time. These standards should take in consideration the “cumulative effect” of a special pollutant and the “assimilative capacity” of the environment. Currently, emission and effluent standards in the selected ESCWA-MC are inadequate and do not cover a wide range of complex and modern pollutants. So far, no “assimilative capacity” is determined for any of the ESCWA-MC. In the selected ESCWA-MC, many obstacles are causing the lag in developing or adapting performance standards. Most of those obstacles could be grouped and summarized under the “lack of technical and human capacities”, “inadequate database and information systems”, in addition to “fragmentation of environmental authorities”.
- (c) The implementation of “***technology standards***”, such as the standards for the use of “best available technology” (BAT), “best practical technology” (BPT), “best available technology not entailing excessive cost” (BATNEEC) and others, has never been considered in most selected ESCWA-MC. The rise of the EIA policies in those countries, as well as in other countries of the region, is a good chance to encourage the application of such standards.

V-D. How to improve the quality of the EIS draft review?

Most important, is to try to overcome the above mentioned obstacles. Therefore, it would be appropriate to:

1. Form temporary ad-hoc committees of experts to technically review and evaluate the report. That decision should be based on the scale of the project and its nature.
2. Compile a “roster” of national, regional and international experts who can conduct proper evaluation.
3. Provide adequate source of funds to compensate for the services of those experts.
4. Have a systematic framework for the draft EIS reviews. A “collation sheet” could be used to record findings on key assessment tasks. e.g., baseline description, impact identification and evaluation, adequacy of the methodology used to analyze impacts, examination of alternatives and mitigation, clarity of the linkage between impacts identified and the mitigation measures, etc.

Chapter VI

Evaluation Of Post-Decison Monitoring & Environmental Management In The Selected ESCWA Countries

The post-decision-making stage embodies environmental monitoring, impact management and auditing. In the ideal situations, monitoring and auditing programmes may be proposed in the EIS. Such programmes should come with clear objectives, defined responsibilities, practical methodology, adequate technical and human capacity, reasonable time duration, sufficient funding, and forms for regular reporting. The post-approval phase of EIA has been given increasing attention in the developed countries, either by pending legislative and regulatory reforms (Canada and Australia), or by agency guidelines and conditions of project approval (Netherlands) (*Sadler B., 1995*).

VI-A. Environmental monitoring: definition, objectives and scope:

Monitoring, in its simplest sense, means maintaining observation on something over a period of time. Environmental monitoring, in practice, involves some form of data collection with samples taken at regular or irregular intervals to detect actual changes in the environment. The variables to be observed, measured and recorded would vary from one case to another. But, in general, they should include the physical, social, and economic variables associated with the predicted environmental impacts.

The general aim of monitoring is to detect actual outcomes and effects in order to manage the environmental impacts of the project. To accomplish this goal, a list of detailed objectives of monitoring could be identified:

1. Provide an early detection of unpredicted impacts in order to take actions towards remedy.
2. Check that all environmental standards, regulations and licensing conditions are met (monitoring of compliance), (see Box: 6).
3. Make sure that mitigation measures are implemented properly (monitoring of compliance).
4. Assess the effectiveness of mitigation measures (monitoring of effectiveness).
5. Assess and evaluate the performance of the methods and techniques of prediction.
6. Examine how different sectors of the involved public are affected.

7. Establish a database of impact history that can be used in license renewal in the future, mediation between interested parties and impact assessment of other EIA studies in the future.
8. Facilitate a successful auditing of environmental impacts.

Once the EIS is approved by all parties, a monitoring programme should be designed and scheduled. Monitoring should be practiced with the commencement of the project's construction and, subsequently, flow to its physical operations, as well as its decommissioning. It encompasses: inspections to check terms and conditions are implemented, and a systematic collection of a potentially large quantity of information over a long period to determine if impacts are as predicted. Such information should include not only the "traditional" indicators, but also the casual relationships among those indicators which determines the specific impact and, hence, the possible ways to modify it. Monitored variables should be closely related to the nature of impacts. Environmental performance indicators should be measurable and of significance.

The license could be a practical benchmark against which compliance could be measured. Public's opinions about the project and its impacts are among the variables to be monitored, because responding to such opinions is crucial in determining the direction and magnitude of impacts' mitigation. A systematic attempt to identify such opinions can be an important input into the monitoring study.

