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Effectiveness of Environmental assessment framework and procedures: the case of Jordan

NEDAL M. AL OURAN*

Department of Water Resources and Environment Management, Faculty of Agriculture, Balqa Applied University

Abstract An evaluation of the EA framework in Jordan was carried out to examine its current status and effectiveness. The evaluation was performed through a critical review and analysis of the national EA system including; relevant regulations and institutional set up, methodology and process, selected EIA/SEA reports, disclosure of information, public participation, and the level of integration within national planning systems. The results revealed that environmental assessment framework is making a considerable progress in particular in aspects related to the legislations and public participation, however, a number of technical and administrative shortcomings have been identified and discussed in this paper.

The evaluation concluded also that consideration in the environmental assessment process is mainly given to the mitigation measures and less attention is being given to enhancing measures and monitoring. Although significant efforts have been made towards mainstreaming environmental concerns, environmental assessment process and applications are not well integrated into the national development processes.

The findings recommend to improve the relevant institutional and legal frameworks and put more efforts toward integrating this key instrument into the national development process in order to have an effective assessment system and contribute to the achieved of sound and sustainable development.

Keywords: *Environmental Assessment; Effectiveness; Integration; Jordan*

Introduction

Environmental assessment (EA) is gaining increasing attention worldwide as a tool to integrate sustainability concerns into policy-making and national development planning (Burdge, 2008). Interests in EA in Jordan, in particular Environmental Impact Assessment (EIA), have started after Jordan signed Agenda-21 following the world summit on environment and sustainable development in Rio de Janeiro in 1992. The first

relevant legislation that introduced the concept of assessment was the environment protection law No.12 for the year 1995 which provided an article that is entitled with the implementation of EIA system within Jordan.

This research was performed to contribute to the enhancement the Jordanian experience and performance with regard to impact assessment procedures through:

* Tel.: 00962792371384

E-mail address: nedal@bau.edu.jo

- The evaluation and a critical review of current status of EA framework, procedures and practices in the country;
- Highlighting the shortcomings and problems (and quality);
- Providing for some recommendations on improving the current system.

This research is among a series of intensive and comprehensive studies to review the different assessment methods and procedures in Jordan. The main focus of this paper will be EIA, as it could be said that EIA in Jordan has longer history and is more developed if compared with other instruments (i.e. SEA and sustainability index).

Why Evaluating EA framework?

Countries should always carry out a regular review of the performance of their environmental management system in order to be able to assess the progress towards achieving the objectives set in the national environmental policies as well as meeting the international commitments. Such review could include inter alia the extent to which environmental issues are integrated into national development planning regime, effectiveness of legal and institutional framework and effectiveness of environmental assessment framework which is the topic tackled in this paper. However, the other justifications for evaluating EA framework include:

- EA procedure and instruments are a management and planning tool designed to assist in the identification of the best development options, allowing for responsible integration of the environmental concerns into development planning and decision-making.
- Reviewing the national EA framework is an evaluation of the compliance with international agreements and commitments (i.e. Multilateral Environmental Agreements (MEAs)) since Jordan is signatory to a number of international treaties and conventions (e.g. UNCCD, UNFCCC and CBD).
- EIA is recognized as a key support tool for sustainable development (to ensure that proposed actions are economically viable, socially equitable and environmentally sustainable (IALA 2002)).
- EA is supposed to take into account impacts on a range of variables such as biodiversity, population, fauna, flora, soil, water, air, climatic factors, material assets, cultural, architectural and archaeological heritage, landscape and human health (El-Fadl and El Fadel, 2004), therefore it contributes to the conservation and sustaining of natural and cultural resources.
- Effective EA reflects the effectiveness of the existing institutional and legal framework (particularly the enforcement of legislations) of the country

Environmental Assessment (EA)

Environmental assessment is a process to predict the potential impacts—positive or negative—that a proposed project/action may have on the environment before they are carried out and propose measures to mitigate these impacts. The EA is usually requested to be "brief but thorough" i.e. not "encyclopedic", (World Bank, 1991).

EA is carried out to achieve two main purposes; minimize or avoid adverse environmental effects before they occur and integrate environmental concerns into decision making process. Therefore, any evaluation of EA process is in fact an exercise to examine the achievements of these purposes.

In addition to analyzing the likely effects of the decisions, EA involves public participation and consultation as well as developing and comparing alternatives.

EA sometimes is confused with other types of environmental studies, however it should be clear that EA—particularly in this paper—is not Environmental Site Assessment which is usually conducted to identify nature and extent of pollution on a specific site, nor Environmental Audit that is carried out to evaluate the performance of environmental management and regulatory compliance of a specific operation.

