INSTITUTIONAL SET-UP FOR ENVIRONMENTAL GOVERNANCE THROUGH EIA IN PAKISTAN: THE CASE OF PUBLIC SECTOR DEVELOPMENT PROJECTS

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ABSTRACT: Institutional context and EIA have significant role in environmental governance of a country. The potential of EIA as a tool to achieve sustainable development can best be realized when it is applied invariably not only to private but also to public sector projects. The latter can also represent a key attribute of good environmental governance on the part of the state to promote and implement the agenda of sustainable development. This paper examines the institutional set-up and the practice of conducting EIA of public sector development projects in Pakistan. The analysis is based on interviews with concerned government officials and review of selected projects. The paper argues that despite some inadequacies, EIA exercise done for a project of National Highways Authority can be followed as a good practice model by others to portray a responsible image of government agencies. Whilst the realization to fulfil EIA requirements is growing, a sustained commitment towards environmental regulation is needed to enhance effectiveness of EIA and promote good environmental governance in the country.

Key words: Environmental Governance, EIA, Pakistan

INTRODUCTION

The pattern of environmental governance varies from one country to another since a range of factors including institutional context, regime types and cultures contribute to this variation. Similarly there exists no conclusive evidence to show which style of environmental governance is most effective (Lo et al. 2000). However, the commonly accepted challenge of environmental governance lies in the ability to meet the needs of a continuously expanding population without destroying the environment and the resource base on which the process of development depends (Parikh and Khan, 2002). To meet this challenge, there is a need to facilitate consideration of possible environmental impacts in development-related decision making and ensure implementation of mitigation measures during construction and operation of projects. It also requires that significant ecological functions and socio-economic values of the concerned communities are maintained. In this context, environmental impact assessment (EIA) has been regarded as one of the most widely used tools for promoting sustainable development. It acts as a primary vector for introducing environmental considerations and a wider suite of environmental management tools into development planning and decision making worldwide (Sadler, 1996).

A well designed EIA reflects many of the elements of good governance like transparency, sufficient information flow, accountability, responsibility and stakeholder participation (Kakonge, 1998). Further, high degree of transparency and across the board application of EIA to all the projects likely to have adverse environmental impacts, whether belonging to private or public sector can be helpful in achieving good environmental governance in the context of EIA regulation. However, review of literature shows that the degree of presence of elements of good governance in EIA systems of many developing countries is poor. Various studies suggest that EIA systems in most of the developing countries can be characterized by non-prescriptive nature of EIA requirements, lack of transparency and public participation in the EIA process (Wood and Ahmad, 2002). The very reasons behind such weaknesses have been identified as flawed legislation, lack of power vested in the enforcement agencies, lack of capacity including human resources and monitoring equipment. The situation is further convoluted in case violators have more resources, financial power, political influence or inadequate incentive to comply with the EIA requirements (Parikh and Khan, 2002).

In Pakistan, despite sound legal basis, guidelines, regulations and hierarchy of environmental institutions, EIA practice particularly in case of public sector development projects with few exceptions, has been generally weak (GoP, 1997a; GoP, 1997b). There have been many instances where projects were implemented without EIA or EIA of the project was done when it was at the construction stage. Besides, some public sector organizations, environment professionals and NGOs also played significant role in supporting EIA.

In such an emerging EIA system, worth-mentioning examples now also exist. This paper examines the EIA of Pakistan Highway Rehabilitation Project (PHRP) as a good practice model with the view to draw useful lessons. The next section outlines the methodology. An overview of legal provisions and functional matrix of institutional set up for environmental governance in Pakistan is then provided. It then unfolds the specific EIA approval process as well as the actual practice with respect to public sector development projects. It is followed by a section outlining and evaluating the EIA case of PHRP. The paper concludes by highlighting lessons for using EIA as a potential tool to promote good environmental governance.