Box: 6
Monitoring Activities

Monitoring activities should involve:

1. **Baseline monitoring**, which refers to the measurement of environmental parameters during a representative period.
2. **Impact monitoring**, which involves the measurement of parameters during all phases of the project life (construction, implementation, operation, and decommissioning) in order to detect any environmental deterioration as a result of the project. Each phase has its monitoring needs.
3. **Compliance monitoring**, by periodical sampling of the levels of pollutant emissions (waste discharge, noise levels, etc.) to ensure that the license conditions and the standards are met and the EIA recommendations are followed.

Box: 7

Community Monitoring

It can achieve a real ambient improvement. The essence is to extend the interest in monitoring to the community who is directly affected by the project. The advantages of involving the community in monitoring, would be:

- ◆ Secure cost effective extension of the monitoring data-base.
- ◆ The close community can offer different practical views for remedies and mitigation of adverse impacts.
- ◆ Building real support for necessary preventive and remedial actions.

In some developing countries such as China, public complaints are looked at as an important avenue for community participation in environmental policy (*Dasgupta et. al., 1996*). Involving the community in monitoring may require offering some training for certain community members to deal with simple issues, such as using simple kits and locally available materials, to test the quality of their water supply. However, sustaining local interest in monitoring over a long period can be a difficult task (*World Bank, 1997*).

VI-B. Environmental auditing:

It is a management tool comprising a systematic, documented, periodic and objective evaluation of how well the project is environmentally managed and complying with legal requirements (Box: 8). Audit can identify existing and potential problems and prescribe actions needed to comply with regulatory requirements as well as company targets. Auditors should base their judgments of compliance on evidences from monitoring and during the audit.

VI- C. Monitoring in the selected ESCWA-MC:

Though environmental monitoring is legally required in the KSA, Yemen and Egypt, post-project environmental management, in general, is not considered a mandatory exercise. Accordingly, monitoring and EIA follow-up remain poorly developed in those countries. The awareness of the monitoring significance is relatively low among the authorities managing the EIA requirements in most of the ESCWA-MC. Who is responsible for monitoring? To whom he should report? What actions should follow? Who should bear the cost of monitoring? are all issues of significance but not well defined in most of those countries. Even in the cases when monitoring is practiced, no careful attention is devoted to the design of the monitoring programme to ensure the validity and quality of the produced data and information.

(Box: 8)

Types of Environmental Auditing

There are three main groups of environmental auditing (UNEP, 1995), “liability”, “management” and “activity” audit. To elaborate:

1. ***Liability audit*** includes:

- (a) Compliance audit. To verify to what extent the project is complying with environmental legislation, limits of discharge and emission standards, building permits, etc.
- (b) Environmental risk assessment. It concentrates on the potential frequency and consequence of environmentally damaging events.
- (c) Acquisition audit. It involves testing and analysis of owned sites.

2. ***Management audit*** includes:

- (a) Health and safety.
- (b) Environmental management audits (the management system).
- (c) Corporate audit (organizational structural and responsibilities).
- (d) Policy audit (assessing the environmental policy).
- (e) Issue audit (issues specified prior to establishment).

3. ***Activity audit*** includes:

- (a) Site audit.
- (b) Waste audit (quantity and quality).
- (c) Product audit (design, packaging, impact, etc.)
- (d) Cross-boundary activity audits (activities that cut across departments or businesses).

In Egypt, the EEAA has the responsibility of monitoring and auditing the environmental data records of the project. In case of violation, the EEAA gives directions to the project –through the responsible licensing authority- to undertake the required corrections within 60 days (article 22, of law 4/1994). Recently, the Minister for the Environment has taken initiatives to set up “public complaint systems” (EEAA, 2000). Nonetheless, it is not the time, yet, to confirm that such jobs are perfected in Egypt. Inadequate technical, institutional, and financial capacities are among the main reasons for unsatisfactory monitoring and auditing.

In the KSA, article (21) of its “general draft for evaluating environmental impacts” specifies that MEPA, in co-ordination with responsible authorities, should be responsible for monitoring the development projects during its construction and operation. It also sets the procedure for conducting such a job. On practical grounds, several factors may hinder effective monitoring. In

case of governmental projects, MEPA's role in following up and monitoring the construction and operation of the project is close to nil. This means that many environmental compromises could be made in order not to harm technical and economic aspects of the governmental project. In other words, the enforcement element in implementing what was agreed on between the governmental agency and MEPA may be lacking. According to article (10) of the general draft, MEPA's inspection on the governmental projects is not required, and it becomes a matter of absolute trust in the governmental agency to abide by the set environmental standards and regulations.

