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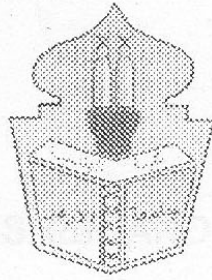
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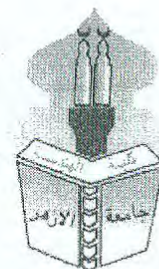
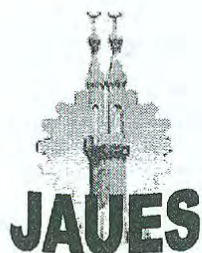
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STRATEGIC ENVIRONMENTAL ASSESSMENT IN LAND USE PLANNING - TOWARDS ESTABLISHING SEA FRAMEWORK IN EGYPT

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ABSTRACT

Strategic Environmental Assessment (SEA) is a decision making supporting tool. It is carried out on the higher level of decision making process and land use planning is one of the application fields of the SEA. Implementation of SEA in land use planning has been developed in many countries in the world in order to enhance decision making process. In Egypt, Despite of the growing in environmental awareness in the last period. The environmental degradation continues due to the neglecting of implementation of SEA in land use planning. Although, it is obligatory by the Egyptian environmental law no.4 of 1994 to carry out EIA for any new projects or innovations of existing projects to get projects license

This paper presents an attempt to develop a SEA framework, which integrates Environmental aspects on the level of policies, plans and programs with land use planning process in Egypt.

KEYWORDS : Strategic Environmental Assessment (SEA), LandUse Planning (LUP), Decision Making Process (DMP).

1. INTRODUCTION

Planning is a future-oriented activity, strongly conditioned by the past and present. It links scientific and technical knowledge to actions in the public domain (Friedmann, 1987). Ideally, transparency and public participations between all groups and individuals interested in and/or affected by urban development and management activities are major part in land use planning process. In practice, such comprehensive sharing of information and decision making is rarely found.

SEA is a supporting tool to decision making process, transparency and public participation is the backbone of this assessment, thus it is appeared in the last twenty years in the world to emphasis on the concept of sustainability via applying the mentioned two concepts.

Decision-making process has been defined as a process by which a person, group, or organization identifies a choice or judgment to be made, gathers and evaluates information about alternatives, and selects from among those alternatives (Lein, 2003).

Land use planning should be a decision-making process that facilitates the allocation of land to the uses that provide the greatest sustainable benefits – Agenda 21, (UNCED, 1993). The role of SEA is to make that happen and to facilitate allocation of uses without causing environmental deterioration consequences caused from irreversible decision making.

This paper aims to develop a road map for applying SEA approach in land use planning in Egypt. It is divided into four sections, Section one provides an overview of the SEA process, with focusing on its important role as an efficient tool for decision making process. Section two discusses land use planning process and method of Integration SEA on it. Section three explains current situation of land use planning process in Egypt. Section four presents the SEA framework for integrating of SEA in land use planning in Egypt.

2-SEA IN BRIEF

According to (Fischer 2002), the term SEA was coined in 1989 and was initially envisaged as being based on the same procedural principles as EIA, only operating at a higher level of decision making process.

2-1 Concept & Definitions

Generally speaking, there is no universal definition for SEA; however SEA is becoming an accepted and widely used instrument for integrating environmental issues into the formulation of plans and programs throughout the world.

It can be defined as; “ The formalized, systematic and comprehensive process of evaluating the environmental effects of a policy, plan or program and its alternatives, including the preparation of a written report on the findings of that evaluation, and using the findings in publicly accountable decision-making.” (Therivel R. et al. 1992) cited in (Alshuwaikhat 2005) p. 309 SEA is decision-aiding processes that can be and should be applied flexibly to the decision cycle, recognizing that this term mean different things and often cover different types of decision-making processes. In all cases, the approach taken should be consistent with EIA principles. What does not automatically follow from this definition is the requirement to use EIA procedures and methods in SEA, though their use and adaptation for this purpose is widespread. (Sadler 1996)

2-2 SEA process:

The development and consequent adoption of SEA procedures have gained momentum in recent years. Not only have more countries revised their approaches towards the integration of EA at different tiers of the decision-making process, but the international arena has also played a vital role in re-emphasizing the importance of SEA through the endorsement of two important legal documents, namely, the European SEA Directive (2001/42/EC) and the United Nations Economic Commission for Europe (UNECE) 2003 SEA Protocol.