EA can be undertaken for individual projects, such as energy production projects (e.g. thermal power plants), infrastructure projects (e.g. roads, airports, railways), or processing industry projects (e.g. textile, paper, food), and in that case it is called Environmental Impact Assessment (EIA) or for public policies, plans or programs where it is called Strategic Environmental Assessment (SEA).

The Environmental Assessment (EA) is a key tool to ensure that decisions taken at the legislative and regulatory level are actually executed and built into the design and implementation of development projects

Several international efforts (e.g. World Bank, UNEP and EU) have contributed to the development and enhancement of assessment experience. These efforts stated that:

- EA should be ensured to minimize adverse effects on nature;
- Assessment processes should be included in the fundamental elements of all planning; and
- EA outputs should be publicly disclosed and deliberated.

Methodology and Approach

An early important step in the methodology adopted to conduct the present research was the extensive literature review of relevance to the effectiveness of assessment instruments worldwide. (e.g. Sadler, 1996; Barker and Wood, 1999; Verheem and Tonk 2000; Bonde and Cherp, 2000; Fischer, 2003; Fischer, 2007; Cashmore et al, 2008; Heinna and

Pöder, 2010; Sheate and Partidário, 2010; Peterson, 2010; Clausen et al, 2010; Pölönen I et al, 2010; Cashmore et al, 2010; Weiland, 2010).

A critical review and analysis of the national EA system was performed. The analysis covered a number of components and aspects including: the relevant regulations, comparative evaluation with foreign/international experience such as WB and EU, institutional set up, disclosure of information, public participation, methodology and process and the level of integration within national planning systems,

In addition, several selected EIA and SEA reports representing different sectors were collected and reviewed in terms of their quality of content.

Environmental Assessment Framework in Jordan

The first assessment instrument and procedure officially introduced in the country was the EIA. The legal basis for that was the Environment Protection Law No. 12 of 1995 (Article 15). Currently, EIA is being implemented through regulation No. 37/2006 and its five annexes, which were enacted in response to Environment Protection Law No.1 of 2003 and subsequently to law No. 52 of 2006, where the process was further strengthened and institutionalized under that regulation.

This regulation has also empowered the Ministry of Environment to develop procedures and measures for EIA. According to the same regulation, the ministry is responsible for administering the EIA system (to arrange for screening, control and follow up on the EIA process and its implementation), and for coordinating the licensing of development activities.

Since the enactment of the 1995's law until present time, many environmental assessment studies have been carried out for projects in different sectors. However, the early studies (prior 2003) were mainly conducted on an ad hoc basis, primarily under the requirements of international donor agencies. This situation was reversed with the enactment of subsequent environmental laws and there was a remarkable progress since 2003 in order to institutionalize particularly the EIA system in Jordan and since then, Ministry of Environment in Jordan processes in average hundreds of applications for screening and 15-20 EIA reports annually. The EIA procedure in Jordan (Table 1) is similar to the standard procedure usually followed in many other countries, where it routinely starts with screening and ending with the approval of the EIA study (MoEnv, 2010).

Table 1: Summary of the Jordan EIA Procedure

STAGE	ACTIVITY
Screening	<ol style="list-style-type: none"> 1. Submission of Project Information Form (PIF) 2. Reviewing the PIF by An Inter-ministerial Central Licensing Committee (TRC) and classify the project as: <ul style="list-style-type: none"> • Category I -EIA is required • Category II -initial EIA is only required • Category III -no EIA is required
Scoping	<ul style="list-style-type: none"> • Preparing Terms of Reference (ToR), after consultation with all stakeholders (determining the issues and parameters to be addressed in the EIA) • Reviewing and approving the ToR by TRC.
Conducting the EIA/ Assessment	<ul style="list-style-type: none"> • EIA study is conducted by a qualified team • EIA study is submitted to the Technical Evaluation Committee (TEC) to evaluate it against: <ul style="list-style-type: none"> ✓ Conformity to the ToR; The methodologies used, the scientific validity and legal value of the evidence presented; ✓ The soundness and compatibility of the impacts with respect to environmental protection, the content of the environment management plan (EMP), standards, and other references • The TEC submits the findings to the Minister of Environment to make a decision.
Setting the Mitigation Measures/Management	Designing strategies to avoid or mitigate potential negative impacts and enhance potentially positive ones.
Decision and Approval	<ul style="list-style-type: none"> • Approval/disapproval is notified to the proponent within 45 days. <p>EIA is deemed to be accepted in case no decision was made within the 45 days after the submission of the EIA report.</p>
Licensing	Issuing the license upon the approval of the EIA report.
Monitoring	Follow up on the implementation of the Environment Management Plan and reporting the results of monitoring.

Strategic Environmental Assessment (SEA) on the other hand has been also applied for several developments in Jordan during the last 15 years (e.g. Water Sector (1999), Aqaba Special Economic Zone (2000) and Jabal Ajlun Development Zone (2010)) with the aim of achieving environment-friendly and sustainable development.