In Yemen, the law proposes widening the role of the EPC to include monitoring and auditing functions:

- ◆ Article (41) of the 1995 law indicates that *“the owners of the project ...who had obtained licenses of approval may be obliged to buy monitoring equipment for ...pollution emitted from such projects... and to maintain and keep permanent records for such monitoring and send reports of the results to the competent bodies and council”*, (EPC, 1995). The competent bodies shall undertake the inspection of such studies to ensure its compatibility with the present situation and to approve it in accordance with this law within 3 months from the receipt of the statement.
- ◆ Moreover, article (58) of the same law states that *“the council shall, with the participation of any competent body, undertake the establishment and operation of the environmental monitoring networks.... The council may seek the assistance of any national or foreign research centers for the purpose of operating monitoring stations and collection of information”*.

There is as yet comprehensive regulatory framework for environmental management to support the environmental protection law in Yemen. Environmental monitoring is not systematic. Those nicely stated laws are awaiting application and enforcement in Yemen. Once a license is issued there is very little control on the adherence to the conditions of the license and no enforcement (*Euroconsult*). Practising monitoring activities requires taking all measures to provide the technicians and analytical staff who can operate the monitoring stations. This is in addition to the scientific staff who would be involved in data management and analysis.

In Lebanon:

Article (11) of the (DD of EIA) specifies that the Ministry of Environment is responsible for monitoring of the implementation of the “environmental management plan” during the construction, operation and decommissioning

phases of the project. The “environmental management plan” –as explained in the appendices (6) and (7) of the (DD of EIA)- should be prepared by the (PP) and included as part of the EIS. It encompasses the following:

1. all mitigation measures to reduce the negative impacts,
2. a monitoring plan, and
3. a plan for enhancing the institutional and human capacity of the project to carry out all recommendation indicated by the EIA.

It is obvious that the content of that article (11) is quite optimistic taking in consideration the actual capacities (human, technical and financial) in the Ministry of Environment in Lebanon.

VI-D. Enhancing post-project monitoring in the selected ESCWA-MC:

Monitoring is what assures the integrity of the EIA process. So, enhancing the monitoring activities and its effectiveness is part of enhancing the whole EIA process. What could be done to overcome the various constraints that halt effective monitoring?

1. Fast actions should be taken towards mending the environmental legislative and regulation systems to enforce the post-project environmental monitoring and management, and supply the measures for effective enforcement.
2. Monitoring should be applied to all types of projects, regardless of its size or ownership (public and private).
3. To overcome the problem of inadequate human and technical capacities, credible private monitoring corporations could be established/licensed.
4. Different tools should be manipulated to provide adequate financial funds for monitoring activities. Special “monitoring funds” should be created with multiple, elastic and stable sources of finance. The project owners must be made responsible for financing a considerable share of that fund. The monitoring financial burden imposed on each project should be positively and directly related to the following variables:
 - (a) The relative size of the project.
 - (b) The significance of the project’s environmental impacts.
 - (c) The human and environmental risks attached to the project’s environmental violations.
 - (d) The technology applied for protecting the environment; e.g., end-of-pipe technologies vs. environmentally clean production technologies.
 - (e) The history of the project’s environmental compliance.

Chapter VII

Public Participation Assessment In The Selected ESCWA Countries

The various actors in the EIA process; e.g., the (PP), the parties directly affected by the project, the general public, and the regulators of the EIA process at various governmental levels, each has a distinctive role and influence on the outcome of the EIA. Accordingly, the public should be a part of the project evaluation and, hence, should have a say in its existence. Whenever appropriate, public participation should come as early as possible in the projects' assessment process, starting with the screening course. Public involvement is a way to ensure that the project responds to local concerns.

VII-A. What benefits could be gained from involving the public?