In this part, a comparison between the procedures of SEA was carried out between three different guidelines:

- 1- EU Directive for SEA which is applicable in all EU countries.
- 2- SEA in non European country (Turkish guideline)
- 3- SEA in international financial institutions such as Organization for Economic Co-operation and Development (OECD).

Form the comparison, the paper concludes the following points:

- Title of each step is varied from guideline to another, but the process is the same.
- Some steps are merged together and other don't but generally, the SEA Process is divided into four major steps in the three guidelines and the subdivide steps title and numbers is varied.

From the previous comparison the research concludes the following SEA process (figure 1):

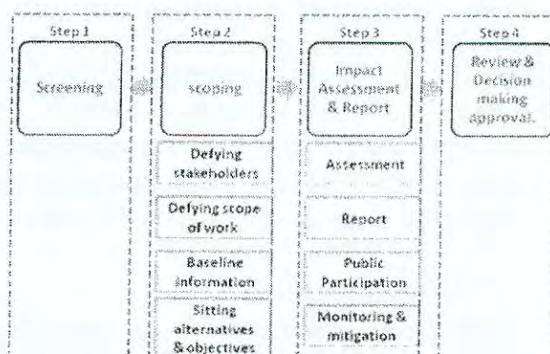


Fig. 1. Main Steps In The SEA Procedure. Source: (Authors, 2010).

Step 1: Screening:

Screening exercise is undertaken to answer the following threshold question: should an SEA be conducted for the subject proposal?

Step 2: Scoping

A scoping exercise is conducted to ensure that all high priority issues relevant to the decision being made are addressed in the SEA.

1- Defining stakeholder

All "stakeholders should be given an opportunity to participate in the scoping exercise. While consultation with stakeholders takes place at various points in proposal development, it is particularly important during scoping.

2- Defining Scope of work:

The scoping stage determines the likely extent (geographic, temporal and thematic) and level of detail of the assessment, the information to be included in the SEA and the environmental report.

3- Base line information:

In this context, baseline information and data needs have to be established. In order to be able to draw a realistic picture of the situation, it is important not only to consider the bio-physical environment, but also to take economic and social development objectives into account.

4- Sitting the objectives:

Objectives are relating to the policies, plans and programs. It is in all emphasis on sustainable development or other environmental strategies.

5- Sitting different alternatives :

At the scoping stage, different development alternatives should be identified that may be available for meeting environmental, economic and social objectives.

STEP 3: IMPACT ASSESSMENT AND REPORT

1-Assessment:

This stage is at the heart of the SEA process. The impacts assessment includes all type of assessment including; direct and indirect (or "secondary") effects or any other types of assessment.

2-Report

The SEA report documents are the final product of the assessment process, it includes the findings of the assessment of the various proposed alternatives and the predicted impacts upon the environment.

3-Public participation

Public participation are the supporting step in the decision making process, the role of stakeholders, and public participation appears in all SEA process, but the major involvement of these participation appears in scoping step and assessment step.

4-Monitoring & mitigation measures:

An SEA should include a plan for monitoring environmental effects so that mitigation measures can be implemented if unforeseen effects occur.

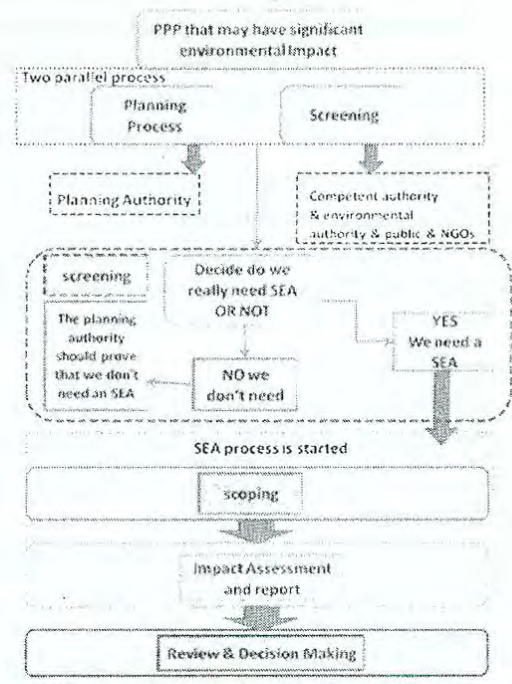


Fig. 2. Concluded SEA Steps Based On EU Directive, Turkish SEA Process And OECD Process. Source (Authors, 2010)

Step 4: Review & Decision Making Approval:

At the review stage, all the environmental information collected during the SEA process and presented in the SEA report is supposed to be checked.

