

Analysis of the Environmental Impact Assessment Review Process in Pakistan



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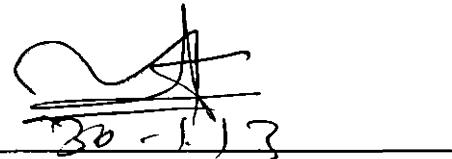
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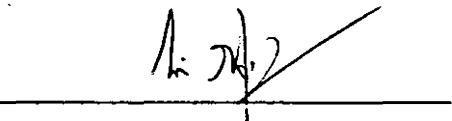
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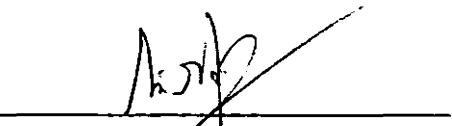
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Dedicated to
My loving Family
Respected Teachers &
Dear Friends

Declaration

I Mr. Ghulam Rehman S/o Gul Marjan , Reg# 22-FBAS/MSES/S08, a student of MS Environmental Science at the Department of Environmental Science, Faculty of Basic & Applied Sciences, International Islamic University Islamabad (IIUI), do hereby solemnly declare that the thesis entitled *“Analysis of the Environmental Impact Assessment Review Process in Pakistan”* submitted by me in partial fulfilment of the requirements for the degree of MS, is my original work, and has not been submitted or published earlier and shall not, in future, be submitted by me for obtaining any degree from this or any other University or Institution.

Signature:

Name: Ghulam Rehman

9th January, 2013

FORWARDING SHEET

The thesis entitled “Analysis of the Environmental Impact Assessment Review Process in Pakistan”, submitted by Ghulam Rehman, in partial fulfillment of MS Degree in Environmental Science has been completed under my guidance and supervision. I am satisfied with quality of student’s research work and allow him to submit this thesis for further process of as per IIU rules & regulations.

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Ghulam Rehman

Abbreviations

AJK	Azad Jammu Kashmir
DG	Director General
EIA	Environmental Impact Assessment
GB	Gilgit Baltistan
IAIA	International Association of Impact Assessment
IEE	Initial Environmental Examination
IUCN	International Union for the Conservation of Nature and Natural Resources
KPK	Khyber Pakhtunkhwa
MoE	Ministry of Environment
NCS	National Conservation Strategy
NEAP	National Environmental Action Plan
NEP	National Environmental Policy
P&D	Planning and Development
PEPA	Pakistan Environmental Protection Act, 1997
PEPO	Pakistan Environmental Protection Ordinance
PET	Pakistan Environmental Tribunal
PPP	Policy, Plan and Program
US	United States

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Abstract

Environmental Impact Assessment (EIA) is a legal requirement of all developmental projects, in Pakistan. EIA is a series of processes and its one process is review process. In this process EIA report is to be reviewed by concerned EPA concluding the impacts of the projects on the environment in almost all respective directions. The review and public participation process of the EIA system is conducted by EPAs, in Pakistan. The corresponding is given in Pak-EPA regulation (IEE/EIA) 2000. The present study was processed to analyze the review process of EIA in Pakistan. The analysis covers the every phase and step of the review process and public participation process such as filing of the reports, selection of review committee members, reviewer comments, time frame for review and attention to the comments in the decision making, access of the public to information about the project impacts, the degree of involvement, invitation of stakeholders, and contribution of their views in the decision making. These aspects of the EIA are analyzed by the reviewed IEEs and EIAs reports at Pak-EPA and discussion with experts related with different field of EIA as EIA consultants, Government concerns, NGO's and Environmental educational institutions. It has been found that there are some deficiencies in institution set-up, review process and public participation processes of the EIA process. It has also been analyzed that there is deficiency of implementation of the rules and regulations formulated for the review process and public participation. These series of processes of the EIA system are like pillars and provide basis to build the effective EIA system. The development of these processes is need of great intentions by the officials/departments concerned.

Key Word: EIA, IEE, Pak-EPA, Public Participation Process, Review Process

CHAPTER 1

INTRODUCTION

Environmental Impact Assessment (EIA) is considered a standard tool for decision making in most country throughout the world (Glasson, 2005). EIA aims at integrating environmental considerations in the decision making system, minimizing or avoiding adverse impacts, protecting natural systems and their ecological processes, and implementing principles of sustainable development (International Association of Impact Assessment (IAIA), Johannesburg, 1999). In an area of rapid industrialization and population growth in some developing regions, and increasing recognition of the regional and global environmental impacts, the need to apply EIA in these countries effectively is apparent (Wood, 2003). EIA is now practiced in more than 100 countries world-wide (Donnelly *et al*, 1998). The EIA process, which was originated in the United States (US) in the late 1960s and early 1970s, has been adopted extensively in the rest of the world (USAID, 2009). With in a short period of time, a number of developed and developing countries introduced their own EIA process for developmental activities (Riffat and Khan, 2006). Pakistan adopted the EIA process in 1983 in the form of Pakistan Environmental Protection Ordinance (PEPO) and became mandatory since 1st July, 1994 for certain developmental projects. For implementation of EIA process in country, the legal and administration framework was developed.

This study presents analysis of the current EIA Review Process in Pakistan in the context of legal and administrative arrangements, for the purpose of identification of the strengths and weaknesses of this process, and makes recommendations for successful implementation of EIA process. The legal provision for EIA Review

Process is present in PEPA, 1997 act: Initial Environmental Examination (IEE) and EIA Regulation 2000, and for the successful implement of this legal proviso, the government established institutions, with title of Pakistan Environmental Protection Agency (PEPA). The Following sections present an overview of the legislation and administration arrangement of EIA review process.

1.1. THE DEVELOPMENTAL HISTORY OF EIA LEGISLATION

It is now well established that the legislation is the essential pre-cursor to an effective EIA system, in developing countries just as it is in developed countries (Wood, 2002).

Kennedy (1988) concluded that EIA works best when there is a specific legal requirement for its application, where an environmental impact statement is prepared, where authorities are accountable for taking its results to consider in decision making.

An efficient system for decision making for sustainable socioeconomic development, with an effective environmental management of the sources environmental impacts and effects of such impacts, need to be put in place in order to implement government

policy of environmental protection and safety at the regional level (Bhatt and Khanal, 2010). Recognizing the role of EIA in protecting environment from degradation and

pollution associated with economic developments, many developing countries have developed EIA legislations (Alshuwaikhat, 2005). EIA provisions now exist in the

framework environmental legislation of 55 developing countries (Hartley and Wood, 2005). Throughout the 1980s, more countries decided to establish the EIA as a legal

requirement for proposed developmental activities (Bhatt and Khanal, 2010). The

existing environmental framework in Pakistan is a result of evolution spanning over a quarter of century and dates back to the year 1983 when Pakistan Environmental

Protection Ordinance, 1983 (PEPO) was promulgated. Over this period, the contours

of the framework have been changed, and developed form has been introduced in

1997, in the contour of Pakistan Environmental Protection Act (PEPA, 1997). The developmental history of EIA constitutions are quoted below in the tables 1.

Table 1: Legislation and Strategic History of EIA Process in Pakistan

Year	Legislation and Strategic Measures
1983	Pakistan Environmental Protection Ordinance, 1983
1989	Environment and Urban Affairs division, 1989
1992	National Conservation Strategy (NCS), 1992
1997	Pakistan Environmental Protection Act, 1997
2001	National Environmental Action Plan (NEAP), 2001
2005	National Environmental Policy (NEP), 2005

For the effective implementation of PEPA, 1997, the government notified the following rules and regulations.

Table 2: Developmental History of EIA Regulations in Pakistan

Year	Rules and Regulations
2000	Review of IEE and EIA Regulation, 2000
2000	Environmental Laboratories Certification Regulation, 2000
2001	Self-monitoring and Reporting by Industries Rules, 2001
2001	Environmental Samples Rules, 2001
2008	Environmental Tribunal (Procedure and Functions) Rule, 2008

The literature review described the legal provision of EIA as a well thought out environmental legislation and EIA guidelines have been formulated (Nadeem and Hameed, 2006a). The EIA regulations provide a sound legal and regulatory framework for EIA system in Pakistan (Pak-SCEA, 2006). Despite the existence of good EIA guidelines and legislation the environmental degradation continues in developing country (Alshuwaikhat, 2005). Legal bases of EIA system in Pakistan fulfilled the requirements for EIA system (Riffat and Khan, 2006).

1.2. ADMINISTRATIVE FRAMEWORK OF EIA

Pakistan developed the environmental institutions for the implementation of the environmental laws. In Pakistan, the institutional structures are headed by Ministry of Environment (MoE) at federal level which is headed by the secretary. Different wings

are working in the MoE. Environment wing of MoE looks after the environmental policies and is headed by Director General (DG) (Environment).

At provincial level, environment directorates are headed by Secretary. All the EIA/Initial Environmental Examination (IEE) related issues are handled by provincial Environmental Protection Agency (EPA). Pakistan Environmental Protection Act 1997 is a federal Act and Pak-EPA is the custodian of PEPA 1997. Powers have been delegated by Pakistan Environmental Protection Agency (Pak-EPA) to provincial EPAs under the PEPA 1997 to handle matters at provincial level. Separate sections like EIA/Monitoring, Laboratory/NEQS, Administration/finance and Legal/Enforcement are working in the EPA departments.