Public involvement is a tool for exposing and incorporating the views and concerns of all interested and affected parties into the decision making process. The basic characteristic of an effective public involvement is its two-way communication route. In other words, it is a way of providing information to the concerned public and, meanwhile, it is an opportunity for the public to support the decision-maker with different sorts of information and opinions. The responsible authority may share information about new project proposals with the public and, later on, receive information from the public or gain a better understanding of the community's perspectives. In some cases, conferring with the public might be the prime source of explicit information and understanding of the environmental nature and characteristics of the local area of the proposed project. Stakeholders –in many cases- are capable of identifying unforeseen constraints for the project implementation, and opportunities for alleviating or moderating serious impacts. Meanwhile, involving the affected communities and the concerned bodies at an early stage and reflecting their concerns in the scope of the EIA, can increase credibility of the study and acceptability of the project and, hence, reduce the risk of possible oppositions emerging later on.

VII-B. How to involve the public?

Managing the public participation in the EIA process varies from one country to another and, sometimes, within the same country from one case to another. Public involvement may range from being very comprehensive and intensive to cases where it becomes very trivial and just for cosmetic reasons. Public involvement approaches shouldn't be rigid and standardized but, rather,

flexible and easy to adapt to accommodate the particular set of environmental issues. The used techniques should match the purpose of involving the public. Accordingly, there is no "single best" technique for public involvement. There are many approaches (Box: 9), each may be appropriate for certain sets of circumstances and may match the preferences of a particular public party.

When designing a public involvement program, the responsible authorities must give members of the public adequate time to review information and provide meaningful input into the environmental assessment process.

VII-C. Public participation in the selected ESCWA-MC:

In Egypt, the environmental Law (4/1994) has indicated the role of the environmental NGOs (ENGOS) in protecting the environment. This role was further organized by the EEAA. Three out of the twenty members of the EEAA board of directors represent (ENGOS) as well as other members of civil society. (ENGOS) are emerging fast as a considerable force in shaping the Egyptian environmental policy. Official estimates had estimated the number of (ENGOS) as eighty (EEAA, 2000). Moreover, a new committee; namely, the "Egyptian Environmental NGO Steering Committee", was established in the late 1990s. It consists of 15 representatives of the (ENGOS). In Egypt, there is a growing potential for widening stakeholder involvement in localizing environmental management. Nonetheless, other forms of public participation are either absent or very ineffective.

In Yemen, public participation was not highlighted in its environmental legislation. However, according to its EIA policy, public participation was indicated as an essential component in most steps of the EIA process. Even in case of type (I) projects, where no environmental assessment is required, the public should participate in the "screening" process as well as in monitoring the project implementation and operation. The communication can either be with the (PP) or with the EPC. The actual implementation will depend on the type of project, the stage of development of the EIA process and on the practical and administrative constraints.

In practice, however, many impediments may restrain that policy component. Some of the main obstacles that weaken the hope for effective public participation in Yemen, could be summarized as follows:

1. Initiatives for personal involvement by the average rural or urban Yemeni individual, especially women, are not very strong.
2. Government organizations at the national level are not in a good position to establish the necessary direct contacts with the local population.

3. Government organizations themselves do not have the adequate staff, facilities and experience for this type of activity.

(Box: 9)

Techniques of Involving the Public

Involving the public would entail three main categories of techniques:

1. ***Information dissemination:*** It is a one-way flow that involves disclosure of information about the proposed project to the parties of concern. Forms of information dissemination include (*CEAA – a*):
 - (a) reports,
 - (b) brochures,
 - (c) information bulletins,
 - (d) mass media (press releases, radio talks, films),
 - (e) public information displays,
 - (f) large public meetings with official presentations followed by a question period, etc.
2. ***Obtaining information from the public:*** This could be achieved through:
 - (a) interviews,
 - (b) telephone conversations,
 - (c) questionnaires,
 - (d) briefs at public hearings, and
 - (e) public meetings with group discussion.
3. ***Consultation:*** It is a two-way information exchange between stakeholders and the decision-making authority. This could be achieved by:
 - (a) mediation groups,
 - (b) advisory groups,
 - (c) public workshops, and
 - (d) informal small-group meetings.

Other techniques embrace: joint assessment, collaboration, and empowerment. “*Joint assessment*” and “*collaboration*” are more sophisticated techniques of public participation that involve partnership in design and implementation, while the “*empowerment*” technique puts decision-making responsibility and resources in the hands of the stakeholders who are directly involved in the project (*World Bank, 1997*). The first three techniques are the more common and practical, whereas, the formal and structured participation are less common, but may be applied in environmental monitoring and auditing.

