

Public Consultation and Participation in EIA in Pakistan and Lessons Learnt from International Practices

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Abstract

Environmental Impact Assessment (EIA) of development projects is considered incomplete without involvement of potentially affected and interested public. Primarily, public participation in decision making is a concept imported from western democracies. It is heartening to note that public consultation and participation are taking place in EIA in Pakistan and many developing countries, despite undergoing prolonged dictatorship and political instability. The techniques and practices of public participation in EIA in selected developed and developing countries as well as in Pakistan have been critically reviewed to have a comparative idea. Analysis of the Pakistani practice is based on participation in public hearings, EIA workshops and interviews with concerned officials and EIA experts. Public participation in EIA in developed countries is moderately effective, transparent, initiated at initial stages of EIA process and reviewed by independent experts. On the other hand, delayed public involvement and lack of transparency in the EIA decision making process are major impediments to its effectiveness in the developing countries including Pakistan. Recommendations have been formulated to enhance its effectiveness in Pakistan on the basis of lessons learnt from other countries.

Key Words: Public Participation, EIA, Pakistan

1. Introduction

EIA is a process of identifying and evaluating possible bio-physical and socio-economic impacts of a proposed project on the eco-system of its catchment areas [1, 2, 3]. Public consultation/participation during EIA is a mandatory requirement in several developed and developing countries.

Consultation and participation are often used interchangeably, as both indicate involvement of people in decision making. But theoretically there is a difference between both the concepts with respect to varying levels of involvement and degree of power attributed to the public. Normally, consultation is a two-way process of information sharing among the proponent, responsible agency and various stakeholders on the potential benefits and adverse effects of a development proposal. The stakeholders are also provided with the opportunity to give oral or written comments on the proposal. Consultation may be held at any stage of the EIA process. Project proponent or responsible agency may consider

stakeholders' views/concerns in decision making, if it considers appropriate [4].

Participation refers to a process through which the public/stakeholders can influence decisions and share control over development proposals which may affect them [5]. In a participation exercise, the shared analysis, agenda setting and decision making are normally reached through consensus on the main issues between the public and the proponent [6, 4]. Participation may also be held at any stage of the EIA process; rather it includes consultation and offers more opportunities for a comparatively high degree of public influence over the EIA related decisions [7, 8]. In this article, both consultation and participation have been used interchangeably; the theoretical difference between the two terms is highlighted where it was felt necessary. Nevertheless, the techniques and the stages during which the interested and affected public is involved may vary from country to country. Public consultation and participation in EIA in Pakistan is taking place since the year 2000 but several authors claim that it is, so far, ineffective in achieving its objectives [9, 10, 11].

This article first presents the significance of public participation in EIA and its popular techniques. This is followed by critical review of public participation in EIA in four pioneering developed countries and four developing countries having contextual similarities with Pakistan and where its awareness is growing at a rapid pace. The developed countries include: USA, United Kingdom, Canada, and the Netherlands. The developing countries include: India, China, Thailand and the Philippines.

2. Research Methodology

Firstly, the literature (including books and research articles published in peer reviewed journals) on theoretical context, methods and techniques of public participation in EIA was reviewed. It revealed that the EIA originated from the USA's National Environmental Policy Act (NEPA) 1969 as a result of growing public demand to do something about the environment [12]. The Canadian EIA system is appreciated due to its participation funding programme and public hearing panel [13,14]. The UK is taken as a representative of the European Union countries. Also, many British laws have been enforced in Pakistan even after independence from the British regime in Indo-Pak Sub-continent. The Netherlands is considered to have developed the most 'sophisticated' and effective EIA system in Europe. Its openness and independent EIA commission are acknowledged by many authors [15, 16]. Thus, there are many aspects of EIA and public participation in these developed countries which can be learned for improving the public participation in EIA in Pakistan.

On the other hand, despite the fact that EIA is being practiced in several developing countries for the last thirty years, there is a lack of literature on public participation. However, it was possible to find literature on India, China, Thailand and the Philippines. Moreover, the research on various aspects of EIA in these countries in increasing and these countries are either neighbouring or have similarities with socio-political context of Pakistan. The criteria/indicators drawn from the literature and used for critical review of public participation in EIA in the selected developed and developing countries are presented in Box 1.