This step is also called the decision making step as in this step we weighed economic and social matters against the environmental considerations brought forward by SEA. Within decision making, due consideration to the environment should be given and the decision maker should explain how a decision was reached and what information was used.

3- OVERVIEW OF LAND USE PLANNING

3-1 Concept of Land Use Planning

"Land use planning is the systematic assessment of land and water potential, alternative patterns of land use and other physical, social and economic conditions, for the purpose of selecting and adopting land use options that are most beneficial to land users without degrading the resources or the environment, together with the selection of measures most likely to encourage such land use "(Leslie et al. 2000).

Levels of Land Use Planning:

Land-use planning can be applied at three broad levels: national, district and local. These are not necessarily sequential but correspond to the levels of government at which decisions about land use are taken.

Different kinds of decision are taken at each level, where the methods of planning and kinds of plan also differ. However, at each level there is need for a land-use strategy, policies that indicate planning priorities, projects that tackle these priorities and operational planning to get the work done.

There must be an interaction between the three levels of planning with emphasis on the flow of information in both directions (Figure 3).

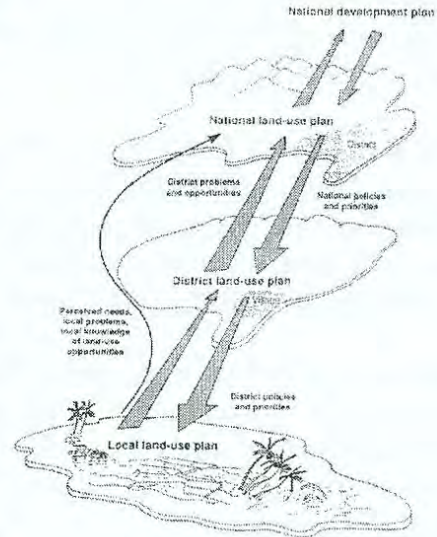


Fig. 3. levels of land use planning.(FAO 1993)

3-2 Generic Steps in Conducting Land Use Planning:

Land use planning process is a flexible process; its step can change from country to another based on governmental legislations and framework ,beside institutions and governmental bodies involved in the planning process, the following part illustrates generic steps in conducting land use planning as follows;

Step (1): Preparation and Organization of Work:

The planning effort is launched by discussions between those who want the plan (land users and government) and the planners. This crucial first step should be a mutual exchange of ideas and information ((FAO) 2008). This step is the beginning work necessary for formulating the plan. This includes defining task descriptions, selecting the planning team, and drawing up a schedule of activities and objectives.

Step (2): Information & Data Collection.

To get started, the planning team will need some basic information includes regional baseline data such as the population, local socioeconomic development goals, land resources and land-use data (Tang Tao et al. 2007).

Step (3): Preparation of the Draft Plan.

For any land-use master plan, it is first necessary to identify and analyze potential problems and conflicts in existing land-use patterns. Investigate existing site conditions, identify existing unreasonable land use practices and try to understand their causes, and identify potential constraints to proposed changes.

Step 4: Compilation of Plan Document:

Based on the overall scheme of the draft plan, the documents are compiled, organized and presented to facilitate the successful attainment of the goals stated in the plan. They include the various reports and drawings that have been developed.

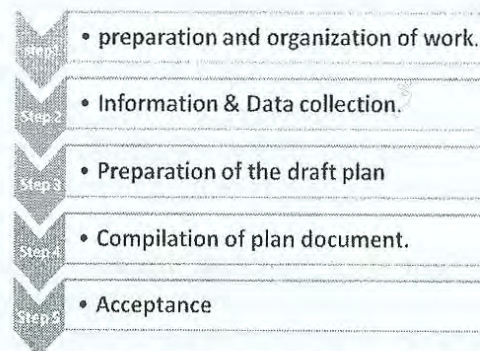


Fig. 4. Generic steps in conducting Land Use Planning. Source: (Authors, 2010) Adopted from ((FAO) 2008; Tang Tao et al. 2007)

Step 5: Acceptance of the Draft Plan:

These documents, the draft version of land-use master plan, are then presented to the local government. The draft plans reviewed by the local government are presented to the level of government directly above them, until the authority undertaken the right of examination and approval (Tang Tao et al. 2007).