As for the KSA, article (23) of its “general draft for evaluating environmental impacts” indicates that enhancing the public concern of environmental issues is essential. This will require forming a national strategy for environmental education and publicity. Nonetheless, practical experience, to our knowledge, is not full of promising evidences of a wide public participation.

VII-D. Factors influencing the efficiency of public participation :

1. Local communities should be equipped with knowledge and necessary technical know-how.
2. NGOs should play a role in raising public awareness regarding the various implications of the potential projects.
3. Participation requires the existence of well-developed local institutions to mobilize the people.
4. The level of public participation is a function of the “state of democracy” in a given country. The more democratic a country, the more free space there would be for public participation (*UNEP, 1994*).
5. Public participation should be backed by the legislation, i.e., the EIA legislation should clearly state the role of the public in the EIA processes.

Each of the above factors could be partially blamed for the weak involvement of the public in the EIA in all selected countries, and its patronage would, no doubt, strengthen the public input in the EIA implementation.

Chapter VIII

Concluding Remarks & Recommendations

VIII-A. Concluding Remarks:

Various sources of obstacles and problems that curtail the efficient implementation of EIA in the selected ESCWA-MC were already highlighted through out the previous analysis. Nonetheless, while some of those problems should be stressed, ***several other concerns and common impediments*** could be addressed, still:

1. Many (PPs) in the ESCWA-MC consider that the ***EIA is just another set of barriers and impediments to their investments***. To them, the process is considered unjustified cost element and a time-consuming activity in the permission process. Part of their worries is stimulated by the existing red-tape and the potential delays associated with the various requirements of conducting the EIA, submitting the EIS, and the effect of that delay on the financial cost of the project. Accordingly, there is always a hidden resistance to the concept of EIA, which may, subsequently, create weak tendency towards compliance and effective implementation of the EIA recommendations and conditions.
2. The ***effectiveness of the EIA process is very much attached to the following factors***:
 - (a) The precision of defining the baseline environmental conditions, on which the subsequent environmental influences of the project are built.
 - (b) The accuracy of the predicted environmental impacts, which in its turn, affect the outcome of evaluating those impacts and, hence, determine the most significant ones that should be subject to in depth analysis and investigation.
 - (c) The effectiveness of the suggested mitigation measures, which is also dependent on the definiteness of the indicated key impacts.
 - (d) The inclusion of the various points of views, including the public concerns, in the assessment of the environmental impacts.
 - (e) The technical efficiency of the teams of experts involved in predicating impacts and reviewing the EIS.
 - (f) The ability to monitor the implementation of all the measures that was proposed in the study, as well as the recommendations submitted by the experts and the concerned groups of the public.

On practical grounds, many of those elements are inscribed with questionmarks. For instance,

- (a) There exist no central authority responsible for assembling, verifying, analyzing, organizing, and disseminating the environmental data and information that is needed either to furnish the baseline environmental conditions or to carry out impact determination and evaluation. Accordingly, environmental information has to be gathered from scattered sources in non-convenient forms and, most probably, without validation.
- (b) Insufficient human capacity is a serious constraint in most countries. Some environmental branches, or units, and even major departments in the environmental agencies are almost with no technical or clerical staff. Even when specialists exist, many of them are without adequate experience and qualifications. With such chronic shortage of qualified technical specialists, how could we be sure that major impacts were signaled out and well evaluated, effective and feasible mitigation measures were indicated, and so on.
- (c) There are no specific procedures set out for monitoring activities and for reporting on the project's impacts during the project construction and operation. Moreover, existing technical and human capacity may not be adequate for accurate monitoring.
- (d) It is noticed, in many cases, that once a license is issued, there exists very little control on enforcement of its requirements and adherence to its conditions. Worse than that, in some countries, unlicensed practice of various activities is not uncommon and, sometimes is tolerable.

Table (1) below, summarizes, the key findings regarding various aspects of the EIA in the selected ESCWA-MC.

- 3. Most of the *EIA studies in the ESCWA region were ad-hoc and donor driven rather than demand driven*. In some countries, the EIA studies are mainly conducted for big development and infrastructure projects, to satisfy the foreign donor and/or the requirements of the international granting agencies.
- 4. In general, the practice of EIA in the ESCWA region tends to *overlook the "cumulative environmental impacts"* of the various proposed projects and activities. The focus of the environmental screening and scoping is on the potential impacts of the sole proposed project, as if it would stand and operate in isolation of other projects with similar as well as different environmental impacts.