METHODOLOGY

The methodology firstly included review of literature on the role of EIA in environmental governance in developing countries. Institutional set up for environmental governance and EIA approval process for public sector development projects in Pakistan were then explored by conducting semi-structured interviews with the concerned officials of the Planning Commission of Pakistan, Federal and Provincial Environmental Protection Agencies (EPAs), and Provincial Planning and Development. The officials were selected on the basis of their nature of duties directly related to EIA process. Those included Chiefs of Environment Sections, Directors, Deputy Directors and Assistant Directors of EPAs dealing with EIA. The Balochistan EPA could not be visited due to some administrative reasons. The interview schedule consisted of questions pertaining to various stages of the EIA process, viz. screening, review and quality of report, public consultation, decision making, and implementation and monitoring.

Two of the authors participated in seven workshops from the year 2004 to 2013 organized by the International Union for Conservation of Nature (IUCN), Ministry of Climate Change, Pak-EPA and the UNDP on various aspects of EIA in Pakistan. Presentations made by the officials of EPAs, other government departments/agencies, EIA consultants and academics also helped in identifying several issues relating to EIA of public sector development projects. The authors reviewed EIA reports of eight public and private sector major projects and found that EIA of PHRP contained many attributes of good environmental governance. Later on, EIA report this project was reviewed using Lee and Colley (1992) review package, widely used for this purpose in developed and developing countries (Glasson et al. 1999). That is why the analysis is qualitative in nature. Nonetheless, it led to identifying many attributes of good practice and draw lessons for future.

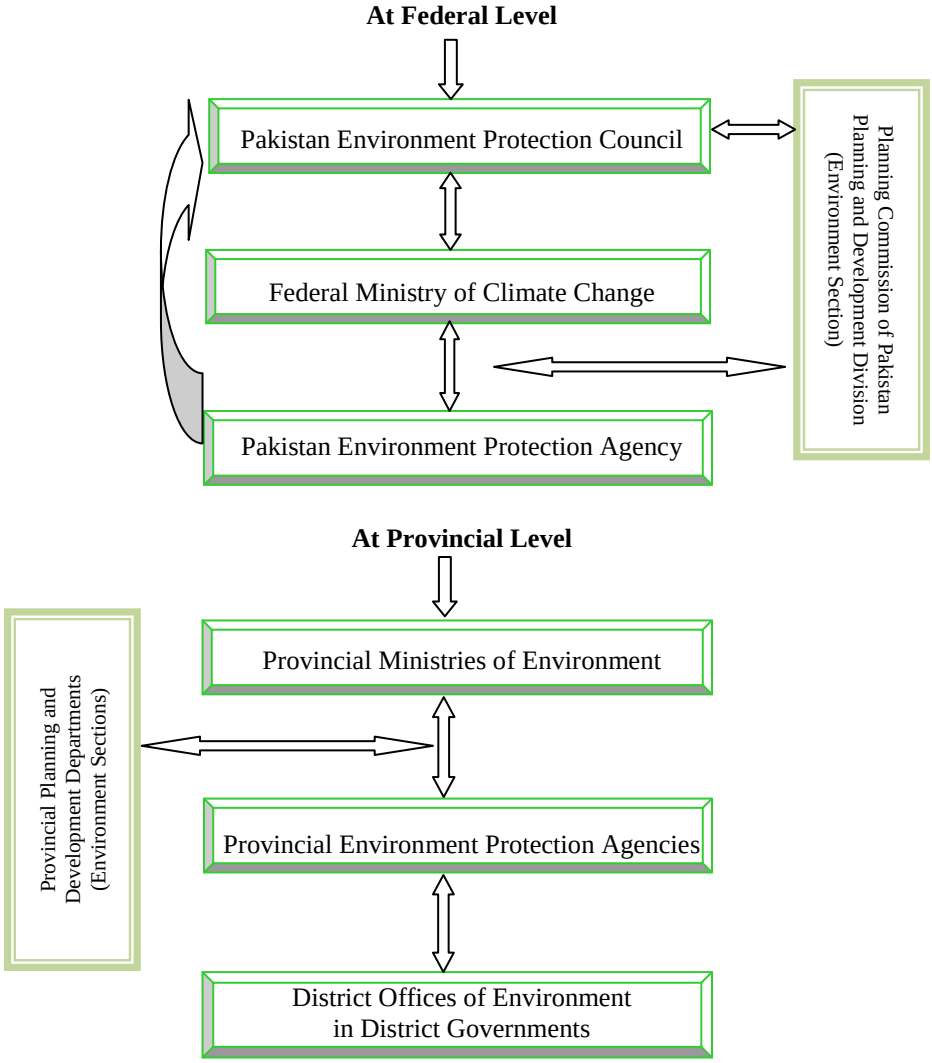
Institutional set-up for environmental governance in Pakistan: A formal legal and institutional framework is the backbone of any system of environmental governance. The Government of Pakistan has also established legal and institutional framework for environmental protection in the country (Fig. 1) and various institutions have been entrusted with specific functions and responsibilities to this end.