Box 1 Criteria/indicators for reviewing international practice of public participation in EIA

- Methods used to inform/invite the public
- Accessibility of the EIA related information
- Quality of EIA related information provided to the public
- Public consultation/participation techniques and stages of EIA
- Location and accessibility of consultation/public hearing venue
- Transparency of the decision making process
- Influence of public concerns on the decisions

To analyse the public participation in EIA in Pakistan, the guidelines formulated for this purpose by the Pakistan Environmental Protection Agency (Pak-EPA) have been thoroughly reviewed. Our participation in international conferences, national workshops on EIA, public hearings and interviews with concerned officials and EIA experts, since the year 2004 to date, provided with insight into the actual practice.

3. Participatory techniques and stages of environmental impact assessment

The purpose of undertaking environmental assessment of a development project is to identify its possible adverse impacts on the eco-system as well as on the socio-economic set up of the concerned people. It also includes identification of appropriate measures to mitigate adverse impacts before they arise. Wood [17] categorically declared that "EIA is not EIA without consultation and participation". Thus, it can be stated that public participation is an essential feature of EIA.

The legislation dealing with EIA of development projects in several industrially advanced and developing countries require public consultation and participation during EIA preparation and review [18, 19, 20, 21]. It is important that public involvement should not be a mere formality but effectively contribute to enhancing the quality of EIA reports and help in making informed decisions.

Effectiveness of public participation depends upon: adopting appropriate techniques of participation; identifying real stakeholders of the project; managing conflicts and giving adequate consideration to their genuine concerns [22].

The EIA process consists of many stages. Initially, the relevant issues to be studied are identified during scoping. Data of the baseline conditions with respect to air and water quality, noise level, condition of soil, flora and fauna and socio-economic characteristics of potential affectees are then collected. The analyses of baseline data are used to predict and evaluate possible impacts. This is followed by identification of measures to mitigate possible impacts. Alternative sites and project design are also compared just to fulfill the formality. All these aspects are included in the EIA report which is submitted to the concerned environment protection agency for review and environmental approval. It is generally suggested that public participation should be associated with all the aforementioned stages of the EIA process [23, 24].

Practically speaking, it is neither financially feasible nor administratively possible to consult the interested and potentially affected public during all these stages. As, public participation in EIA may also delay a project and increase project cost. It may not always lead to conclusive decision on a project, since various interest groups, for example, not directly affected stakeholders, have different concerns and priorities or political motives. The decision may also represent the most voiced group rather than the direct affectees [2, 4].

Experience in some of the developed countries shows that overall benefits of public participation and resultant improvement in the quality of adopted project can largely exceed its costs, despite the expenditures and delays associated with public participation in the EIA process. Perhaps that is why it is mandatory during one or two stages in most of the countries. The literature review revealed wide range of techniques and methods of public participation being used in decision making in EIA. The most commonly used techniques include: press release, questionnaire surveys, public hearings and focus groups [2, 7, 23, 24].

4. Practice of public participation in EIA in developed and developing countries

4.1 The developed countries' scenario

Public involvement before granting environmental approval of development projects in most developed countries is increasingly considered as an important notion which can possibly enhance the quality of EIA and acceptability of related decisions. Various techniques of public involvement during some stages of EIA process are in practice. However, in most of the regimes, it is discretionary at earlier stages of EIA like, scoping and detailed investigation/study of baseline environmental conditions. Its effectiveness in terms of influence on the final outcome also varies from country to country. Although a lot of research has been done on its effectiveness, but such studies are few in number as compared to the literature on the overall effectiveness of EIA [25, 26].

In USA, the public is informed/invited for consultation through notification on the internet, newspapers, direct communication and newsletters. While, draft EIS is published on the internet, hard copy is also made available to the public free of charge or not more than the cost of photocopying. Consultation techniques used during scoping generally include: telephonic conversation, community meetings and/or written comments from various stakeholder groups both online and on paper. Public hearings and community advisory groups are the most commonly used methods of consultation during EIS review in USA [27, 28]. However, EISs are often so complex and technical that it becomes difficult for a common citizen to understand [29]. Public hearing meetings are held at large 'fancy' places or in the city centre away from the project site. Consequently, low income communities are not represented [30]. Overall, the EIA related decision making is not transparent.

In UK, a variety of participation methods are used depending upon the proponent and nature of the issue. These include public exhibition, newsletters and notices in local newspapers, informal discussions, public meeting, community advisory committee and public inquiry [19, 31]. Even after

granting planning permission, liaison committees are established. Use of such a range of methods is probably because there are no laid down legal requirements for consultation and participation techniques [15]. However, there are instances where the organization of public meetings was poor and the participants questioned the effectiveness of such technique, for example, public meetings during Winsford disposal site EIA [19]. Generally, public consultations and EIA itself have a moderate influence on the final decision of planning permission/ environmental approval.