Planning and Development (P&D) departments at federal and provincial level exists which looks after the development projects.

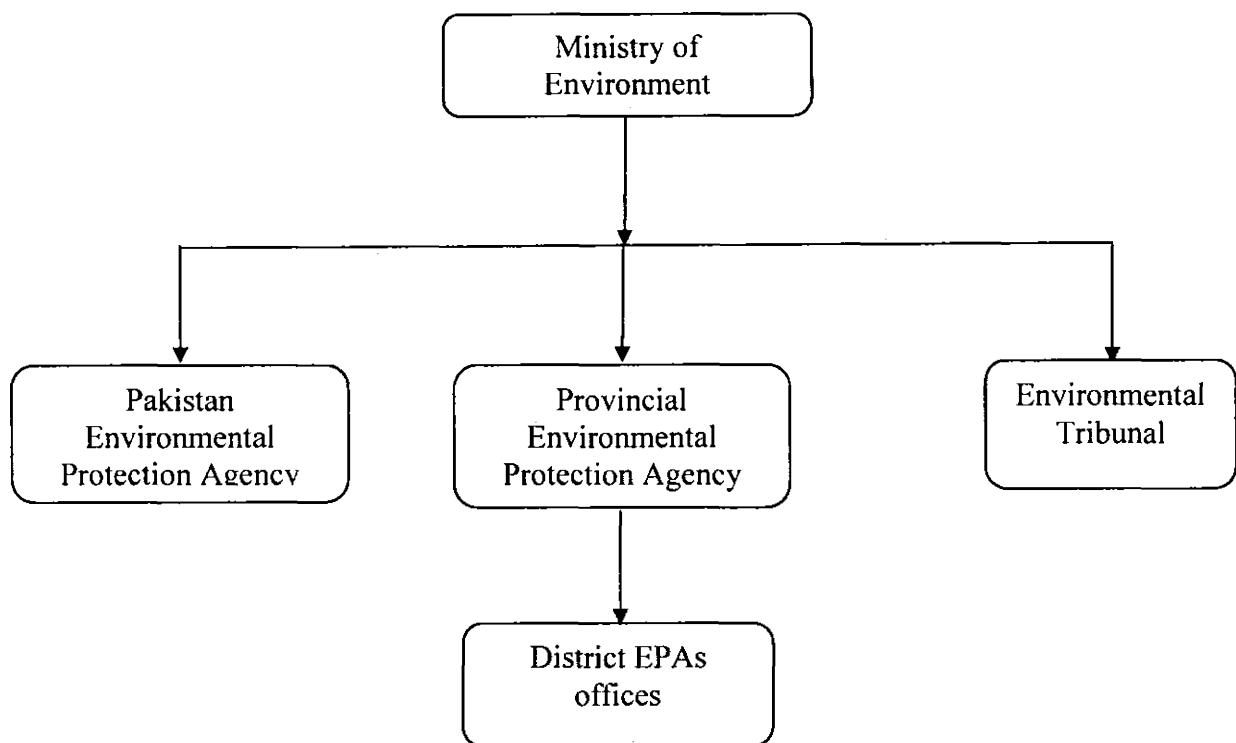
There are different sections in P&D departments like environment, highway, education, health, etc. which are responsible for developing and scrutiny of project proposal forwarded to EPAs to scrutinize environmental impacts of the projects, which is done by EIA section of EPA. The environmental institutions in Pakistan are quoted below in the table.

Table 3: Environmental Institutions in Pakistan

Year	Institutions
1983	Pakistan Environmental Protection Agency, 1987
1984	Pakistan Environmental Protection Council, 1984
1999	Pakistan Environmental Tribunal (PET), 1999
2002	Ministry of Environment, 2002

Following is an administrative chart of the Pakistan environmental institutions established on the basis of Pakistan Environmental Protection Act, 1997 is provided in Fig 1.

Fig 1: Administrative Chart of Environmental Institutions in Pakistan



Source: Government of Pakistan, Ministry of Environment, 2006.

The recent literature review describes some deficiency in environmental institutions in Country, such as (Glasson *et al.* 1999) identified weaknesses in many developing countries' institutional structures to implement EIA. The organizations responsible for implementing EIA provisions in developing countries are frequently new, lacking in status and political clout, and working in a culture where an absence of information sharing considerably reduces their influence. Environment ministries are often 'bypassed' by other, more powerful, ministries. This lack of organizational capacity explains why EIA largely remains a 'top-down' requirement imposed by external agencies (Rayner, 1993). One of the cause's of poor quality of EIA in Country appears to be relatively little experience of consultant and approval authorities in EIA (Nadeem and Hameed, 2006).

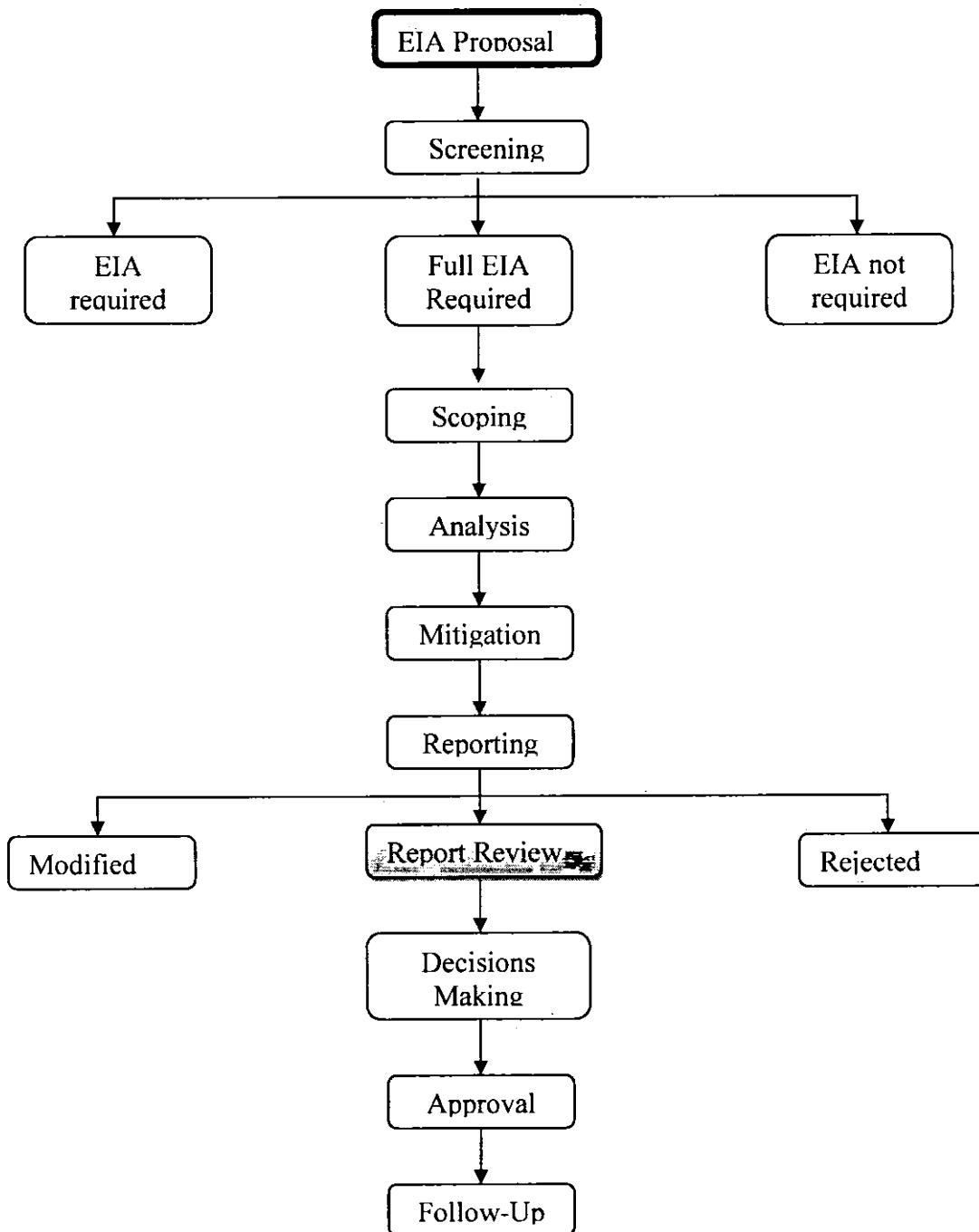
1.3. LITERATURE REVIEW OF EIA

The environmental impact assessment is swiftly up-and-coming field for protection to environment not only at country level but also at global level. In Pakistan, the EIA became mandatory since 1st July, 1994 and sectoral instruction was put in the form of 1997 act and the enactment form was formulized in 2000, with the title of IEE and EIA Regulation 2000. And to bring results from the legislation the institution are built with the title of Environmental Protection Agency (EPA). The EPA tries best to implement the legislation for protecting the environment but from the preliminary of the EIA system to date, EIA system has some deficiencies. The national and international experts have various views about the EIA system in Pakistan based on their research, such as (Zia ul islam, 2006) described that the EIA is not currently fully incorporated with the accurate step of the project cycle and therefore the progressive verdict of the IEE/EIA are not regard as while the decision making process is commenced by the provincial development working parties and central development working parties. (Riffat and Khan, 2006) concluded that the Pakistan EIA is a fairly good process, and further strengthen the EIA process in Pakistan, there is need to implement EIA in every developmental proposal. The comparative examination of the Wood in 2003 revealed that there is huge dissimilarity in the EIA system of developed and developing countries and within the developing countries. Many authors and researchers expressed the reasons of such variations of the EIA system in developed and developing countries and between them such as (Briffett, 1999) acknowledged these dissimilarity at a minor scale as “there is considerable disparity in the EIA system used predominantly in relation to the scope (public or private), scale (national, local) and content (physical, biological and social parameters)” and (George, 2000) recognized them on a broader scale as resources and