Environmental Management Functions at Federal Level: The Pakistan Environment Protection Council (PEPC) is the apex body for formulation of national environmental policies and programmes in the country. It also provides guidelines for the protection and conservation of species, habitats, and biodiversity in general and conservation of non-renewable energy resources in particular. It was set up in 1984. The Federal Ministry of Environment, recently renamed as the Ministry of Climate Change, was established in 1994. It is responsible for national policy programs and plans regarding environment, pollution, ecology, housing physical planning, and human settlements including urban water supply, sewerage and drainage. The Pak-EPA is the core organization at the federal level to assist the PEPC, Federal Ministry of Climate Change and Pakistan Planning Commission in formulation of environmental policies, programmes, acts, guidelines and implementation strategies. It is also entrusted with task of implementing PEPA 1997 and other environmental policies in the federal capital territory areas (GoP, 1997a). The Environment Section of the Planning and Development Division working under Planning Commission of Pakistan has been assigned the task of ensuring that EIA clearance of every public or private sector mega project likely to cause adverse environmental impacts has been obtained from concerned EPA before it is approved by the National Economic Council (NEC).

Environmental Management Functions at Provincial and District Level: Since the 18th amendment in the Constitution of Pakistan in 2010, the provincial environment ministries/departments and EPAs are responsible to implement Provincial Environmental Protection Acts and other federal as well as provincial government policies and programmes regarding the environmental protection within their respective jurisdictions. The provincial EPAs were established during 1987 to 1992 in all the four provinces of Pakistan. Recently, the Gilgit-Baltistan EPA has been established in 2007. The specific functions of EPAs include: evaluation of IEE/EIA of new development projects, enforcement of NEQSs, provision of ambient air quality testing & monitoring facilities, establishing systems for surveys, surveillance and monitoring of the pollutants and maintain laboratory for testing and monitoring, and finally, coordination with the federal government as well as with other provincial governments. The office of the

District Officer (Environment) is the frontline office of EPA's in every district of the provinces to help implement EPA's functions by remaining within the district government framework. The environment sections of Provincial Planning and Development Departments are responsible for promoting incorporation of environmental considerations in development projects and that no project likely to deteriorate the environment gets financial approval without environmental assessment and commitment of adopting mitigation measures.

Figure 1: Institutional set-up for environmental governance through EIA in Pakistan



Source: Authors own construct

Despite this institutional set-up, however, the environmental governance in general is weak. Interviews of various officials and analyses of style of functioning and decision making of environmental protection organizations revealed that lack of institutional capacity to make and implement decisions, weak coordination, and above all, lack of political will are the factors contributing to poor environmental governance (Beg, 2004).