In Canada, public consultation during comprehensive study and EIS review are mandatory. Nonetheless, method of consultation, like public hearing, is discretion of the review panel. Public consultations during initial stages of the EIA process are left at the discretion of responsible agency and the Minister. Since, the early opportunities for public involvement i.e. during screening and scoping are non-mandatory, project proponents are mainly responsible for designing and carrying out public participation activities. In many cases these are not done satisfactorily. To facilitate public involvement, the federal government has established a participant funding program which is open to both who are in favour of and/or against a project. The literature on Canadian EIA system also suggests that public concerns frequently lead to changes in project design, influence on decisions in the form of approval conditions, inclusion of mitigation measures and changes in project sitting [32].

In the Netherlands, EIA system is open to the public for provision of information right from its beginning to the post decision stage. In practice, public consultations take place at two stages. Firstly, public meetings arranged to develop scoping guidelines. Secondly, public hearings during review of EIA report. A separate period of four weeks is given to submit comments during each stage of scoping and EIS review. There is no provision of funding or transport facilities to members of the general public. However, some organized environmental pressure groups have been provided funding to participate in selected EIA cases. The public hearing outcome is presented to an independent EIA Commission. The competent

authorities publicly state how the EIA and public concerns influenced consideration of project alternatives and the final decision. In addition, copies of the decision are sent to the participants of the public hearings, statutory consultees and members of the EIA commission [7, 15].

4.2 The developing countries' perspective

In India, public consultation through hearing is mandatory requirement before granting EIA approval. The quality of information provided in the EIA report is generally poor and lacking in clear description of project, interpretation and analysis of collected data but full of jargons [33, 34]. Access to the executive summary of projects by the directly affected public living in rural areas is said to be poor and public consultations/hearings are somewhat independent of EIA [33]. Although, public hearings are executed by a panel representing concerned departments and affectees, but these are held after conducting filed surveys and making all important decisions [35]. Overall, public hearings have become "fraught with several contextual problems and procedural deficiencies in India" [33]. Public consultations have minimal influence on the final decisions. More often, this develops feelings of betrayal among the people [34].

In China, public participation is not only compulsory during preparation (scoping) and review of EIA for development projects but also for plans since 2002 [36]. The project title, date, time and venue of hearing and availability of EIA report are required to be included in the hearing notice. In addition, the State Council of China requires the availability of environmental quality report and related information to the public. Questionnaire survey, expert consultation and testimony hearings are the techniques suggested for public consultation in China [37]. But in practice, questionnaires are used for consultation during EIA process with a small number of people mainly including potential affectees of the project in economic terms or those who are expected to agree with the proposal [38, 39]. There is no hearing panel or provision of translator to facilitate understanding of indigenous communities. It is said that the EIA system in China has failed to empower the public to have serious influence on decision making [37, 40].

In Thailand, there was no provision of public consultation/participation in EIA till 1996, except for NGOs. According to the Public Hearing Regulations BE2539, project proponent, the government or other stakeholders may request for public hearing. But the Regulations do not indicate EIA stages at which public consultations should be held [41, 42]. The hearing is conducted by a committee appointed by the Minister concerned. It is responsibility of the hearing committee to decide date, place and time of hearing and to submit its report to the Minister. Access to information about projects' environmental impacts and public consultation proceedings is extremely limited in Thailand due to paucity of sharing such information and cooperation between concerned agencies and the public [43]. The project proponents usually fail to inform the public about projects' impacts and benefits. Manowong and Ogunlana [41] noted that public is involved after the major decisions are taken regarding the development project, thus providing extremely limited opportunities to influence decisions. Despite that, some hearings resulted in fairly satisfactory outcome with respect to varying objectives of the participants, who generally had a positive attitude towards hearings as an opportunity to raise their concerns.