administrative systems, social and cultural systems, and the level and nature of economic growth. (Riffat and Khan, 2006) described the EIA system in Pakistan while using the Christopher Wood Model and displayed that the EIA system of Pakistan have quite a few strong character but they have a number of drawback in the system as in the implementation of EIA system, lack of importance of EIA in the decision making and absence of strategic environmental process. (Noble, 2010) put forward that there is mounting recognition of the need for the environmental assessment of the implications of policy, plan and program (PPP) alternatives at premature stage in the decision-making process. EIA system has not been able to make available environmental sustainability assurance for developing countries (Sadler, 1999). (Alshuwaikhat, 2005) describe that the general perception is that EIAs are conducted only because they are obligatory by the government legislation and contributor agencies, not to make sure sustainability of projects or to put up enhanced management plans. The intact strategic environmental impact assessment attempt is not regularly effective and successful. In many developing countries incorporation is missing between the formal decision making procedures for many strategic environmental assessment conclusion (Che *et al.*, 2002). Although the system in country is pretty and much developed but due to poor implementation and low awareness levels it is not that much effective (Aslam, 2006).

The above study describe the EIA process stepwise in country and concluded that some steps of these processes are carried out good and same have carried with deficiency. The EIA process had processed with procedural and methodological way. The procedural and methodological “infrastructure” of the EIA process is important determinants of the quality of the documentation produced (Sadler, 1996). The EIA procedure is provided in the Fig.2.

Fig.2: Procedure in the Assessment of an Environmental Component for an EIA (Sadler, 1996).



Source: Sadler, 1996

The EIA process encompasses:

- Screening - to decide if and at what level EIA should be applied.
- Scoping - to distinguish the important problems and prepare terms of reference

- impact analysis - to predict the effects of a proposal and assess their significance
- mitigation - to determine measures to prevent, moderate or recompense for impacts
- reporting – to prepare the information fundamental for decision making
- review – to ensure the quality of the EIA report
- decision-making – to approve or reject the proposal and locate environment
- follow up – to monitor, manage and review impacts of project implementation
- public involvement – to notify and consult with stakeholders

The Model illustrates the stepwise nature of the EIA. Our study analyzes the Report Review step of the EIA in country.

1.4. REVIEW PROCESS OF EIA

The EIA review stage help to insure that information on the environmental impacts of an action is adequate before it is used as a bases for decision making (Fuller, 1999). In the Environmental impact assessment process one phase is the reviewing and evaluation of the EIA report. In the review process the IEE and EIA report is judged, scrutinized, filtered the impact of the project on the environment and suggested mitigation measure. Environmental impact assessment review process assignment is normally performed by EPA through experts, in approved legal provision. The review process play important role in the implementation of EIA system in a country. The most important motive in the EIA implementation process is the review and evaluation process of the EIA report (IUCN report, 2008). In Pakistan EPA Performed this task with in the legal format: provided in IEE and EIA Regulation 2000. The process is carried out with following steps.

- Filling of the IEE and EIA report
- Selection of review committee member
- Time frame of the review process
- Attention toward the comments of the review committee member
- Decision making process
- Public participation

The EPA tries best to review the report under the legal provision but the recent literature review of national and international experts' studies, point out some strong characters, and some deficiency in some steps of review process. The EIA system of developing countries is not well-organized in stipulations of application and review (Sattar, 2007). The information essential for decision making process is also provided by this process. Due to disparity in administrative and consultative procedures review of the EIA reports diverges extensively in developing countries (George, 2000). According to (Ahmad and Wood, 2002) the EIA review phase is either inadequately begun or misplaced and its self-governing review is of lower standard in developing countries compared with developed countries. In practice, the review is always subjective in nature and depends primarily upon the personal judgment of the concerned officials and affiliations of the consultants (Nadeem and Fischer, 2010). Pakistan EIA process partially fulfilled the review criteria (Riffat and Khan, 2006). EIA review criteria suggested in the guideline is content oriented and does not explain any measure of quality of each component of EIA. Moreover it is not mandatory for responsible authority to follow that criterion while reviewing an EIA report (Nadeem and Hameed, 2006). Arrangements for the review of EIA reports vary widely between developing countries because of the differences in their administrative structures and

consultation procedures (George, 2000). The review stage of the EIA process appears to be poorly undertaken in some developing countries (Ahmad and Wood, 2002). Unsurprisingly, the quality of the limited number of developing country EIA reports subjected to independent review has generally been of a lower standard than in western nations (Lee, 2000b). The criterion for making review of the EIA report is about same in Pakistan and Sweden (Sattar, 2007). There is no formal system for review panels comprising experts from various fields (Aslam, 2006). There is real opportunity for improvement (Lee, 2000a).

1.5. PUBLIC PARTICIPATION PROCESS

Public Participation is the involvement of individuals or groups that are positively or negatively affected by a proposed project subjected to decision making process (International Association of Impact Assessment (IAIA), 2006). Participation means by which people, who are not elected or appointed officials of agencies and of government, influence decision about program and policies which affect their lives (Brager and Specht, 1973). Public participation as 'a sharing action to formulate policies and proposal' but a complete participation only happens when the public are allowed to participate actively in the planning process (Skeffington, 1970). The Public Participation process is the key element of the entire EIA systems. In the EIA system the information received from the experts is to talk about with public and the comments are received from the public because they know the possible impact and there are possibilities to arrive new indication about the impacts. In Pakistan the Environmental Protection Agency (EPA) has as its mandate the PEPA Act 1997: IEE and EIA regulation 2000, to ensure compliance in planning and execution of all development activities with the Environmental Impact Assessment (EIA) Procedures in order to promote environmentally sound and sustainable development in the

country. Public participation is an essential and integral component of EIA (Hartley and Wood, 2005). The recent literature study described the conduction of public participation step in EIA system in Country with various characters. This element of the EIA process becomes more significant in condition where public participation is feeble and there is deficiency of expertise on the part of the competent authority (Nadeem and Hameed, 2006). In many developing countries, the process is deficient in transparency and accountability and unsuccessful public contribution in the expansion of the policy, plan and program (PPP) Public participation process would be mitigated by the Strategic Environmental Assessment process (Alshawaikhat, 2005). All Strategic environmental Assessment hard work is not evenly efficient and successful. In many developing countries, integration is missing between the prescribed executive procedures for many Public participation process and strategic environmental findings (Che *et al.*, 2002). In the developing countries the public participation and consultation is in attendance theoretically (Beierle and Cayford, 2002). Influence of public participation on EIA related decisions is still weak, for the most part in developing countries (Nadeem and Fischer, 2011). There is no tradition of consultation and participation in many developing countries (Lee, 2000a). Indeed the notion of public participation in decision making is revolutionary in many developing countries (Wilbanks *et al.*, 1993). Public Participation is generally weak. It is mandatory only during EIA review by the responsible authority hence, avoided by most of the proponent during the EIA preparation process. Even during the review, public participation is insufficient and affectees' concerns are rarely addressed (Nadeem and Hameed, 2006). One of the major drawbacks in the EIA package is that it does not have guidelines for public consultations and in most cases this consultation does not happen (Aslam, 2006). One of the most crucial steps in improving EIA in

developing countries is the raising of public awareness and the increasing of opportunities for consultation with affected parties and other interested groups, as well as non-governmental organizations, throughout the EIA process (Glasson *et al.*, 1999; Abaza, 2000).

1.6. HYPOTHESES

The following three hypotheses were made to meet the objectives and aims of the study:

- The legal and regulatory framework of the EIA Review Process is not in harmony with the institutional set-up for its implementation in our country.
- Our country has some deficiency in Participation of various stakeholders such as regulatory, regional bodies and public, in EIA system.
- The development of Review Process of EIA system in our country is required great attention at some steps.

1.7. AIMS AND OBJECTIVE

- 1) To review the status of the EIA Review Process in legal set-up of the Country.
- 2) To provide a gap analysis between the legal set-up and institutional setting for Implementation of EIA Review Process.
- 3) To provide analysis of the Public Participation Process in EIA system in country.