4-SEA IN LAND USE PLANNING

It is widely recognized that land use planning and SEA are prerequisites for achieving acceptable forms of development and that the combination of the two processes can greatly assist decision-makers in working towards sustainable development. However there is, a continuing debate over the precise role and purpose of each activity (Belcáková 2002).

Land use planning integrates environmental, social and economic aspects of the spatial development. Taking into account the integration of these aspects is not a new requirement in land use planning. The innovation of this principle lies in a new vision of integrity in a context of sustainability. It is first of all their mutual influence in the final synergetic quality and not in additive integration.

Different countries have evolved their own approaches towards integrating land use planning and SEA, reflecting their cultures, history and political structures. An element of standardization has been introduced in Europe through the introduction of the SEA Directive (2001/42/ EC), but it is left to each Member State to determine the precise methods to be used.

4-1 Why SEA in Spatial & Land use Planning?

SEA in Land use planning can make visible the environmental objectives and contribute to more systematic synthesis of local or regional environmental challenges. SEA can thereby make visible the priority to be given to environmental considerations in planning solutions.

4-2 Key Roles and Responsibilities of SEA on Land-use Planning

In this section, the key actors within the process of developing the SEA on land-use planning and their roles and responsibilities are identified.

4-2-1 Institution Responsible for the Development of Land-use Master Planning. (Proponent Authority)

The functions of this institution are to:

- Organize the SEA scope this including choice of a technical agency or experts to conduct SEA and submitting the draft plan and SEA statement.
- In charge of developing and follow up the draft plan.
- Organize the follow-up SEA.

4-2-2 Organizations Responsible for Carrying SEA (Assessment Team)

EU Directive does not prescribe who have obligation to carry out the SEA, but it will normally be the responsibility of the environmental service agency.

4-2-3 Institution for Review and Appraisal of the Proposed Draft Plan and SEA Document

The institution in charge of review and appraisal of the proposed draft land-use plan is the higher authority that plays the role of final decision maker of the assessed plan. The SEA document must be submitted as an integral part of the draft plans to the plan review and approval authorities. The findings and conclusions of the submitted statement shall be the legal basis for integrating environmental consideration into the decision-making of land-use master planning.

4-2-4 Public Concerned

Public concerns are a key consideration for any EA, especially for SEA on land-use planning. Making preliminary information available often facilitates public understanding of the proposed initiative and leads to more constructive input. Although confidentiality of some aspects of plan may preclude full public consultation, any effort to understand public opinions will improve the quality and credibility of the SEA and the plan itself (Tang Tao et al. 2005)

5- INTEGRATING SEA PROCESS IN LAND USE PLANNING

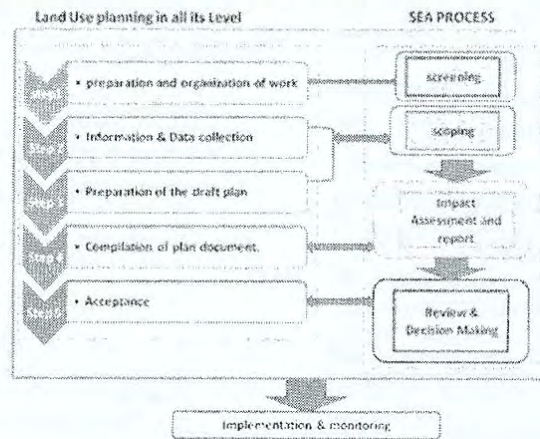


Fig. 5. Integration Of SEA Process In Land Use Planning Process. (Authors, 2010)

SEA must come as a parallel step to the preparation of land use plan; the major differences to the existing planning procedures are the following key issues:

- Set clear targets and objectives (especially environmental targets);
- Develop different alternative scenarios and assess them according to the targets;
- Implement a tiered (public) participation approach.

These integrated process involved different governmental bodies and decision making authorities with the assistance of the stake- holders and public participation from day one of screening step, the process starts from deciding of arrange this type of land use planning on any level from policy, regional to detailed level accordingly the SEA step starts from the same point in answering the question of is really this land use planning have any significant impacts on environment if the answer was yes, the SEA process is started from this point.