Philippine is one of the first countries in South East Asia pioneering the implementation of EIA in 1977. However, public consultation during scoping, EIS validation and review were made compulsory in 1996 [44]. In most of the cases, EIA related documents are not easily accessible to the public due to fear, uncertainty and lack of experience in handling controversial projects. The EIA process itself starts much later in the project planning cycle for "pre-determined locations" of specific projects. Most of the public hearings are conducted haphazardly with inadequate and poor presentation due to time constraints and lack of skills within the government to handle social issues [45]. The consultation process is said to be weak in conflict management/dispute resolution [46]. Nonetheless, some examples of good practice also exist, demonstrating social acceptability of the projects as a result of public consultation and opportunity to endorse or refuse a project at its initial stage [44]. Based on the above analysis, a comparison of public participation in EIA in the selected developed and

developing countries is presented in Table 1 (Appendix-A).

5. Public participation in EIA in Pakistan

The need for public participation in EIA in Pakistan was formally recognized in the Pakistan Environment Protection Ordinance 1983. However, it was left on the discretion of the concerned Environmental Protection Agency (EPA) to involve concerned public in the assessment of environmental impact statements [47]. As a result, some mega development projects were undertaken without EIA and hence without involving the potential affectees. Such projects played havoc with the people particularly living in their proximity. For instance, Ariyabandu [48] describes the miseries surrounding the lives of inhabitants of Kot Nizam – a village near Lahore-Islamabad Motorway in District Hafizabad, Punjab, for which no EIA or public participation was carried out, as:

"I learnt that this village is 'victim of development'. The construction of the motorway..., has divided the fields into two sections and has changed the course of the natural water flow of the village. As a result, over 200 acres of fertile land which were producing good harvests of wheat and rice have become uncultivable and barren. Having no path to flow, monsoon waters stagnate in the village, turning into a constant pool of mud water around the houses almost year around. Consequently diseases are on the rise, general mobility is curtailed, the only school has become inaccessible to many children in the months of monsoon, and livelihoods are affected."

The Pakistan Environmental Protection Act (PEPA) 1997 has been the only environmental legislation of the country. Its Section 12(3) provides for public participation but during the EIA review only [49]. However, it was not until the dawn of new millennium when these provisions became operational after the promulgation of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations 2000. Since the 18th amendment in the Constitution of Pakistan, the subject of environment protection has been given to the Provinces [50]. With little modifications,

Environmental Protection Acts of the Punjab and Balochistan have been approved and being implemented. Concerned departments/EPAs of other provinces are in the process of drafting such acts.

The public is invited through press release/advertisement in a national and local newspaper to give comments on EIA report and attend public hearing. Wherever, the project is located, copies of the EIA report are placed at a public library and/or offices of the concerned EPA and the project proponent. Interviews with the stakeholders revealed that both the locations are not easily accessible by most of them due to availability of EIA report within office timing and no permission to get a photocopy of even a few pages. Concerned EPA is also responsible to circulate the EIA report to the concerned government agencies and consider their views and of the public before making any decision. Public hearings are generally held in luxury hotels, public halls, and offices of Tehsil Municipal Administration (being a proponent) or sometimes near a project site. The said venues of public hearings are either far away from the directly affected communities or for the EIA experts/well educated stakeholders, since there is no arrangement of special transport for this purpose.

5.1 Guidelines for public consultation

EIA Package 1997 of the Pak-EPA provides separate set of guidelines for public consultation.

The guidelines encourage two way flow of information between proponents and stakeholders by stating that “.....proponents should explain their proposals clearly to affected communities, actively

listen to the communities’ responses, and make prudent changes to the proposal to avoid or mitigate adverse impacts”[6]. A range of techniques and objectives of public involvement have been explicitly stated to facilitate the proponents. Focus groups, workshops, and review of scope of EIA by concerned stakeholders have been categorized as the most effective techniques for achieving the objectives of public participation. The stated objectives include: educating and informing the public, identifying issues, evaluating options, getting feedback and resolving conflicts to achieve consensus. A number of other techniques like inviting comments through press release, public hearings, public meetings and holding seminars have also been suggested. But these are not effective in achieving the objectives of public involvement. Ironically, these comparatively weaker techniques are being used in Pakistan.

The guidelines further suggest that concerned public should be involved during five stages of every EIA project (Figure-1). These include: identification of the need and level of EIA, various steps of the preparation of EIA report, its review, project implementation and monitoring of impacts. But as indicated in the previous section, the public is consulted mainly during review of EIA report by the concerned EPA. Moreover, the guidelines discuss some basic principles to achieve successful outcome of public involvement. These self-explanatory principles are presented in Box 2.