CHAPTER 2

METHODOLOGY

Criteria to analyze the performance and effectiveness of the EIA Review Process were primarily adopted similar to that of the Wood evaluation criteria. The Wood criteria have been frequently used to evaluate the EIA system in developing Countries (Saddler and Verheem, 1996; Nadeem and Hameed, 2008). The criteria are descriptively oriented and can be divided in to two conceptual models; systemic and foundation measure (Fuller, 1999). Systematic measure is feature of EIA designed to deliver quality assurance and administration of EIA including both legislative and administrative framework as well as aspect of EIA process. Foundation measures are the actions undertaken to analyze the effectiveness of EIA review process in Table 4.

The information collected for this analysis is consists of primary data and proposed data. The primary data source is the submitted and reviewed reports of IEE and EIA at Pak-EPA during January 2008 to December 2011. But due to limited resources the primary data*collations were restricted to Federal-EPA only.

The proposed data were collected from the experts' judgments through interview, oral communication and questionnaires during January 2010 to December 2011. A total of 50 specialists were included in the analysis. Respondents were selected for their experience related to conducting EIA studies and their involvement in the review process. Others factors for selection of included previous EIA training/consulting experiences, EIA practitioners and trainers from government and non-government agencies, universities, NGOs and consultants. The interviews were conducted mainly in Islamabad Capital Territory and Rawalpindi from Punjab Province, but also

included Peshawar from Khyber Pakhtunkhwa Province. A questionnaire was prepared based on the international study of the effectiveness of environmental assessment (Sadler, 1996) was used to collect information from the EIA specialists. The first part of the questionnaire was design together general information about the respondents. The second part contains questions about the EIA Review Process in country in terms of the adequacy of administrative and legal setting. The questionnaire contained the questions as Likert-scale type, multiple choices. The results of proposed data analysis were presented by statistical methods.

Table 4: Analysis Criteria of EIA Review Process

System Measures
1. Legal Framework of EIA Review Process
2. Administration framework of EIA Review Process
3. EIA Process
a. Systematic EIA report review
b. Public Participation to EIA Process
4. Foundation Measures
a. Training
b. Capacity-building

Source: Wood, 2000

Proposed data based on the experts' views and attitude about the Review and Public Participation Process of EIA system in country. The data were collected through questionnaires and interviews. A total of 50 experts were selected. The selection criteria of experts were based on their educational level and experiences in the field of EIA. The questions were formulated as Likert-type scales. The questionnaire contains two parts. The first part contains questions about the general characteristics of the respondents (Table 5).

The first part of the questionnaire contains the following questions.

Table 5: Proposed Questions about General Characteristics of the Respondents

Sr. No	Part First Questions
I.	Respondent number
II.	Acquired Educational Level <ul style="list-style-type: none"> a) University Degree (Graduation) b) M.Sc c) Ph.D
III.	Organization <ul style="list-style-type: none"> a) Governmental organization b) NGO c) University d) Private sectors
IV.	EIA background <ul style="list-style-type: none"> a) Formal EIA training b) Informal EIA training
V.	Involvement in EIA <ul style="list-style-type: none"> a) Conducting EIA study b) Reviewer of EIA reports c) Both d) Others

Source: Author's Proposed Questioner according to Sadler 1996

The second part of questionnaire contains such types of questions which assemble the information of specific objectives of the study (Table 6).

Table 6: Questions about the Specific Objectives

Sr. No	Part Second Questions
VI	<p>How much are you satisfied or dissatisfied that the present legal proviso of EIA Review Process in country is reasonable?</p> <p>a) Most satisfied b) Satisfied c) Neither satisfied nor unsatisfied d) Unsatisfied e) Most unsatisfied</p>
VII	<p>How much are you satisfied that the institutional set-up of the EIA Review Process is reasonable for the application of these laws.</p> <p>a) Most satisfied b) Satisfied c) Neither satisfied nor dissatisfied d) Unsatisfied e) Most unsatisfied</p>
VIII	<p>How much are you satisfied from the report review process of EIA system in country?</p> <p>a) Most satisfied b) Satisfied c) Neither satisfied nor unsatisfied d) Unsatisfied e) Most unsatisfied</p>

IX How much are you satisfied that the selections of the reviewers for EIA report are in line in experience with the reports nature?

- a) Most satisfied
- b) Satisfied
- c) Neither satisfied nor unsatisfied
- d) Unsatisfied
- e) Most unsatisfied

X How much are you satisfied that the decision making process is processed with light of reviewers comments?

- a) Most satisfied
- b) Satisfied
- c) Neither satisfied nor unsatisfied
- d) Unsatisfied
- e) Most unsatisfied

XI How much are you satisfied that the Public Participation Process of EIA system in country is processed satisfactorily?

- a) Most satisfied
- b) Satisfied
- c) Neither satisfied nor unsatisfied
- d) Unsatisfied
- e) Most unsatisfied

Source: Author's Proposed Questioner according to Sadler 1996

The data were collected through this questionnaire, from EIA experts. The data are quoted in table 7.

Table 7: Proposed Data

Types	No. of respondents	Very satisfied	Satisfied	Neither satisfied nor dissatisfied	Dissatisfied	Very dissatisfied
legal basis	47	11	19	07	10	0
institutional set-up	48	0	17	05	23	03
report review process	48	0	15	09	22	02
selections of reviewers	47	05	25	04	11	02
decision making in light of reviewers comment s	48	0	21	07	12	08
Public Participation Process	48	0	15	09	17	07

Source: Author own estimation

CHAPTER 3

REVIEW OF EIA REPORTS

EIA is mandatory in Pakistan since 1st July 1994 for every sort of developmental projects (public and private) for the aim to protect the environment from adverse impacts of these projects, Legal proviso and regulation are developed and institution are established to review the IEEs and EIAs reports and make decision about projects and Authoritative organization is established by the Government with title of Pakistan Environmental Protection Agency under PEPA, 1997 act, for the purpose to implement the EIA system in country. The review of IEE and EIA reports are carrying out by the EPA in country. Following are the submitted IEEs and EIAs reports Submitted at Pak-EPA for Reviewing during the mentioned period.

3.1. APPROVED EIA REPORTS

The following EIAs projects are approved during 2008 to 2011 in table 8.

Table 8: Approved EIA Projects

S. No	Name of Project	Date of Admission of Application	Public hearing date	Issue Date of Approval	Remarks.
1	2-D Seismic Survey Project	24-01-2008	26-04-2008	20-08-2008	Conditional approval.
2	Avari Hotel, Islamabad.	29-02-2008	12-07-2008	03-09-2008	Conditional approval.
3	Marghazar Zoo redevelopment and expansion	30-01-2008	06-05-2008	06-10-2008	Conditional approval.
4	Al-Hamra Avenue Housing Scheme, Islamabad	26-03-2008	03-01-2009	25-04-2009	Conditional approval.
5	Grand Hyatt Hotel Construction.	14-02-2008	09-08-2008	30-04-2009	Conditional approval.

S. No	Name of Project	Date of Admission of Application	Public hearing date	Issue Date of Approval	Remarks.
6	Kashmir Highway Widening/ Construction Project	26-03-2009	-----	26-03-2009	Conditional approval.
7	Zero Point Interchange Project, Islamabad	26-03-2009	-----	10-10-2009	Conditional approval.
8	Hospital Waste Management at PIMS for Capital Area, Islamabad.	10-06-2009	-----	23-10-2009	Conditional approval.
9	IIMCT 350-Bed Teaching Hospital & University Campus Project, Islamabad	10-04-2009	-----	16-11-2009	Conditional approval.
10	Mixed Used Development Complex, Centaurs, Blue Area, Islamabad		-----	20-08-2008	Conditional approval.
11	New GHQ Complex, Islamabad	16-01- 2008	-----	16-03-2009	Conditional approval.
12	Dadu-Khuzadar Transmission Lines	15-04 2008	-----	18-02-2009	Conditional approval.
13	New Islamabad Airport	05-06-2009	-----	15-05-2010	Conditional approval.
14	PTET Telecom Tower, Islamabad	05-05-2009	-----	25-02-2010	Conditional approval.
15	Development Works for Establishment of NUST Campus at Islamabad	31-03-2009	-----	23-01-2010	Conditional approval.

3.2. EIA REPORTS IN REVIEW PROCESS

The following EIA reports are in reviewing in different stages of the Review Process in Table 9.

Table 9: EIA Reports in Review Process

S. No	Name of Project	Date of Admission of Application	Reasons
1	Development Works for Establishment of NUST Campus at Islamabad	31-03-2009	Public Hearing notices forwarded to publish in newspapers
2	Construction of Zarkon Heights, Islamabad.	05-07-2009	Initial comments on the rectified EIA report are forwarded to the project proponent dated 19 th December, 2009
3	Construction of Margalla Avenue	13-07- 2009	Public Hearing notices forwarded to publish in newspapers
4	Lotus Arts, Crafts & Recreational Valley (LACRV), Shahdara, Islamabad.	07-10-2009	Public Hearing notices forwarded to the proponent to get published in newspapers dated 8 th December, 2009.
5	Infrastructure Development of COMSATS Institute of Information Technology, Islamabad.	21-11-2009	Initial comments on EIA report were forwarded to the proponent dated 8 th December, 2009.
6	Roads Network for New Islamabad Airport	28 th February, 2010	_____
7	Shaia's River view Apartments	15 th March, 2010	_____
8	Construction of 10,000 Flats in SectorI-15 Islamabad	8 th April, 2010	_____
9	Quaid-e-Azam International Hospital		_____
10	Mg Exploratory well	22 th March, 2010	_____
11	Pak Domestic Bio gas	12 th March, 2010.	_____
12	Construction of road Network for new Islamabad Air Port	26 August, 2010	_____

Source: Pak-EPA

According to the accessible data at Pak-EPA there are 27 EIA reports submitted for reviewing in 2008 to 2011. From the above EIA reports 15 were completely reviewed and approved conditionally and 12 are in reviewing in different stages of the review process.