Acceptance of SEA is the key step of accepting the proposed land use planning, if the decision making authority decide to accept it then the plan will be accordingly implemented, or it can refuse it so the process will start again and the proponent authority will propose another land use planning, the last act is to modify the proposed plan based on the recommendation of the SEA assessment team, then the proponent authority must modify its proposed land use plan.

This means that based on the decision making response on the proposed SEA report and land use plan the proponent authority will act one of this steps:

- 1- Re-propose another land use plan if the competent authority refused the Land use planning based on the results of SEA report.
- 2- Modify the proposed land use planning based on the recommendation of the competent authority.
- 3- Implement the land use planning and organize for the monitoring step.

5-integrating SEA in Land Use Planning in Egypt:

Although EIA has been applied to individual projects in Egypt since 1994, natural environment has continued to be negatively affected because of human activities. Today, parallel to the developments in the world, it has been discussed that it is necessary to strengthen project-level EA and to introduce SEA in Egypt (Salheen & El Khateeb, 2008).

Till now there is no Environmental Assessment carried out on land use planning in Egypt, and all environmental studies is carried out in the step of preparation land use planning. Also the new

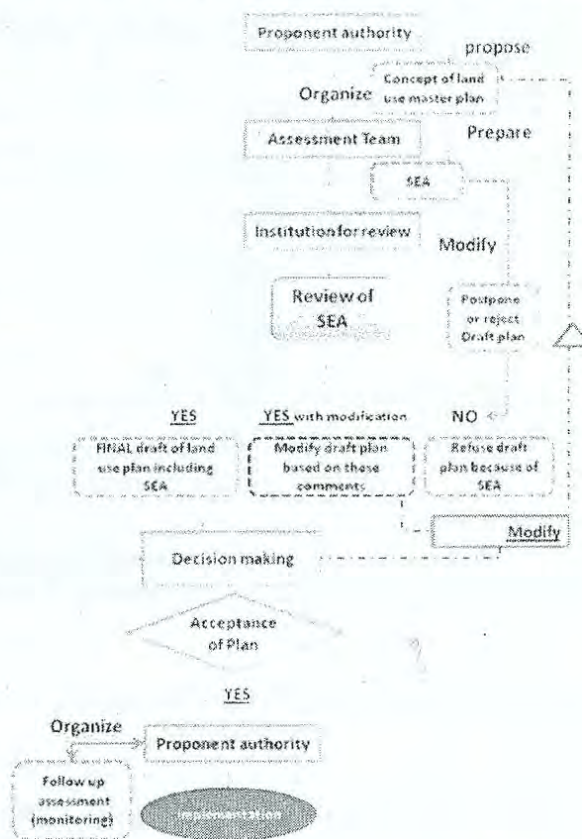


Fig. 6. flow of SEA process for land use planning (Authors, 2010).

Strategic Plan for the Governorates:

It defines the objectives, policies and programs of urban development in each governorate, and implementation phases, and the role of the public and private sectors in this implementation.

Strategic Plan of Cities and Villages:

Strategic plan of the city or village, which shows the future needs of urban expansion , development projects and plans of economic, social, environmental and construction necessary to achieve sustainable development at the local level within the framework of the future vision of the strategic plan.

Detailed Urban Design:

This stage is carried out on specific areas of city or village and it deals with preparation of the detailed planning projects in this areas. Besides developing infrastructure plans that work with the outline of the General Strategic Plan.

5-3 Establishing Model of Integration SEA in LUP:

The first part of this paper reviewed SEA process, our study concluded that there are four Main steps in SEA and inside these steps there are secondary steps. Also, our study noticed that each country or organization can build its own model or guideline base on its national condition.

5-3-1 Key roles and responsibilities in conducting SEA in Egypt:

Identification of the key roles and responsibilities of all governmental bodies that will be involved in the SEA process is the first step before constructing the model.

A-Competent authority responsible of the development of land use planning (proponent Authority):

Based on Law no. 119 of 2009, the GOPP is the competent authority responsible of reviewing all land use planning in Egypt and develop all planning strategies.

B-Assessment Team:

As mentioned before, it is better to compose team from environmental authorities. Based on this, it is better to establish a committee its members are representative of different authorities; GOPP, EEAA², Tourism Development Authority, other environmental and urban planning experts.

C-Institution for review:

To make sure that we conduct SEA process with maximum transparency it is recommended to make a review authority that follow the Council for Planning and Urban Development, to act as a higher authority.