EIA PRACTICE FOR PUBLIC SECTOR DEVELOPMENT PROJECTS

Implementing EIA Requirements: EIA in Pakistan was made a mandatory requirement for every project which may adversely affect the environment on 1st July, 1994. Many development projects including those belonging to government sector (for example Oil and Gas Exploration in Kirthar National Park near Karachi and Lahore-Islamabad Motorway (M2) Project) have been carried out without EIA. Lack of awareness about potential benefits

of EIA, extra expenditures of conducting EIA study and fear of project rejection influenced the proponents of both the locally funded public and private sector projects to circumvent EIA regulations. Even in case of projects for which EIA has been submitted, either the proponents actually conducted the EIA studies during construction of the project in reaction to notice received from concerned EPA or the project initiated just without considering public concerns or getting environmental clearance. Examples to this end may be cited of construction of flyover at Kalma Chowk and Bus Rapid Transit System in Lahore (Alam, 2012). Such practices are against the spirit of EIA and leave no opportunity to consider alternatives realistically. A better strategy, as Brown (1990) argued, would be to give due attention to grafting the EIA into the existing systems for project conception, design and decision making.

Involving Stakeholders: The EIA best practice principles suggested by the International Association for Impact Assessment (IAIA) state that "the [EIA] process should provide appropriate opportunities to inform and involve the interested and affected publics, and their inputs and concerns should be addressed explicitly in the documentation and decision making" (IAIA, 1999). It has been observed, in many if not in all cases, that stakeholders have lost confidence due to lack of perceived transparency in public participation process. This has happened in case of both the public and private sector projects due to political pressure (see Nadeem and Hameed, 2008; Nadeem and Fischer, 2011 for further details). The projects for which EIA is carried out, their reports are based on fake and inadequate baseline data. High officials of Pak-EPA complain that some of the reports are just voluminous and contain everything that can be ascribed as trash. Thus, involvement of stakeholders during the EIA process is far behind the principles of EIA best practice as laid down by the IAIA.

Reviewing EIA Reports: Review of EIA reports is mainly done by an in-house committee comprising the following four officials of the concerned EPA. Independent experts' committee has very rarely been constituted to seek its professional opinion over EIA report of projects submitted to EPA for clearance. Similarly, official sources claim that basic information regarding the submitted EIA of a project is circulated among 32 stakeholders including government departments, chambers of commerce and NGOs but their comments as well as those of public are set aside due to political pressure. Finally, decision for granting environmental clearance to the proponent is made with loosely defined conditions of adopting measures and implementing proposed environmental management plan. Routine compliance monitoring by EPAs' field staff is very rare. However, it mainly takes place in instances of complaints, if lodged by the affected or interested stakeholders. Deficiencies like: delayed initiation of EIA process during the project cycle, lack of stakeholders' involvement, poor quality of EIA reports and weak influence on final decision also exist in many developing countries (Song and Glasson, 2010; Haydar and Pediaditi, 2010; Naser 2012).

Positive Development: Interview of officials, discussions with EIA experts and review of selected EIA reports reveal that EIA of some public sector projects done in recent years can be considered as good practice cases in the Pakistani context. Examples to this end may include: Rehabilitation of Taunsa Barrage Project, Ghazi Brotha Hydro Power Project, and Sindh On-Farm Water Management Project. The EIA reports of these projects were prepared and submitted not only during the feasibility studies but also their respective reports gave quite adequate coverage to all the components of EIA. For instance, the EIA report of Rehabilitation of Taunsa Barrage Project included detailed baseline of the wetland even when no impacts were anticipated. It also proposed integration of project activities with other programs and wetland projects in the area. Similarly, the EIA report of Sindh On-Farm Water Management Project included a framework for equitable distribution of project benefits with the view to ensure that indigenous people receive culturally compatible social and economic benefits (Zakaria, 2004). Likewise, the proponents of Pakistan Highway Rehabilitation Project consulted the communities likely to be affected by the project and other stakeholders even during the scoping stage of EIA (see below for detailed discussion on this project).