3.3. APPROVED IEE REPORTS

The following IEEs reports were approved conditionally approved and issued NOC to them, in table 10.

Table 10: Approved IEE Reports

S. No	Name of Project	Date of Admission of Application	Issue Date of Approval	Remarks.
1	Development Works in Orchard Scheme.	10-03-2008	05-05-2009	Conditional approval
2	Construction of Road, E-11.	22-04-2008	16-02-2009	Conditional approval
3	Construction and Operation of Workers Welfare Fund Secretariat Building, G- 10/4, Islamabad.	09-09-2008	16-02-2009	Conditional approval
4	Construction and operation of Residence for Staff of High Commission of India, Diplomatic Enclave, Islamabad.	02-09-2008	16-02-2009	Conditional approval
5	I-9, I-10 & I-11 Road Project	16-04-2008	19-02-2009	Conditional approval
6	Construction of Approach Road from Gate No. 3 in PM Secretariat to Heliport of Aiwan-e-Sadar, Islamabad.	14-05-2008	06-03-2009	Conditional approval
7	Jinnah Gardens Phase-II	13-05-2008	08-04-2009	Conditional approval
8	NEPRA Head Office Building at G-5/1, Islamabad.	19-12-2008	11-04-2009	Conditional approval
9	Oil & Gas Regulatory Authority Main Office, Islamabad.	25-09-2008	21-04-2009	Conditional approval
10	Petroleum House, Islamabad.	24-11-2008	04-05-2009	Conditional approval

S. No	Name of Project	Date of Admission of Application	Issue Date of Approval	Remarks.
11	Construction of Approach Road for Comstech from Attaturk Avenue, G-5, Islamabad.	14-05-2008	04-05-2009	Conditional approval
12	PEMRA Building, Islamabad.	09-09-2008	05-05-2009	Conditional approval
13	Construction of Access Road from Kuri Road Leading to the Plots allotted to PSEB, China Mobile and Agro Farming Scheme, North of N.I.H, Islamabad Project.	20-12-2008	05-05-2009	Conditional approval
14	Metro Cash & Carry Islamabad.	15-07-2008	15-05-2009	Conditional approval
15	CBR Town Mouza Lohi Bher, Zone V, Islamabad.	12-07-2008	16-09-2009	Conditional approval.
16	Power Distribution Enhancement Project.	27-01-2009	-	Approved
17	Establishment of NESPAK House.	27-02-2009	27-07-2009	Conditional approval.
18	Construction Of Muhammad Ali Jinnah University, Islamabad.	01-04- 2008	25-09-2009	Conditional approval
19	Construction of C&E Type Apartments at G-11/3, Islamabad.	13-04-2009	03-10-2009	Conditional approval
20	Construction of C&D Type Apartments at I-11/1, Islamabad.	13-04-2009	05-10-2009	Conditional approval

Source: Pak-EPA

3.4. IEE REPORTS IN REVIEW PROCESS

The IEE reports of different projects in reviewing of different stages of review process are scheduled follow in Table 11.

Table 11: IEE Reports in Review Process

S. No.	Name of Project	Date of Admission of Application	Status	Reasons
1	Nippon Paint (Pakistan) Warehouse, I-10/3, Islamabad.	23-07-2009	In-process	Minuted of meeting held at Pak-EPA on 10-10-2009 were forwarded to the proponent dated 02-11-2009 along with the request to do the needful Site visit is proposed.
2	Interior Employees Cooperative Housing Society, Islamabad.	08-08-2009	In-process	. Site visit is proposed
3	OPF Housing Scheme, Zone V, Islamabad.	16-09-2009	In-process	Site monitoring team constitution is under process.
4	6 MW Waste Heat Recovery Power Plant at FECTO Cement Ltd. Sangjani, Islamabad.	19-09-2009	In-process	Site monitoring team is under constitution process along with review committee.
6	Lotus Arts, Crafts & Recreational Valley (LACRV), Shahdara, Islamabad.	07-10-2009	In-process	Public Hearing notices forwarded to the proponent to get published.
7	Mc Donalds	16-05-2008	In-process	Supreme court Case Sub judiced
8	Infrastructure development & Construction of 8000 Flats project.	07-07-2008	In-process	EIA study is proposed.
9	Construction of Clifton Heights.	10-09-2008	In-process	Approved Layout plan proposed
10	Construction of D Type Apartments at G-10/2, Islamabad.	13-04-2009	In-process	Decision on submitted case is in process.

S. No.	Name of Project	Date of Admission of Application	Status	Reasons
11	EOBI Building, G-10/4, Islamabad.	06-06-2009	In-process	Site monitoring team constitution is under process

Source: Pak-EPA

The accessible data were that total 34 IEE reports are submitted for reviewing at Pak EPA, 20 of that were reviewed and approved conditionally and 11 are in reviewing process in different stages and 3 were rejected.

3.5. REJECTED IEE REPORTS

The following IEE reports are rejected due to some reasons written in the table 12.

Table 12: Rejected IEE Reports

S.No	Name of Project	Date of Admission of Application	Reasons.
1	Dualization of Garden Avenue, Islamabad.	28-01-2008	IEE not accepted.
2.	Construction of Margalla Avenue	06-03- 2008	EIA is proposed for the said project.
3	Construction of Zarkon Heights, Islamabad.	31-05-2008	EIA is proposed for the said project.

Source: Pak-EPA

According to the available data PAK-EPA received 34 IEE reports are submitted for reviewing during the 2008 to 2011 period. 20 of these were approved conditionally and issues NOC and 11 are under the reviewing process in different stages of review process. And 3 are rejected.

3.6. EIA APPROVED REPORTS WITH TIME ASPECT

The environmental approved EIA reports are given in the table 13, with the date of submission of application for approval to the final approval date.

Table 13: Approved EIA reports with time aspects

S. No	Name of Project	Date of Admission of Application	Public hearing date	Date of Submission of Draft Env. Approval	Issue Date of Env. Approval	Total Days from admission to final approval
1	2-D Seismic Survey Project	24-01-008	26-04-2008	16-06-2008	20-08-2008	206
2	Avari Hotel, Islamabad.	29-02-2008	12-07-2008	01-08-2008	03-09-2008	187
3	Marghazar Zoo redevelopment and expansion	30-01-2008	06-05-2008	23-07-2008	06-10-2008	246
4	Al-Hamra Avenue Housing Scheme, Islamabad	26-03-2008	03-01-2009	07-04-2009	25-04-2009	389
5	Grand Hyatt Hotel Construction.	14-02-2008	09-08-2008	23-01-2009	30-04-2009	436
6	Kashmir Highway Widening/ Construction Project	26-03-2009	-----	27-01-2010	26-03-2010	360
7	Zero Point Interchange Project, Islamabad	26-03-2009	-----	23-08-2009	10-10-2009	194
8	Hospital Waste Management at PIMS for Capital Area, Islamabad.	10-06-2009	----- -	19-08-2009	23-10-2009	133

9	IIMCT 350-Bed Teaching Hospital & University Campus Project, Islamabad	10-04-2009	_____	07-10-2009	16-11-2009	216
10	Mixed Used Development Complex, Centaurs, Blue Area, Islamabad	31-03-2007	_____	17-05-2008	20-08-2008	499
11	New GHQ Complex, Islamabad	16-01-2008	_____	04-08-2008	16-03-2009	420
12	Dadu-Khuzadar Transmission Lines	15-04-2008	_____	02-11-2009	18-02-2009	333
13	New Islamabad Airport	05-06-2009	_____	18-03-2010	15-05-2010	340
14	PTET Telecom Tower, Islamabad	05-05-2009	_____	27-11-2010	25-02-2010	290
15	Development Works for Establishment of NUST Campus at Islamabad	31-03-2009	_____	13-09-2010	23-01-2010	292

Total days	4541	Average time per EIA is 302 days about 10 months
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Source: Pak-EPA

Available data are that total of 15 EIA reports were approved during 2008 to 2011, in sum of 4541 days. The Average time per EIA is 302 days about 10 months.

3.7. IEE APPROVED CASES WITH TIME ASPECTS

The environmental approved IEE reports by EPA are quoted in the table 14, with the date of submission of application for approval to the final approval date.