There is no universally agreed definition of SEA, but however, the following two definitions are among those are widely quoted:

1. "SEA is a systematic process for evaluating the environmental consequences of proposed policy, plan or program initiatives in order to ensure they are fully included and appropriately addressed at the earliest possible stage of decision-making on par with economic and social considerations", Sadler and Verheem (1996).
2. SEA is 'structured, proactive process to strengthen the role of environmental issues in strategic decision making', Tonk and Verheems (1998).

According to these definitions, the purpose of an SEA is therefore to integrate sustainability considerations into strategic decision-making (i.e. the formulation, assessment and implementation of policies, plans and program (PPPs)).

Jordan is at an early stage in the SEA implementation process. The introduction of concept started "softly" during the last two years. The focus of the early activities in that regard was on awareness raising and advocacy, capacity building for stakeholders and pilot application(s) on a specific policy or program.

The Ministry of Environment is currently engaged in developing a comprehensive approach for Strategic Environmental Assessment in Jordan (technical, operational and legal framework). The development of this is the formal stage of legislative development and institutionalization of the SEA process.

The delay in adopting the SEA protocols compared to the EIA- may be attributed to the limited resources available for applying of such strategic instrument and also to the current environmental priorities and agenda which may include other items that needed the attention and resources.

Nevertheless, although the SEA process is still developing in Jordan, it became an integral part in the permitting process of investment for instant in the Development Zones Commission (DZC) and Aqaba Special Economic Zone Authority (ASEZA). The general principles adopted so far for this SEA process include:

- The preparation or amendment of a Master Plan and the work on assessing the likely environmental

effects should be undertaken in parallel so that the environment concerns are integrated into the plan from the beginning;

- The team working on the Master Plan and the consultants working on preparing the SEA should therefore work closely together and preferably as part of the same team;
- The SEA work should contribute to the master planning work so that it avoids, reduces or offsets the significant environmental effects, (DZC, 2010).

The potential of environmental assessment as a sustainability instrument has long been recognized, but the criteria against which development proposals traditionally are judged are not necessarily criteria for sustainable development. Meanwhile, Agenda 21 identified the need for indicators of sustainable development for use in decision-making, but those that have been developed are not easy to apply in project level environmental assessment. These problems are addressed by returning to the fundamental principles of sustainable development and relating them to the principles of environmental assessment (George, 1999)

Results and Discussion

For the last seven years there was a remarkable progress on the development and implementation of environmental assessment (i.e. EIA and SEA) in Jordan in particular in aspects related to the legislations and public participation. The central role of EIA for instant has been strengthened and nationalized in recent years in Jordan as a tool for environmental mainstreaming.

The comparative review of the main features of the EA in Jordan with the international experience particularly those of World Bank and EU revealed that they -in general- are compatible.

The analysis of the Jordan's assessment system in comparison with these international practices shows that there are several features that are very similar with regard to screening process, scoping process and the format and content of the assessment reports. On the other hand, the analysis shows that there are still some differences between these systems. Among these differences are:

- The reviewing process for assessment reports -usually followed by the approval/disapproval- is carried out without specific guidelines or criteria. Therefore, each assessment report is reviewed based on a different approach.
- It was found also that the assessment process is carried out without sector guidelines.
- Quality of EIA reports in Jordan (currently examined by the author in a separate work) is variable and this is due to the absence of clear guidelines for report writing.

Review of both the assessment procedures and their outputs show that they focus mainly on mitigation and

frequently ignore the opportunity offered by enhancement measures i.e. no significant contribution towards enhancing and restoring existing natural resources.

The EIA system in particular does not address the assessment of cumulative impacts or indirect impacts especially in large projects and developments. Practitioners attribute this to the lack of guidance from Ministry of Environment and the limitation of time and fund available for the assessment study.

EA requires monitoring and follow up of the implementation of the management plans, in order to identify unforeseen adverse effects and to enable appropriate remedial action to be taken (e.g. EIA Regulations No. 37/2005). The evaluation of the implementation of management/monitoring programs revealed that there is a lack of systematic follow up and essentially no environmental monitoring is currently performed. This is attributed not only to the lack of capacities and resources, but also to the absence of clear guidelines on how to monitor significant environmental impacts.

According to the international practices, consultation is supposed to take place throughout the whole EIA process. In Jordan consultation was found to be restricted to scoping phase and in few cases in reviewing phase. Dissemination and disclosure of the assessment reports were found to be also limited (except of scoping reports). The Existing regulation for EIA does not include any provisions for that.