5. ***Cumulative environmental effects of small projects have been advancing*** fast in many countries in the ESCWA region. In some countries, such as the KSA, Kuwait and Egypt, actions have been taken towards gathering such projects in environmentally regulated industrial zones. In such zones, the cumulative environmental impact should be monitored and mitigation measures should be introduced. On practical grounds, the environmental management of those zones could be described as reasonably well established in some countries, such as the KSA and Kuwait, whereas it is still lacking many essential elements of efficiency, in other countries.
6. In some cases, ***the EIA procedures are just practiced to fill in the gaps in the chain of licensing requirements***, without paying adequate attention to the actual significance of this process and the required precision in fulfilling it. Moreover, in some countries, the procedures for decision making and licensing are neither clear nor applied in a systematic manner.
7. ***Lack of environmental monitoring and auditing*** limits the feedback on the effectiveness of the implemented mitigation measures and, hence, wastes the chance of introducing appropriate correction measures.
8. The general lack of data and of environmental standards widens the tendency to focus on ***using qualitative rather than quantitative indicators***. In many cases, the decisions taken reckon to the common senses, personal judgements, past experience and, sometimes, the intelligent speculations of the EUs or the leading agency staff, which is insufficient to deal with the various EIA tasks.
9. ***Fragmented legislation*** system, scattered non-homogeneous environmental laws, ***unclear regulations and inadequate by-laws*** are still significant obstacles that handicap the efforts towards efficient implementation of the EIA process in some of the countries of concern.
10. ***Conflict of interest*** between governmental authorities ***and lack or inadequate participation*** of local communities emerge as heavy stones blocking the road towards effective implementation of EIA. In most cases, affected parties are left in the dark till every thing is finalized, then, the results might be publicized. At this stage, it is usually too late to take comments and views of the public in consideration. Such problems characterize most projects and planning policies in the region.

11. Despite the efforts spent by some countries to include a few of the NGOs in the EIA process, ***public participation, in general, is still lagging behind*** the minimum level that is hoped for in any significant EIA process.
12. ***Insufficient funds*** cease many EIA procedures far from being efficiently completed. Absence of inefficient environmental monitoring and auditing are just some examples of shortcomings partially triggered by financial shortages.

VIII-B. Recommendations:

1. The benefits of the EIA can be realized only by the ***effective collaboration*** between the involved government institutions. Similarly, ***coordination of activities*** could cut-down the time consumed in the EIA process and minimize the potential increase in the total costs of the project. In both cases, the basic ingredient is a good and reliable communication between the leading agency and other concerned governmental bodies. Communication procedures and ways to settle disputes should be well defined to start with. It may be essential and useful to ***establish environmental "liaison offices"*** with adequate number of liaison officers, within each authority or ministry. In order to facilitate coordination and, meanwhile, to cut down financial obligations of the leading agency, the liaison officers should be nominated by their own authorities to handle specific duties of integrating and implementing the sector's environmental policies. At all times, those officers should keep close contacts with the leading agency. Periodical evaluation of the results of such experience would be recommended to enhance, further, coordination activities.
2. All ***regulatory standards*** must be organized and outlined in "guidance" as a reference for the (PP) and his (her) consultant.
3. Without compliance, the EIA practice and recommendations are just words on papers. Therefore, the (PP) should be notified and informed of ***compliance measures*** that could be administered. Such measures could be of the "command and control" type and/or "market-based economic tools".
4. ***Monitoring and reporting requirements*** should be included and defined as part of the EIS. The EIS should clearly indicate:
 - (a) What, when, and where to monitor?
 - (b) Who is responsible for monitoring tasks?
 - (c) Report to whom, how often, and in what form?
 - (d) Who is in charge of following-up actions?