Table 14: Approved IEE reports with time aspects

S. No	Name of Project	Date of Admission of Application	Date of Submission of Draft Env. Approval	Issue Date of Env. Approval	Total Days from Admission to final approval
1	Construction of Road, E-11.	22-04-2008	12-02-2009	16-02-2009	294
2	Construction and Operation of Workers Welfare Fund Secretariat Building, G-10/4, Islamabad.	09-09-2008	12-02-2009	16-02-2009	157
3	Construction and operation of Residence for Staff of High Commission of India, Diplomatic Enclave, Islamabad.	02-09-2008	06-12-08	16-02-2009	162
4	I-9, I-10 & I-11 Road Project	16-04-2008	24-12-2008	19-02-2009	303
5	Construction of Approach Road from Gate No. 3 in PM Secretariat to Heliport of Aiwan-e-Sadar, Islamabad.	14-05-2008		06-03-2009	232
6	Jinnah Gardens Phase-II	13-05-2008	04-04-2009	08-04-2009	265
7	NEPRA Head Office Building at G-5/1, Islamabad.	19-12-2008	07-04-2009	11-04-2009	112
8	Oil & Gas Regulatory Authority Main Office, Islamabad.	25-09-2008	14-04-2009	21-04-2009	206
9	Petroleum House, Islamabad.	24-11-2008	30-04-2009	04-05-2009	160
10	Construction of Approach Road for Comstech from Attaturk Avenue, G-5, Islamabad.	14-05-2008	17-03-2009	04-05-2009	350
11	Development Works in Orchard Scheme.	10-03-2008	24-04-2009	05-05-2009	421
12	PEMRA Building, Islamabad.	09-09-2008	30-03-2009	05-05-2009	236

13	Construction of Access Road from Kuri Road Leading to the Plots allotted to PSEB, China Mobile and Agro Farming Scheme, North of N.I.H, Islamabad Project	20-12-2008	04-04-2009	05-05-2009	135.
14	Metro Cash & Carry Islamabad.	15-07-2008	19-03-2009	15-05-2009	300
15	CBR Town Mouza Lohi Bher, Zone V, Islamabad.	12-07-2008	24-07-2009	16-09-2009	429
16	Power Distribution Enhancement Project.	27-01-2009	09-10-2009	11-01-2010	344
17	Establishment of NESPAK House	27-02-2009	15-06-2009	27-07-2009	150
18	Construction Of Muhammad Ali Jinnah University, Islamabad.	01-04- 2008	19-07-2009	25-09-2009	536
19	Construction of C&E Type Apartments at G-11/3, Islamabad.	13-04-2009	26-08-2009	03-10-2009	170
20	Construction of C&D Type Apartments at I-11/1, Islamabad.	13-04-2009	03-08-2009	05-10-2009	172

Total days	5194	Average per IEE is 259.7 about 8.6 months
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Source: Pak-EPA

The available data are that total of 20 IEE reports were reviewed by the EPA in 2008 to 2011, in sum of 5194 days. The average time per IEE is 259.7 about 8.6 months.

CHAPTER 4

RESULTS AND DISCUSSION

4.1. GENERAL CHARACTERISTICS OF RESPONDENTS

All of the respondents had at least university degrees and 26% of them had M.Phil and PhD degrees. All of the respondents had experienced in different flied of EIA. The average experiences of the entire respondents were 9.45 years in EIA flied. Majority of them (72%) received formal EIA training. The respondents were belonged to different organizations such as Governmental Organizations, universities, NGOs and others private organizations. Almost 42% had been involved both in conducting EIA studies and serving as a member of the commission in the review process. The over all general characteristics were tabulated in table 15.

Table 15: General Characteristics of Respondents

Characteristics	Education and Experience	Respondent (%)
Educational Level	University degree	38
	M.Sc	36
	M.Phil & Ph.D	26
Work experience	Average years	9.45
Organization	Governmental	18
	University	48
	NGOs & Private	34
EIA back ground	Formal EIA Training	72
	Informal EIA Training	28
Involvement in EIA	EIA consultant	16
	Reviewer	34
	Both	42
	Others	08

Source: Author's own calculation

4.2. LEGAL BASIS

The basic legal provision of an EIA review process is present in country. The Pakistan Environmental Protection Act, 1997 is the acting form of present overall EIA legislations and regulations. This act was developed from the Pakistan Environmental Protection Ordinance, 1983. IEE and EIA became mandatory since 1st July, 1994 for establishment of developmental projects and its components (public and private). The legal basis of IEE and EIA was described in PEPA, 1997. The article 12 of this act deals that before the establishment of all major developmental projects and its components (public and private) required IEE and EIA. For application of this article the Pakistan environmental protection agency formulized IEE and EIA Regulation, 2000. Nine out of twenty four sections of the said regulations deal with various aspects of entire review process, such as the regulations 7, 8, 9, 10, 11, 12, 13, 15, 16, for review fee structure, Filling of IEE & EIA, Preliminary scrutiny, Public participation, Review, Decision, Conditional Approval, Deemed Approval, and Extension in review period respectively. The regulation 3 (schedule I) contains the list of projects requiring an IEE and regulation 4 (schedule II) deal with list of projects that required EIA. Also legal provision also allows the proponent to challenged decision in the courts of the country.

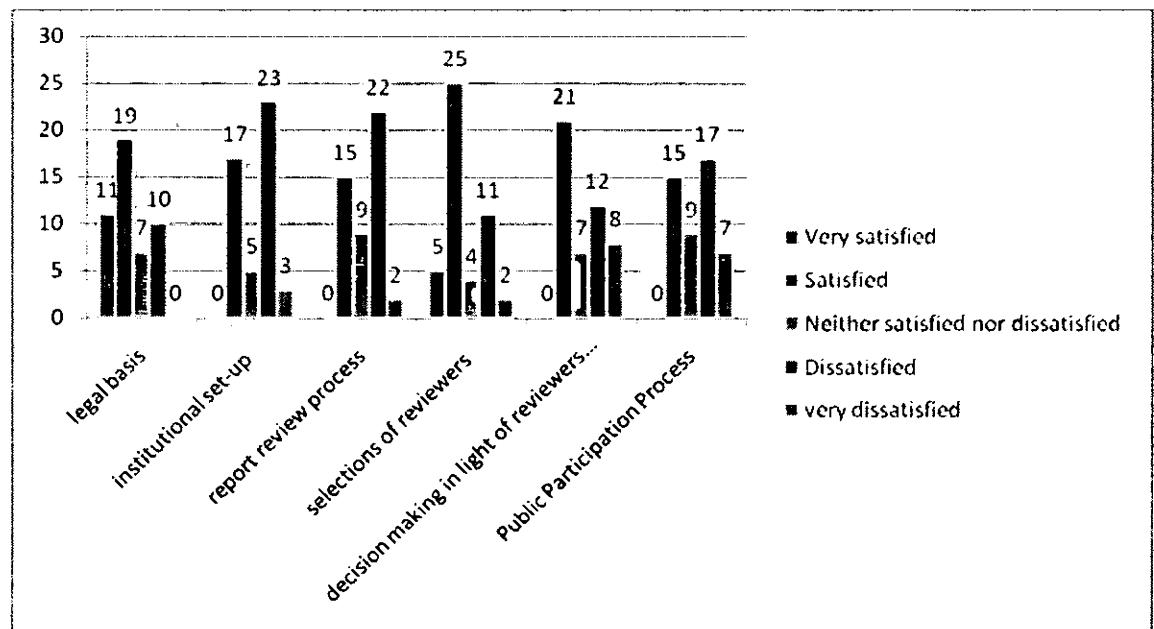
The present legal provision of EIA review process is reasonable with our country and comparable to international regulations with respect to regional status. The specialists' views and attitudes rated the current legal basis of EIA review process were also satisfactory (Table 16). As indicated before, that Pakistan improved its legislative framework of EIA system time to time. As the preliminary legal provision the PEPO, 1983 was developed in to PEPA, 1997 act. The application of this act was formulized in

form of IEE and EIA regulation, 2000. This provision contained basic legal regulations of entire review process.

Table 16: Respondents Perception

Types	Modes	Means	Standard Deviations
Legal basis	19	9.4	6.877
Institutional set-up	23	9.6	9.889
Review process	22	9.6	9.127
Selections of reviewers	25	9.4	9.343
Decision making	21	9.6	7.700
Public participation	17	9.6	6.676

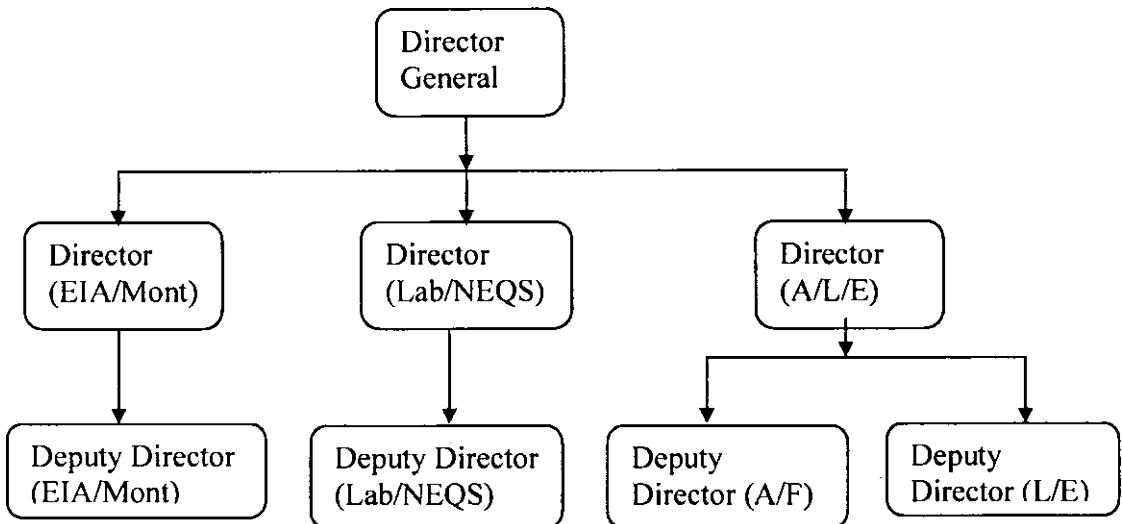
Figure 3: Graphical Analysis of Proposed Data.