Despite the legal requirement and availability of guidelines, actual practice is rather different. An in-depth investigation of some of the public hearings held for industrial and infrastructure related projects



Fig. 1 Stages of EIA at which public should be involved. Source: [6]

Box 2 Basic principles to achieve successful outcome of public participation

- Provide complete and relevant information in a simple language.
- Give sufficient time to stakeholders for understanding the information and its possible implications.
- Give sufficient time to stakeholders for presenting their views.
- To build confidence, give due consideration to the concerns raised by the stakeholders.
- Select such timing and venue of public consultation which encourage maximum attendance.
- Provide the stakeholders with an opportunity for free exchange of views.

Source: [6]

revealed that public hearings may have negative impact on the participation process due to fierce clash among vested groups. Moreover, it was found that comments of experts and well educated stakeholders had more positive influence on the EIA outcome than the views of general public [3, 51]. This trend was also noted while analyzing proceedings of public hearings held for projects related to sanitary land fill, hydropower generation, irrigation canals, as well as oil and gas exploration, situated in the Federal Capital Territory and different provinces of Pakistan. Thus, contrary to what is suggested in literature, regarding who should be consulted/invited to participate in EIA, i.e. “the wider the better” [22, 52], it was found that “the represented the better” [3]. EIA is a technical document and participation of “everyone” in a developing country’s socio-political setting may not prove much beneficial, as is generally considered.

However, some authors suggest that people (individuals and organizations) can be effectively engaged in environmental decision making by considering their learning style(s) [53]. To this end, [54, 55] identified four learning styles, including: accommodating, diverging, converging and assimilating (further detail can be found in the references cited herewith). These styles may be influenced by contextual variations, thus may not be

applied within the Pakistani public participation process without determining learning styles of individuals and organizations. Moreover, knowledge and skills of the ‘Players’ like NGOs and community groups as well as ‘Doers’ including planning authorities and consultancies can also play significant role in dialogue and discourse style [56].

6. Conclusions

Public participation in EIA provides an opportunity to comprehend stakeholders concerns and expectations so as to ensure that a better decision may be made and the development initiative contributes to the welfare of the people. Public participation in EIA in developed countries is moderately effective, transparent, initiated at initial stages of EIA process and reviewed by independent experts (e.g. in the Netherlands). Mechanisms of negotiations and mediations, community advisory committees and focus groups provide the stakeholders with better opportunities of mutual discussions and influencing the decisions. Overall, it has a moderate influence on the project design and environmental approval conditions.

On the other hand, delayed public involvement and lack of transparency in the EIA decision making process are major impediments to its effectiveness in the developing countries. At the same time, public awareness about environmental issues and willingness to participate in decision making is increasing. This indicates growing realization for a sustainable development. Moreover, the literature highlights a few examples of good public participation practice, for instance in Philippine, possibly due to the requirement of providing proof of social acceptability.

As far as the case of Pakistan is concerned, the guidelines prepared by Pak-EPA are quite comprehensive but very old and discretionary in nature. In practice, public participation in EIA is carried out as a mere formality to meet the regulatory requirement. It is restricted to the review stage of EIA in the form of public hearing. Presence of all stakeholders, especially those who are directly affected, is not ensured. Even if it is ensured, somehow, there is no mechanism to make sure that

the inputs from the stakeholders are incorporated by the proponent and are adequately considered by the competent authorities in making final decision.

Public hearing is a weak consultation mechanism as compared to holding mediation workshops and advisory committee meetings, which provide more influencing role to the stakeholders in decision making and opportunities of learning. In spite of the above shortcomings, public hearing at least provides an opportunity of two way interaction among potentially opposing interests. Its effectiveness largely depends upon its timings during the project cycle, the nature of the public involved and the way it is conducted.

7. Recommendations

Based on the preceding analysis and conclusions, the following recommendations are made to enhance effectiveness of public participation in EIA in Pakistan as well as in other developing countries.