This situation appears encouraging if compared with other developing countries. For instance, in Thailand, there are no set rules as to how the public could participate in the decision making process of EIA, and public likely to be affected by the project is usually kept in dark about what is going to happen in their neighbourhood until construction has already started (Chompunth, 2011). In Syria, EIA is not integrated into the decision making process and public sector development projects are often excluded from EIA (Haydar and Pediaditi, 2010). More recently, a National Impact Assessment Programme (NIAP) sponsored by the Dutch Government has been initiated in Pakistan. It mainly focusses on strengthening the EIA regime and introducing SEA in all development planning. For this purpose, relevant laws and guidelines are being revised and new provincial environmental protection acts are being drafted. Several workshops have been held for capacity building of stakeholders and strengthening EIA curricula at tertiary level educational institutions in the country (GoP/IUCN, 2012).

Social and environmental impact assessment of pakistan highway rehabilitation project-a good practice case: Pakistan Highway Rehabilitation Project (PHRP) is the initiative of National Highway Authority (NHA) based in Islamabad. The funds for the execution of project were made available by the World Bank. The project involved rehabilitation (534 km) and resurfacing/strengthening (336 km) of National Highways viz. Grand Trunk Road (N5) and Karachi-Hyderabad Superhighway (M9) in two phases. This section analyses social and environmental impact assessment statement (SEIAS) of the project using a review method suggested by Lee and Colley (1992). The results of evaluation are presented in Table-1. The EIA has generally performed well in a comprehensive manner. Although some minor omissions and inadequacies are still there but several components of the EIA process followed in this case are generally absent or not given due importance in most of EIA studies in the country. In particular, the following features transpired as a result of the above referred review are worth mentioning:

- Detailed social assessment was carried out to identify potential affectees and vulnerable groups. The proponent involved the communities likely to be affected by the project in the scoping sessions as well as onsite consultations to identify possible adverse environmental and socio-economic impacts which may arise during construction and operation of the project.
- All possible project alternatives have been thoroughly analysed not only with respect to their advantages and disadvantages but also with respect to tentative cost of adopting any other alternatives.
- Workshops and focus group discussions were held with all the stakeholders including general highway users, transport passengers and drivers, road side shopkeepers and Association of Road Users of Pakistan to identify mitigation measures for all stages of the project. The mitigation measures have not just been proposed in EIA report but the proponent also committed in a meeting with stakeholders to actually implement them.
- Cost of adopting the proposed mitigation measures has been estimated and included in the project budget, which is not a regular feature of many other EIA statements.
- A Grievance Redress System has been proposed. Under this system the affectees are not just being compensated in the form of cash but also in the form of built structures on alternative sites near the existing ones but in a properly designed and planned manner.
- Air quality and noise level monitoring during construction and operation of the project has been committed.
- In the Environmental Management Plan, appraisal of adequacy of EIA with respect to long term likely impacts and evaluation of effectiveness of mitigation measures has been proposed.

As far as the implementation of this project and conditions of EIA are concerned, NHA officials informed that some of the affectees had already been compensated and others were being resettled during initial stages of the project. Concerned officials also claimed that the mitigation measures proposed in the EIA report were adopted. Independent consultants were hired for environmental monitoring. In addition, training sessions were organised for all the stakeholders including contractor, consultants and NHA officials for playing their role effectively during construction and operation of the project.

Table-1: Review of Social and Environmental Impact Assessment of Pakistan Highway Rehabilitation Project

Major Components and Attributes of SEIAS	Presence/Absence (Page Nos.)	Content and Coverage	Grade
i) Description of development, local environment and baseline conditions			
Description of Development	1-1 to 1-13	✓ Construction of new linkages and bypasses with design and construction period of each section described.	A
Site description	3-1 to 3-4	✓ Phase wise detail of all road sections with their length and location including route maps presented.	A
Residuals	7-1 to 7-5	○ No separate section but discussed in section on Land use and resources.	B
Baseline conditions	5-1 to 5-50	✓ Analyses of the existing condition of road, number and type of structures in right of way indicated.	
		✓ Baseline environmental conditions regarding air, noise, soil, and climate and water quality presented based on studies and primary data.	A
		✓ Traffic and socio-economic surveys conducted to assess the baseline conditions.	