4.3. ADMINISTRATIVE FRAMEWORK OF EIA REVIEW PROCESS

In our country the administrative framework is headed by the Ministry of Environment. But the IEE and EIA related issues are handling by the EPAs. Presently there are seven functional EPAs in Pakistan, including: Pak-EPA, Baluchistan EPA, Khyber Pakhtunkhwa (KPK) EPA, Punjab EPA, Sindh EPA, Gilgit Baltistan (GB) EPA; and Azad Jammu Kashmir (AJK) EPA. The Pak-EPA is the custodian of the environmental act (PEPA, 1997). Pak-EPA was established in 1983. This was the basic institute for application of PEPA, 1997 act. Powers have been delegated by Pakistan Environmental Protection Agency (Pak-EPA) to provincial EPAs under the article 26 of PEPA 1997 to handle matters at provincial level. In federal areas the Pak-EPA handle the EIA and IEE system. For this purpose separate sections like EIA/Monitoring, Laboratory/NEQS, Administration/finance, Legal/Enforcement were established in the EPA departments. Director General heads the EPA department at federal level. EIA/monitoring and Lab/national environmental quality standards sections consists of one Director and one Deputy Director only. Admin and legal enforcement section consists of one Director and two Deputy Director, one for admin and finance and the other for legal enforcement, the present organizational structure of Pak-EPA as shown in the Figure 4.

Figure 4: Organization Chart of Pak-EPA



Source: Pak-EPA

The present staffs in Pak-EPA were insufficient for proper EIA implementation and also hampers their day to day official activities. Human resource constraints in Pak-EPA have been observed as one of the primary factors for EIA system implementation and improper review process in country. The institutional set-up of the current EIA system was mostly rated dissatisfied by the specialists. The results of the experts' views are quoted in table 16.

4.4. REVIEW PROCESS

The EIA review stage help to insure that information on the environmental impacts of an action is adequate before it is used as a basis for decision making (Fuller, 1999). The Laws and regulation for reviewing the IEE and EIA reports are in attendance and institution (EPA) is established to put into action these laws to develop the EIA system in Pakistan. The article twelve of PEPA, 1997 contain that before the establishment of any project and its components, required the approval of IEE and EIA reports from EPA. The

article also defined the IEE and EIA. The EPA made decision at any IEE and EIA reports once reviewed the report. For reviewing the report of IEE and EIA, the legal provision was formulized in the form of IEE and EIA regulation 2000. To obtained prolific results from the exceeding legal section, it required to put them into practice. For this purpose the implementation task was agreed to EPA. The EPA tries best to develop the EIA review process, but from the implementation of these laws to till now EIA review process have some deficiency in some steps of the entire review process. The observations obtained from the reviewed reports of IEEs and EIAs at Pak-EPA during the mentioned period shows some deficiencies in the review process. Also international experts pointed one reason in the development of EIA system in developing countries is that the have deficiencies in the step of review process of EIA system. The information obtained from specialists about the review process in country is that the over all review process in country is not developed. While analysis the over all experts' views rated the present review process dissatisfied. Their views are quoted in the table 16. The review process is carried out in several steps. Every step of the review process is carried out under the regulation 2000. But some of these steps have carried out with deficiency. One reason of this deficiency is the poor quality of the EIA reports. The proponent prepared EIA report of project through hiring consultants within minimum cost and time. Consultants were tries best to hide the adverse impacts and highlight the benefits of the project, for the purpose to obtained environmental clearance. Such types of reports produced difficulties in reviewing stage of EIA system. Second the institution established for reviewing the reports has insufficient strength. In the mentioned period the average 9 EIAs and more then 12 IEEs reports per year were submitted to EPA. The Pak-EPA have insufficient

strength to reviewed such numbers of reports per years with others official activities. Due to these difficulties some steps of the review process were carried with deficiency. The entire steps of the review process were discussed below.

4.4.1. FILING OF IEE AND EIA REPORT

The EPA has first filed the reports for review process. The section 9 of regulation, 2000 described this step that the report of IEE and EIA has filed with all respects for initiation of further review process with in 10 working days and if it has deficient to provide proper information then return to the proponent for revision and mentions all the points that required further study. The most of the submitted reports have proper filed.

4.4.2. CONSTITUTION OF REVIEW COMMITTEE

Once the report filed then EPA constitute a committee to review the report. The report was reviewed for the purpose to scrutinize the important impacts of the project on environment qualitatively and quantitatively. Regulation 11 described that review process will be carried out by experts. This advisory committee will be constituted by the Director General. The specialists constituted from different organizations as consultants, Public and private organization and educational institutions, on the basis of academic qualifications and experiences in the related field of projects nature. The EPA receives comments from experts and final decisions is making on the basis of these comments.

The reviewed reports at EPA during the mention period showed that the 60% selected experts of each project were qualified and experienced in the project nature. The other 40 % of the experts were also qualified and experienced, but their experience was not in nature of project. Availability of the expertise is critical to the effectiveness of EIA review process. However, presently in Pakistan it is recognized that highly qualified and

experienced experts to every types of projects are limited and overloaded. The information obtained from specialists also indicated that experts selected for constitutions of advisory committee of most projects were satisfactory.

After reviewing the reports the EPA received comments from advisory committee for the purpose to make final decision on project. But the approved projects showed that less attention were given to reviewers comments in decision making. Most of the decisions making process of most projects were pressurized by political agents. Also the decision making step of the EIA review process, were rated dissatisfaction by the respondents.

4.4.3. TIME ASPECTS

It is very important that the whole reviewing process is completed in time. The attentions toward this aspect of review process produced value and confidence about EIA system in proponents and also in public. The legal provision also described the specific time for review process. Such as regulation 11 described that every IEE report must be reviewed in 45 days once filing of the report and every EIA must be reviewed in 90 days about 3 months once filing the report. But the EPA has authority to expend the time period to four months, if the nature of the project is so vast.

Most of IEEs and EIAs reviewed reports showed delay approval. One motive of this aspect was the bad intercommunications between EPA and respondents. EPA could call the proponent at any stage of the reviewing process for additional information. But most of the proponent have viewed that environmental clearance is just formality for any projects. Therefore the proponent had not responded intentionally. The low environmental awareness produced difficulties in development of every step of EIA system.

4.5. PUBLIC PARTICIPATION

Public Participation is the involvement of individuals or groups that are positively or negatively affected by a proposed project subjected to decision making process (IAIA, 2006). Public Participation is a core part of EIA system. In this process the obtained information and impacts of project are shared with stakeholders. The legal provision in regulation 10 described that public should be invited through local news papers before 30 days from the date of public hearing. The notice contain the exact location, time, address of proponent and place of participation. The legal provision also discussed that all information will be disclose to stakeholders. During public hearing the information should collected, tabulated and duly consideration by EPA before decision on EIA.

The legal context of public participation is reasonable in country. However the institute tries best to develop public participation in legal context. The reviewed reports showed that the public hearings of most reports were advertised in local news papers. But public hearings of most reports were arranged away from the projects area. Access of Public to project impacts makes valuable the process. In country this aspect was not so developed. Access of public to project impacts also developed interest of public in EIA system. Limited Public involvement in Public participation is considered a key obstacle in achieving effective EIA system in country. In our country due to low environmental awareness and faraway site selection of hearing from project affected area, less numbers of public had taken part in public hearing. Attention to public comments are necessary because public could affect the project activities and also it's has chance to explore new impact. In our country less attention were given to the public comments in decision

making process. Public participation process in our country was rated dissatisfied by the expert's views (Table 16).

CHAPTER NO 5

CONCLUSION AND RECOMMENDATION

5.1. CONCLUSION

Although the basic legislation of EIA review process is now in place in our country and institutions are present to implement it. But there are some problems relating to the implementation side which make some deficiencies in review process. The following conclusions have been drawn from the analysis of EIA review process in Pakistan on the bases of IEE and EIA reviewed reports at EPA and experts perspective.

1. The legal basis of the review process is near to satisfactory level.
2. The present institutions have insufficient staff to carry out review process satisfactorily. For smooth and efficient working of EIA Sections of EPAs and to effectively ensure satisfactory EIA review process, the staff strength needs to be enhanced.
3. The over all review process was dissatisfied. Some of entire steps of review process were carried out satisfied such as filing of the reports and selection of reviewers. While others were carried out dissatisfactory.
4. In our country generally poor quality of EIA reports were prepared by the consultants. Because proponent hire consults to conduct EIA of development project within minimum time and cost.
5. One of the causes of poor quality of EIA review process in our country appears to be relatively little experience of consultants and approval authorities of EIA.