- Instead of conducting questionnaire survey of the affected communities during preparation of EIA, a public meeting should be held on or near the project site. The affected communities should be directly invited for this purpose.
- EPA should not review EIA report of any project unless its proponent provides verifiable proof of consulting the directly affected communities and incorporating their genuine concerns in the project design. Moreover, soft copy of the EIA report should be made available on the websites of federal and provincial EPAs.
- Public hearing during the review of EIA report should neither be held in luxury hotels nor in the offices of EPAs but at some public place. Invitation to public hearing may be disseminated through television cable operators within the project area. Arrangement of transport to bring the direct affectees to public hearing at the expense of project proponent is necessary. EIA experts should also be consulted before deciding the timing and venue of public hearing.
- Gradually, as the EIA system gets matured, the questionnaire surveys done during scoping/preparation of EIA report should be replaced with focus group discussions. Similarly, the public hearings held during EIA review should be replaced with mediation workshops and advisory committee meetings.
- Concerned EPA should display the conditions of every EIA approval on its website and at notice board outside its office. Representatives of directly affected communities and EIA experts should be provided with copies of the same.
- It should be mandatory for every project proponent to involve representatives of the directly affected communities and EIA experts in monitoring the implementation of the conditions of EIA approval. Necessary equipment and support for the field staff of concerned EPA must be provided as and when needed.
- Further research on the learning styles of Pakistani individuals and organizations is needed to explore the possibilities of involving the public more effectively.

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9. References

- [1] R. K. Morgan; Environmental impact assessment: a methodological perspective. Boston, Kluwer Academic Publishers (1998)
- [2] J. Glasson, R. Therivel and A. Chadwick; Introduction to environmental impact assessment. 2nd ed. London, UCL Press, (1999)
- [3] O. Nadeem; Public participation in environmental impact assessment of development projects in Punjab, Pakistan. Ph.D. Thesis, Department of City and Regional Planning, University of Engineering and Technology, Lahore, Pakistan (2010).

- [4] R. Bisset; Methods of consultation and public participation. In: N. Lee & C. George, eds. Environmental impact assessment in developing and transitional countries: principles, methods and practice. New York, John Wiley and Sons (2000)
- [5] World Bank; World bank participation sourcebook. Environmental Management Series. Washington DC., The World Bank (1996)
- [6] GoP; Guidelines for public consultation. Pakistan Environmental Protection Agency. Islamabad, Pakistan (1997b)
- [7] J. Petts; Public participation and environmental impact assessment. In: Petts, J. ed. Handbook of environmental impact assessment: vol. 1. Environmental impact assessment: process, methods and potential. Oxford, Blackwell Science (1999) 145-173.
- [8] S. R. Arnstein; A Ladder of citizen participation in the USA. Journal of the American Institute of Planners 35 (1969) 216-224
- [9] F. Aslam; Environmental impact assessment system in Pakistan-overview, implementation and effectiveness. Master's Thesis Stockholm: KTH Royal Institute of Technology (2006)
- [10] R. Riffat and D. Khan; A review and evaluation of the environmental impact assessment process in Pakistan. Journal of Applied Sciences in Environmental Sanitation 1 (2006) 17-29
- [11] R. Saeed, A. Sattar, Z. Iqbal, M. Imran and R. Nadeem; Environmental impact assessment (EIA): an overlooked instrument for sustainable development in Pakistan. Environmental Monitoring and Assessment 184 (2012) 1909-1919
- [12] S. Jay, C. Jones, P. Slinn and C. Wood; Environmental impact assessment: retrospect and prospect. Environmental Impact Assessment Review 27 (2007) 287-300
- [13] M. K. Ewing; Public participation in environmental decision making. The Global Development Research Centre (2003)<<http://www.gdrc.org/decision/participation-edm.html>> [Accessed 20 September 2007]
- [14] CEAA; Guide to the participant funding program. Canadian Environmental Assessment Agency (2008) <http://www.ceaa.gc.ca/default.asp?lang=En&n=9772442E-1&offset=&toc=hide> [Accessed 20 June 2013]
- [15] C. M. Wood; Environmental impact assessment: a comparative review. 2nd ed. Harlow, Prentice Hall (2003)
- [16] J. Glasson, R. Therivel and A. Chadwick; Introduction to environmental impact assessment. 3rd ed. London, Routledge Taylor and Francis Group (2005)
- [17] C. Wood; Environmental impact assessment: a comparative review. 2nd ed. Prentice Hall, Harlow, Great Britain (2002) 275-277
- [18] C. A. Hunsberger, R. B. Gibson and S. K. Wismer; Citizen involvement in sustainability centred environmental assessment follow up. Environmental Impact Assessment Review 25 (2005) 609-627
- [19] N. Hartley and C. Wood; Public participation in environmental impact assessment—implementing the Aarhus Convention. Environmental Impact Assessment Review 25 (2005) 319-340
- [20] R. Ahammed and N. Harvey; Evaluation of environmental impact assessment procedures and practice in Bangladesh. Impact Assessment and Project Appraisal 22 (2004) 63-78
- [21] J. R. Palerm; Public participation in EIA in Hungary: analysis through three case studies. Environmental Impact Assessment Review 19 (1999) 201-220
- [22] L. D. Furia and J. Wallace-Jones; The effectiveness of provisions and quality of practices concerning public participation in EIA in Italy. Environmental Impact Assessment Review 20 (2000) 457-479
- [23] L. W. Canter; Environmental impact assessment. Mcgraw Hill, New York, United States of America (1996)