ii) Identification and evaluation of key impacts			
Identification of impacts	7-1 to 7-20 8-1 to 8-18	✓ Key environmental and socio-economic issues/impacts identified during scoping session with local communities residing near all road sections and other stakeholders.	A
Prediction of impact magnitudes	7-1 to 7-20 8-1 to 8-18	✓ Projections of impact magnitudes made on the basis of surveys and the nature and extent of possible impacts e.g. use of dispersion model to predict the magnitude of vehicular pollution.	A
Assessment of impact significance	7-1 to 7-20 8-1 to 8-18	✓ Impact significance matrix used in the form of assigning relative weightage to various impacts as high adverse, medium adverse, low adverse, high beneficial, medium beneficial, low beneficial and insignificant.	A
iii) Alternatives and mitigation			
Alternatives	4-1 to 4-6	✓ All intervention options viz. rail, air, alternate surface routes and zero option have been described including their merits and demerits w.r.t. their utility, significance, cost and government priorities.	A
Mitigation	7-1 to 7-20 8-1 to 8-18	✓ Mitigation measures have been proposed for all stages viz. highway design, construction and operation. ✓ Disposal site for residuals identified and procedure for safe disposal for surplus construction and waste material suggested. ✓ Compensation for loss of privately owned land, built up properties and even squatters proposed. ✓ Environmental Management Plan also proposes mitigation measures and organizational set up with assignment of responsibilities.	A
Commitment to mitigation	6-1 to 6-9 9-1 to 9-11	✓ Commitments to mitigation measures made during stakeholders' workshops held during EIA preparation and review. ✓ Responsibilities identified and assigned to consultants, contractors and the NHA for their implementation during all stages of the project. ✓ Cost of the mitigation and environmental management measures for both the phases included in the project budget.	A
iv) Communication of results			
Presentation		✓ Report divided in to 10 sections. Five appendices also attached. ✓ Location and route maps, tables and diagrams used. ✓ Use of impact matrix, formulae and dispersion models represent technical presentation.	A
Balance		o Sections on identification and evaluation of key impacts and alternatives and mitigations have been merged. o No list of abbreviations and acronyms given. ✓ However, every component of the EIS has been given due coverage. ✓ Costing and various forms in which the public was consulted have been emphasized which is a positive imbalance!	B
Non-technical summary	I to V	o Many technical terms used in the Executive Summary. But, it appears to be quite comprehensive although can't be called a non-technical summary.	C

Source: Authors own construct using Lee and Colley (1992) review method

Grading Key

A Generally well performed, no important tasks left incomplete.
B Generally satisfactory and complete, only minor omissions and inadequacies.
C Can be considered just satisfactory despite omissions and/or inadequacies.
D Parts are well attempted but as a whole unsatisfactory because of omissions and/or inadequacies
E Not satisfactory, due to significant omissions or inadequacies.
F Very unsatisfactory, important task(s) poorly done or not attempted.

Conclusion: A formal system of environmental governance in the context of EIA has been set up gradually in Pakistan. The application of EIA regulations and procedures in case of public sector projects however has generally been poor owing to various reasons including weak public participation, poor quality of EIA reports and inadequate institutional capacity for EIA follow-up monitoring. Nevertheless, there are some signs of improvement in case of EIA of public sector projects. The PHRP case reflects the characteristics of a good quality EIA. In particular, the public participation component of the EIA process and costing of mitigation measures are prominent features of the EIA. The driving forces for quality EIA report and proper implementation of mitigation measures include: commitment of NHA to follow the EIA regulations, keen interest taken by its staff already trained in environmental management, as well as the requirement on the part of the donor agency to carry out EIA of the project before implementation.

Following specific measures are still needed which may reflect a sustained commitment on the part of the government to enhance effectiveness of EIA and promote good environmental governance:

- A cadre of professionals should be trained to prepare high quality EIA reports.
- The expert committees should be constituted and assigned with the responsibility to review EIA reports prepared by consultants.
- Public participation and consultation should also be incorporated at the scoping stage of EIA of proposed projects.
- Separate environment cells should be created in all public sector organizations to promote green government.
- Budget allocation for each public sector project should necessarily include cost of conducting EIA and implementing environmental management plans following clearance of EIA report.
- Donor agencies should be assigned a key role in monitoring the EIA process and its follow-up in collaboration with EPAs.