This review authority work under the umbrella of this Council and its responsibility to make decisions concerning proposed land use planning based on the finding of the SEA report.

² The Egyptian Environmental Affairs Agency (EEAA): The Egyptian Environmental Affairs Agency (EEAA) is the central institution involved in environmental protection and co-ordination in Egypt. EEAA, it operates under the Ministry of Environment under Laws No. 4/94 and No. 102/83.

D-Public Concerned:

As mentioned before, the public concerned is very important and the key of success of any environmental assessment in Egypt. This public participation can be conducted by many means varied from meetings, questionnaire or other tools. Nongovernmental organizations in Egypt can play a major role in this issue.

5-3-2 Technical Procedure of SEA:

A proposed technical procedure of building SEA model consists of three stages, the first step is the preparation, the second step is the process and the third step is the review as shown in the next figure.

Preparation step:

This step is a parallel step to the preparation step of land use planning. It will be conducted by the assessment team with the help of the proponent authority (GOPP).

At the beginning of this step, screening is a fundamental to determine whether the SEA is needed for the proposed Land use planning or not and secondly scoping to determine the scope of SEA.

Scoping is an important step to determine the scope of base line data that will be reviewed in the SEA report.

Egyptian SEA Model

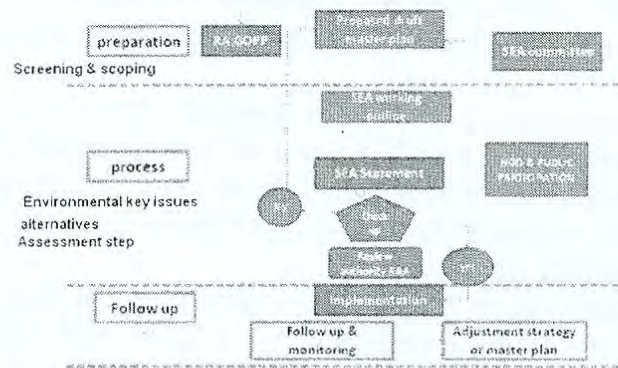


Fig. 9. Egyptian SEA model. Source (Authors, 2010).

Process step:

This step is the heart of the whole process. In this step, the work of assessment team will be started and also public participation will be a necessary process. In this step, cooperation must be done with proponent authority and assessment team to put alternatives of the proposed plan. The role of the assessment team is to test its impacts on the environment based on approved key environmental issues, beside test sustainability of proposed plan objectives and its computability with approved environmental issues.

In the end of this step the SEA report is now ready to be reviewed by the review authority.

Implementation & Follow up:

This step is the decision making step. In this step, the review authority will be either accept the plan with modifications or reject it. Then, implementing plan will be started after building a monitoring plan to follow up any future impacts. This follow up is very important, from survey

and questionnaire with key persons in EEAA, our study discovered that one of the major problems of project level assessment in Egypt is the follow up and monitoring. This weakness leads to more environmental deterioration in the Egyptian environment.

6. CONCLUSION

Because of the rapid urban development in Egypt it is necessary now to start thinking of integrating SEA in land use planning process, to save the environment from current threats that made by irreversible decisions.

SEA can be considered as a supporting tool for land use planning process in Egypt and can enhance decision making.

Land use planning in Egypt is a process which incorporates different parties and authorities. However, the GOPP is the authority responsible of putting all land use planning policies, plans and programs. Based on law 2009 the GOPP must approve any proposed plan from other authorities such as, tourism development authority.

In order to establish a framework for enforcing SEA in Egypt a lot of changes must be made in the land use planning process in Egypt.

First, At the legislation level SEA must mentioned to be an obligatory by law and it must be conducted as parallel process to the land use planning process.

Secondly, cooperation between authorities and organization is critical to make that happen by emphasis on the importance of having three main parties; these parties are responsible of the SEA process from its beginning.

The first one is the Proponent authority which is responsible of the land use planning (GOPP), the second one is the assessment team which is a combination of experts and key persons from GOPP, EEAA and other administrative bodies, and the third one is the review authority which will follow the higher council of planning and have the authority to reject or accept the proposed plan or program based on the SEA document.

In all SEA process public participation is essential to make sure that people will take their own decisions and transparency which are millstone in this process; this can happen in Egypt by involvement of NGOs as they play a great role in the public awareness in Egypt.

Beside all that we must focus on building capacity of experts and land use planners to enhance the whole process.

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