5. In view of the fact that serious monitoring is quite costly, ***monitoring activities might be embodied as part of the regular monitoring programs of the involved ministries and authorities.*** Nonetheless, the (LA) should arrange for control on the quality and reliability of the monitoring results, and be ready to provide technical advice whenever needed.
6. Since monitoring resources and capacities are limited, more attention should be directed to ***“community monitoring”*** and the role of public’s observations. In other words, people’s complaints must be taken seriously. Complaints are often a low cost source of information, however, it is also biased against hazardous invisible wastes. Therefore, it should not be treated as a substitute for technical monitoring, but just as a helping tool.
7. ***Public auditing should be encouraged.*** By disclosure of the environmental performance indicators of the project to the media and/or the concerned parties and NGOs, the public itself could present a pressure force on the project to comply with environmental requirements and standards.
8. In countries where financial markets are well developed and responsive to information, and when the environmental awareness of the stock owners is relatively high, disclosure of the project’s environmental performance indicators may lead ***capital markets to revise their expectations regarding the profitability of the enterprise.*** The positive or negative expectations – depending on the type of revealed information- would affect the market value of the project’s stocks.
9. The ***“accumulative environmental effects”*** should be embodied in the project’s screening and scoping process. When it comes to protecting the environment, what matters is the accumulative environmental effect resulting from the interaction and interdependency of the proposed project with other existing and potential projects and activities. Accordingly, the contribution of the proposed project to that accumulative effect, should be a major influence on the decision to be taken. This implies that granting a license to a proposed project, or an extension of an existing activity ought to be done within the general framework of the environmental policy of the country.
10. In most countries, the EIA is done apart from the economic appraisal of the proposed project. The EIA involve a package of alternatives and various mitigation measures, each with a different cost estimate. The cost

element of certain alternatives that sound efficient from the environmental point of view, might, in fact, be tremendous from the economic perspective. Therefore, it is recommended to *establish some sort of coordination between the EIA and the economic assessment of the proposed projects.*

11. *Reliance on environmental protection funds* as a source of finance for EIA as well as other environmental protection efforts, could be justified only as a “transitional tool”. From the economic point of view, EPFs, when compared to “ecotaxes”, are not the most efficient tools of supplying long-term financing of certain services or projects. The amount of funds directed to finance specific programmes could be, sometimes, either inadequate or more than adequate. Moreover, the size of those funds is characterized by being unstable, which may affect the project’s ability to survive or to operate efficiently. Therefore, other financial tools should be developed and introduced gradually to replace EPFs.
12. Moreover, *legalizing and applying the “polluter pays principle”*, as an efficient economic tool to control environmental degradation, should be given serious consideration and ample analytical investigation.
13. Human resources play a key role in determining the success or failure of the EIA system. To augment the quality of EIA is to enhance the qualifications and capacity of the assessors and other human factors involved in the process. In the ESCWA-MC, there is an urgent need to *specify the gaps in the current structure of human capacities* of all types of skills, at all levels, and in all institutions that are concerned with the EIA process. Adequate *correction methods should be designed and implemented* –as soon as possible- to fill in those gaps and fortify the human capacity of the concerned institutions. The list of such correction tools is long and should be tailored according to the specific needs of each country. However, the following would be part of all countries’ lists:
 - (a) Short-term to medium-term tools, which include:
 - ◆ Increasing the current manpower through part-time and short-term employment contracts to fulfil the hanging jobs and avoid delays.
 - ◆ Recruiting national consultants –and foreign consultants if necessary- in various fields, whenever and wherever needed.
 - ◆ Working out comprehensive training programmes specially catered and designed to fit the specific needs of employees at all levels of specialization and responsibilities.

- ◆ Providing adequate financial incentives to current staff.
- (b) Longer-term tools, which include:
 - ◆ Investing in building the human capital by sending people for higher educational degrees.
 - ◆ Improving the current structure of wages and remuneration schemes to attract the qualified human resources.
 - ◆ Establishing an efficient employment and promotion system that does not rely on personal relations and favours.

14. Meanwhile, the current shortage of adequate skills and expertise in the national agencies involved in the EIA process could be partially compensated by *using specialists from various local research centers and universities*. Such local research and academic institutions have the advantage of being completely aware of the various conditions of the country (the institutional frameworks, the legal structure, the eco-systems, the resource bases, etc.), as well as its historical, cultural and social fabrics, and its capabilities. In this regard, it might be advisable for the leading environmental authority to prepare a database or a “roster” of accredited and certified national and international EIA experts and consulting firms. Such information is to be disseminated to all environmental focal points at line ministries who get in direct contact with the (PP) (UN-ESCWA, 2000). The choice of experts and consulting firms must be based on the professional competence, managerial ability, availability of resources, professional impartiality, fairness of fee structure, professional integrity and quality assurance systems.