Public consultation and participation is an important step in the EA process. However, in order to enhance the effectiveness of this kind of participation, the concerned institutions and NGOs should raise the awareness of communities with regard to their role in the EA (i.e. to conduct awareness programs regularly to educate them on the objectives of the EA and how could they contribute positively to the quality of the EA studies). Furthermore, it should be looked at the public consultations and participation as a significant educative process where the participants gain new knowledge and experience relevant to the conservation of environmental resources.

Furthermore, disclosure and accessibility of the EA reports to the public was found to be limited, although legislation guaranteed the right to access such reports.

The evaluation of the selected EIA reports revealed an overall weak influence of public participation on quality of EIA and consequently on the final decision, but however it was clear that sufficient time for submitting written comments on EA reports as well as for raising concerns during public consultations had been given and guaranteed.

Results showed also that environment-health linkages are not identified explicitly within EA process. They were, however, included indirectly in the identification of traditional public health exposures associated with the physical environment and to a lesser extent the inclusion of social and economic impacts.

Although interest in the consideration of the potential role of EA in climate change continues to increase, the analysis reveals that this is still not mainstreamed into the national EA agenda.

Conclusion and Recommendations

Impact assessment is gaining increasing attention as a method for integrating sustainability concerns into the development planning in Jordan. Undoubted progress is evident in the practice of EIA in Jordan especially during the last five years. The progress is reflected in the legal framework and the review process performed from time to time, and since the enactment of the EIA regulation, many assessment studies have been carried out in Jordan covering various sectors.

The development and improvement of SEA is progressing less compared with EIA process and practices.

However, there are still some important questions that may remain open pertaining cumulative environmental effects and monitoring of these effects.

The integration of the assessment tools and procedures into development processes continues to mature rapidly but however, further work at both legal and institutional levels should be done in order to ensure that EA will contribute and assist in promoting sustainable development.

EA process, though well established, suffers from administrative, technical and management shortcomings.

The paper concludes that in order for EA to achieve its full potential - in addition to the mitigation of negative environmental impacts- the concerned agencies and EA practitioners must begin to realize and exploit potential enhancement opportunities.

However, in order to make further considerable progress towards institutionalizing the EIA system in Jordan, the following are proposed and recommended:

- Preparing of sector EA guidelines and generic TORs for key sectors;
- Develop format, criteria and guidelines for reviewing EA reports;
- Improve compliance monitoring through training and preparing inspection manuals;

- More focus should be made to the potential role of EA in climate change. This should be explicitly reflected in legislations and guidelines;
- It is recommended that the concerned institutions in Jordan to carry out a comprehensive review for the regulations relevant to environmental assessment and make the necessary amendments. Public participation and consultation in particular should be reflected and covered in these regulations;
- To develop a comprehensive approach for Strategic Environmental Assessment in Jordan (technical, operational and legal framework)

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الملخص العربي

فعالية نظام "التقييم البيئي" في الأردن

الدكتور نضال موسى العوران

قسم إدارة موارد المياه والبيئة-كلية الزراعة التكنولوجية-جامعة البلقاء التطبيقية

لقد تم عمل مراجعة لمنظومة "التقييم البيئي" في الاردن من أجل التعرف على مدى فعاليتها واعتمدت منهجية التقييم على مراجعة شاملة ودقيقة للتشريعات والبناء المؤسسي الخاص بالتقييم البيئي إضافة الى مراجعة وتحليل المنهجية المتبعة لعملية التقييم ومستوى المشاركة الشعبية ونشر المعلومات الخاصة بذلك ومدى إدراج/إدماج عملية التقييم البيئي ضمن عملية التخطيط التنموي في الاردن. كما تم مراجعة عدد من دراسات التقييم البيئي التي تم إجراؤها.

أشارت نتائج البحث الى ان منظومة "التقييم البيئي" في الاردن قد احرزت بشكل عام تطوراً كبيراً في مجالات مثل التشريعات والمشاركة الشعبية، كما أظهرت النتائج وجود بعض الجوانب التي تحتاج الى مراجعة وتطوير وتم مناقشتها خلال هذا البحث .

لقد وجد أيضاً أن التركيز في عملية "التقييم البيئي" في الغالب ما يكون على الاجراءات التخفيفية مع إهمال الاجراءات التي تساهم في تحسين الوضع البيئي ومراقبته. وعلى الرغم من الجهود المبذولة نحو إدماج/إدراج الإبعاد والقضايا البيئية بشكل عام فإن عملية "التقييم البيئي" ليست مدرجة/مدمجة بشكل مناسب ضمن عملية التخطيط التنموي. ومن اهم التوصيات التي تمت مناقشتها لزيادة فعالية منظومة "التقييم البيئي" تطوير كل من الإطار التشريعية والمؤسسية وبذل مزيد من الجهد نحو إدراج هذه العملية ضمن عملية التخطيط التنموي.

الكلمات المفتاحية:

التقييم البيئي، الأثر البيئي، الأردن، الفعالية