Acknowledgements: We are thankful to the officials of concerned departments/agencies for proving with necessary data and giving interviews. An earlier version of this paper was presented in the 12th Annual International Sustainable Development Research Conference, held during 6-8 April, 2006 in Hong Kong.

REFERENCES

Alam, A. R. Ferozepur road bus rapid transit project. The Express Tribune, Lahore, March 28 (2012).

Beg, A. A. Effectiveness of EIA based decision making. Paper presented at training workshop on EIA-A Tool to Achieve Sustainability. UNDP-Pak EPA, Islamabad (2004).

Brown, A. L. Environmental impact assessment in a development context. Environmental Impact Assessment Review 10:135-43 (1990).

Chompunth, C. An evaluation of the public participation practice in environmental development projects in Thailand: A case study of the Hin Krut power plant project. PhD Dissertation. School of Environmental Sciences, University of East Anglia, England (2011).

Glasson, J., R. Therivel and A. Chadwick. Introduction to environmental impact assessment. second edition. UCL Press, London (1999).

GoP (Govt. of Pakistan). Pakistan environmental protection act, 1997. The Gazette of Pakistan, Islamabad (1997a).

GoP (Govt. of Pakistan). Policy and procedures for the filing, review and approval of environmental assessments. Pakistan Environmental Protection Agency (Pak EPA), Islamabad (1997b).

GoP (Govt. of Pakistan)/IUCN. National impact assessment programme. International Union for Conservation of Nature, Islamabad (2012). Website: http://www.niap.pk [Accessed 25 Nov 2012).

Haydar, F. and K. Pediaditi. Evaluation of the environmental impact assessment system in Syria. Environmental Impact Assessment Review 30:363-70 (2010).

International Association for Impact Assessment (IAIA). Principles of environmental impact assessment best practice. IAIA, USA (1999).

Kakonge, J. O. EIA and good governance: issues and lessons from Africa. Environmental Impact Assessment Review 18:289-305 (1998).

Lee, N. and R. Colley. Reviewing the quality of environmental statements, second edition. Occasional paper 24, Department of Planning and Landscape, University of Manchester, Manchester (1992).

Lo, C. W. H., P. K. T. Yip and K. C. Cheung. The regulatory style of environmental governance in China: the case of EIA regulation in Shanghai. Public Administration and Development 20:305-18 (2000).

Nadeem, O. and T.B. Fischer. An evaluation framework for effective public participation in EIA in Pakistan. Environmental Impact Assessment Review 31:36–47 (2011).

Nadeem, O. and R. Hameed. Evaluation of environmental impact assessment system in Pakistan. Environmental Impact Assessment Review 28:562–71 (2008).

Naser, H. M. Evaluation of the Environmental Impact Assessment System in Bahrain. Journal of Environmental Protection 3:233-239 (2012).

National Highway Authority (NHA). Pakistan highway rehabilitation project: Sectoral social and environmental assessment Phase-I & II. NHA, Islamabad (2003).

Parikh, K and M. A. Khan. Environmental governance for sustainable development in Asia and the Pacific. ESCAP/UNDP, Johannesburg (2002).

Sadler, B. Environmental assessment in a changing world: Evaluating practice to improve performance. International study of the effectiveness of environmental assessment. CEAA, Canada (1996).

Song, Y-II. and J. Glasson. A new paradigm for Environmental Assessment (EA) in Korea. Environmental Impact Assessment Review 30:90-99 (2010).

Wood, C. and B. A. Ahmad. A comparative evaluation of the EIA systems in Egypt, Turkey and Tunisia. Environmental Impact Assessment Review 22:213-34 (2002).

Zakaria, V. Developments and emerging issues in EIAs. Paper presented at training workshop on EIA-A Tool to Achieve Sustainability. UNDP-Pak EPA, Islamabad (2004).