15. A *dialogue* among the project owners, the government’s representatives, and the public is a useful tool for assuring effective implementation of the EIA and compliance.

16. Leading agencies should plan ahead for *maximizing the benefits of the available and potential foreign assistance opportunities* in the field of enhancing environmental management.

17. Trends and experiences around the world show *that political support and enhanced decentralization* are favorable political and institutional conditions for effective implementation of EIA.

(Table: 1)

**A Matrix of Evaluation for Key Stages & Activities of EIA
In the Selected ESCWA-MC**

	Country	Well establish ed	Not adequate	In the process	Not available
Legislation Requiring EIA	Egypt	✓			
	KSA	✓			
	Lebanon			✓	
	Yemen	✓			
Legislation/by- laws Describe the EIA Process/ guidelines	Egypt		✓		
	KSA	✓			
	Lebanon	✓			
	Yemen		✓		
Legislation/by- laws Require human Capacity building	Egypt				✓
	KSA		✓		
	Lebanon		✓		
	Yemen				✓
Legislation/by- laws Require technical Capacity building	Egypt				✓
	KSA				✓
	Lebanon				✓
	Yemen				✓
Legislation/by- laws Require enhancing the public concern	Egypt				✓
	KSA		✓		
	Lebanon		✓		
	Yemen				✓
Legislation/by- laws Require the public Participation	Egypt		✓		
	KSA				✓
	Lebanon		✓		
	Yemen		✓		
Legislation/by- laws Require creating an Environmental “Fund”	Egypt	✓			
	KSA				✓
	Lebanon	✓			
	Yemen	✓			
Legislation/by- laws Require a deposit of a “guarantee” or a “financial bond”	Egypt				✓
	KSA				✓
	Lebanon			✓	
	Yemen				✓

Continue (table: 1)

	Country	Well establish ed	Not adequate	In the process	Not available
Legislation/by- laws set time limits for the EIA process	Egypt				✓
	KSA	✓			
	Lebanon			✓	
	Yemen		✓		
Legislation/by- laws Require post- Decision Monitoring	Egypt	✓			
	KSA	✓			
	Lebanon	✓			
	Yemen	✓			
Compliance Requirement	Egypt		✓		
	KSA				✓
	Lebanon			✓	
	Yemen				✓
Clear definitions of Legislation, By-laws and Regulations	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Coherency of Regulations and Standards' setting	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Standards' Availability and Completeness	Egypt		✓		
	KSA		✓		
	Lebanon			✓	
	Yemen			✓	
Existence of a (LA)	Egypt	✓			
	KSA	✓			
	Lebanon			✓	
	Yemen	✓			
Co-ordination among Involved authorities	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		

Continue (table: 1)

	Country	Well establish ed	Not adequate	In the process	Not available
Good communication Channels among all Parties	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Non-centralized EIA Management Institutions	Egypt		✓		
	KSA		✓		
	Lebanon				✓
	Yemen		✓		
Adequate human Capacity	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Adequate training	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Adequate technical Capacity	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Adequate database And information System	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Financial adequacy	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Political support to Enforcement	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		

Continue (table: 1)

	Country	Well establish ed	Not adequate	In the process	Not available
Clarity of "Scoping" Procedures	Egypt		✓		
	KSA	✓			
	Lebanon			✓	
	Yemen		✓		
Quality of the actual Performance of "Scoping"	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Enforcement of Terms of references	Egypt		✓		
	KSA		✓		
	Lebanon		✓		
	Yemen		✓		
Actual Involvement of concerned public in "scoping"	Egypt		✓		
	KSA				✓
	Lebanon			✓	
	Yemen				✓
Actual Involvement of concerned public in EIS review	Egypt				✓
	KSA				✓
	Lebanon				✓
	Yemen				✓
Actual Involvement of concerned public in decision making	Egypt				✓
	KSA				✓
	Lebanon				✓
	Yemen				✓
Actual monitoring	Egypt		✓		
	KSA		✓		
	Lebanon			✓	
	Yemen				✓
Actual auditing	Egypt				✓
	KSA				✓
	Lebanon				✓
	Yemen				✓

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