6. Public participation is generally weak. In review process, public participation is insufficient and affected concerns are rarely addressed.

5.2. RECOMMENDATIONS

Analysis of the EIA Review Process and the concluding discussion lead to the following recommendations:

- For smooth development of the institutions and to effectively conduct EIA review Process, the qualified and experienced staff strength needs to be enhanced.
- To increase the capacity for smooth and efficient operation of EIA review process in Pakistan, they need training and coaching programs. It is proposed that environmental professionals from EPA, P&D, academicians, lawyers, judges, civil society, NGOs, media, EIA consultants and chambers should be selected and trained by the International experts in the field of EIA review process.
- To improve the quality of EIA reports, the government authorities should develop accreditation system for training of EIA consultants.
- The public participations process should be improved with accurate steps, at the beginning of the EIA reports preparation by the consultants to the final decision making process.
- Although the level and interest of public should be increased about the environmental issues with raising environmental awareness in public. The environmental awareness could be raised with active involvement of media, NGOs and governmental institutions.

References

Abaza H., (2000) Strengthening future environmental assessment practice: an international perspective, in N. Lee and C. George (edition) Environmental Assessment in Developing and Transitional Countries, Chichester, John Wiley and Sons.

Ahmad B., and Sammy G K., (1985) Guidelines to Environmental Impact Assessment in Developing Countries, London, Hodder and Stoughton, 1, p. 135-139.

Ahmad B., and Wood C M., (2002) Environmental impact assessment in Egypt, Turkey and Tunisia, Environmental Impact Assessment Review, 22, p. 213-234.

Alshuwaikhat H M., (2005) Strategic Environmental Assessment Can Help Solve Environmental Impact Assessment Failures in Developing Countries, Environmental Impact Assessment Review, 25, No.4, p. 307-317.

Aslam F., (2006) Environmental Impact Assessment in Pakistan-Overview: Implementation and Effectiveness, Thesis (Master), Department of Architecture and Built Environment, KTH University, Sweden.

Aslam Z., (2006) Director of EPA Pak, Brief EIA system in Pakistan's prospective, Pak-EPA.

Bhatt R P., and Khanal S N., (2010) Environmental impact assessment and process: A study on poly and legal instruments in Nepal, African journal of Environmental science and technology, 4, p. 586-594.

Bierele T C., and Cayford J., (2002) Democracy in practice: public participation in environmental decisions, Washington, DC: Resources for the Future.

Brager G., and Specht H., (1973) Community organizing, New York, Columbia University Press.

Briffett C., (1999), Environmental impact assessment in east Asia, Handbook of Environmental Impact Assessment, Oxford, p.234-237.

Che X., Shang J., and Wang J., (2002) Strategic environmental assessment in and its development in China, Environmental Impact Assessment Review, 22, p. 9-101.

Donnelly A., Dala-Clayton B., and Hughes R., (1998) A Directory of Impact Assessment Guidelines, London, International Institute for Environment and Development, 2nd edition, p.157-159.

Fuller K., (1999) Quality and Quality Control in Environmental Impact Assessment, in Petts j, editor. Handbook of Environmental Impact Assessment, Blackwell Science Ltd. UK, p. 55-82.

George C., (2000a) Comparative review of environmental assessment procedures and practice, in N. Lee and C. George (eds.) Environmental Assessment in Developing and Transitional Countries, Chichester, John Wiley and Sons.

Glasson J., Therivel R., and Chadweck A., (1999) Introduction to Environmental Impact Assessment, London, UCL Press, 2nd edition, p. 41-43.

Glasson J., Therivel R., and Chadwick A., (2005) Introduction to environmental impact assessment, 3rd edition. London: Routledge.

Government of Pakistan, (2000) Pakistan environmental protection agency review of IEE and EIA regulations 2000, Islamabad, 2000. Available from: <http://www.environment.gov.pk/act-rules/IEE-EIA-REG.pdf>, printed. 27 April 2011.

Government of Pakistan, (2002) "Pakistan Country Assessment Report, Revised Draft-2," Ministry of Environment, Local Government, and Rural Development, 2002. Available from: <http://www.environment.gov.pk>, printed. 27 April 2011.

Government of Pakistan, 1997 Act, Ministry of Environment, and Environmental Protection Agency Islamabad Pakistan. Available from: <http://www.environment.gov.pk/act-rules/envprotact1997.pdf>, printed. 27 April 2011.

Hartley N., and Wood C M., (2005) Public participation in environmental impact assessment: implementing the Arhus Convention", Environmental Impact Assessment Review, 25, p. 40-313.

Hartley N., and Wood C M., (2005) Public participation in environmental impact assessment implementing the Arhus Convention, Environmental Impact Assessment Review, 25, p. 319-40.

International Association of Impact Assessment, (1999) Principles of Environmental Impact Assessment Best Practice, IAIA, Johannesburg. www.iaia.co.za/ printed. March 2010.

International Association of Impact Assessment, (2006) EIA regulations, Information seminar in South Africa. www.iaia.co.za/ printed. March 2010.

IUCN, (2008) Review of environmental impact Assessment.

Kennedy W V., (1988) Environmental impact assessment in North America, Western Europe: what has worked where, how and why?, International Environment Reporter, 11, p. 257-262.

Lee N., (2000a) Integrating Appraisals and Decision Making, in Lee N., George C., (Eds). Environmental Assessment in Developing and Transitional Countries. John Wiley and Sons Ltd. Chichester. England.

Lee N., (2000b) Reviewing the Quality of Environmental Assessment, in Lee N., George C., (Eds). Environmental Assessment in Developing and Transitional Countries. John Wiley and Sons Ltd. Chichester. England.

Momtaz S., (2002) Environmental impact assessment in Bangladesh: a critical review, *Environmental Impact Assessment Review*, 22, p. 63 –69.

Nadeem O., and Hameed R., (2006) Public participation in environmental assessment of development related initiatives in Pakistan, *Gulf First, Urban Planning and Development Conference*, Kuwait, p. 20-22.

Nadeem O., and Fischer T B., (2010) An evaluation framework for effective public participation in EIA in Pakistan, *Environmental Impact Assessment Review*.

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

Nadeem O., and Hameed R., (2006) A Critical Review of the Adequacy of EIA Reports-Evidence from Pakistan, *World Academy of Science, Engineering Technology*, 23, p. 64-70.

Nadeem O., and Hameed R., (2008) Evolution of Environmental Impact Assessment System of Pakistan, *Environmental Impact Assessment Review*, 28, p. 562-571.

Noble B., (2010) *Introduction to Environmental Impact Assessment: A Guide to Principles and Practices*, Oxford University Press, Oxford, p. 33-37.

Pak-SCEA., (2006) *Pakistan; Strategic Country Environmental Assessment Report: Rising to the Challenges*, May, 2006.

Rayner S., (1993) Introduction and international influence of NEPA, In S.G. Hildebrand and J.B. Cannon (eds), *Environmental Analysis: the NEPA Experience*. Lewis, Boca Raton, FL.

Riffat, R. and Khan, D. (2006) A Review and Evaluation of the Environmental Impact Assessment in Pakistan, *Applied Science*, 1, p. 17-29.

Sadler B., (1996) International study of the effectiveness of environmental assessment, final report, Ottawa: International Association for Impact Assessment and Canadian Environmental Assessment Agency, Ministry of Supply and Services.

Sadler B., (1999) Environmental sustainability assessment and assurance, In: Petts J, editor. *Handbook on environmental impact assessment*. London7 Blackwell, p. 12–32.

Sadler B., and Verheem R., (1996) *Strategic EIA: Status, Challenges and Future Directions*, World Bank, Washington, p. 23-26.

Sattar N A., (2007) Comparative Analysis of the EIA system of Developed and Developing Countries: Cases of Hydroelectric Power Plants, Thesis (Master). In the programme Applied and Measurement Techniques, Chalmers University of Technology, Sweden.

Skeffington A M., (1970) *People and planning: report of the Committee on public participation in planning*, London, Ministry of Housing and Local Government, Scottish Development Department and Welsh Office.

USAID/Pakistan, (2009) Environmental Compliance Best Practice Review Action Plan, pdf.usaid.gov/pdf_docs/PNADP522.pdf, printed. 27 April 2011.

Wilbanks T J., Hunskr D B Jr., Petrich C H., and Wright S B., (1993) Potential to transfer the US NEPA experience in developing countries, in S. G. Hildebrand and J B Cannon (eds.), *Environmental Analysis: the NEPA Experience*, Lewis, Boca Raton, FL.

Wood C., (2000) *Environmental Assessment in Developing and Transitional Countries. Principles, Methods and Practice*, Edited by N. Lee and C. George. John Wiley & Sons Ltd. Chichester, New York, USA.

Wood C., (2002) *Environmental Impact Assessment: a Comparative Review'*, Prentice Hall, Harlow (second, completely revised, edition), p: 225-250.

Wood C., (2003) Environmental impact Assessment in Development Countries: An over View, Conference on New Directions in Impact Assessment for Development: Methods and Practice, p:24-25. www.iucn.org/, printed, march 2010.