- [24] R. Aschemann; Public participation and consultation: the experience of Europe. World Bank (2004)
<http://info.worldbank.org/etools/library/latestversion.asp?35155> [Accessed 21 August 2007]
- [25] M. Cashmore, R. Gwilliam, R. Morgan, D. Cobb and A. Bond; The interminable issue of effectiveness: substantive purposes, outcomes and research challenges in the advancement of environmental impact assessment theory. *Impact Assessment and Project Appraisal* 22(2004) 295–310
- [26] G. Rowe and L. J. Frewer; Evaluating public participation exercise: a research agenda. *Science, Technology and Human Values* 29 (2004) 512-556
- [27] S. Zavestoski and S. Shulman; Democracy and the environment on the internet: electronic citizen participation in regulatory rulemaking. *Science, Technology and Human Values* 31 (2006) 383-408
- [28] T. C. Beierle and J. Cayford; Democracy in practice: public participation in environmental decisions. Washington, DC., Resources for the Future(2002)
- [29] W. C. Sullivan, F.E. Kuo and M. Prabhu; Assessing the impact of environmental impact statements on citizens. *Environmental Impact Assessment Review* 16 (1996) 171-182
- [30] G. Williams and A. Hill; Are we failing at environment justice? How minority and low income populations are kept out of the public involvement process. Proc16th Annual Meeting of the International Association for Impact Assessment. Estoril, IAIA (1996)
- [31] J. Petts; Barriers to deliberative participation in EIA: learning from waste policies, plans and projects. *Journal of Environmental Assessment Policy and Management* 5 (2003) 269-293
- [32] A. J. Sinclair and A. P. Diduck; Public involvement in EA in Canada: a transformative learning perspective. *Environmental Impact Assessment Review* 21 (2001) 113-136
- [33] A. Rajvanshi; Promoting public participation for integrating sustainability issues in environmental decision-making: The Indian experience. *Journal of Environmental Assessment Policy and Management* 5 (2003) 295-319
- [34] R. Paliwal; EIA practice in India and its evaluation using SWOT analysis. *Environmental Impact Assessment Review* 26 (2006) 492-510
- [35] T. Rajaram and A. Das; Need for participatory and sustainable principles in India's EIA system: lessons from the Sethusamudram Ship Channel Project. *Impact Assessment and Project Appraisal* 24(2006) 115-126
- [36] Z. Wang and C. Xin-geng; The design of public participation in environmental impact assessments. *Aquatic Ecosystem, Health and Management* 9 (2006) 93-97
- [37] S. Yang; Public participation in the Chinese environmental impact assessment (EIA) system. *Journal of Environmental Assessment Policy and Management* 10(2008) 91-113
- [38] X. L. Chai, L. H. Kong and H. Tursun; Research of public participation mode in environmental impact assessment of construction items. *China Population, Resources and Environment* 15(2005) 118–121
- [39] Z. Q. Chen and H. X. Liu; Discussion of public participation and environmental impact assessment. *Environmental Science and Technologies* 29 (2006) 159–161
- [40] C. H. Zheng, L. L. Shen and S. F. Tao; The questions and measures of public participation of EIA in China. *Environmental Science and Management* 31(2006) 1–3
- [41] E. Manowong and S. O. Ogunlana; Public hearings in Thailand's infrastructure projects: effective participations? *Engineering, Construction and Architectural Management* 13 (2006) 343-363

- [42] C. Toncompu and N. Hervey; Implications of recent EIA changes in Thailand. *Environmental Impact Assessment Review* 14(1994) 271-294
- [43] J. Boyle; Cultural influences on implementing environmental impact assessment: insights from Thailand, Indonesia and Malaysia. *Environmental Impact Assessment Review* 18 (1998) 95-116
- [44] L. M. Cooper and J. A. Elliott; Public participation and social acceptability in the Philippine EIA process. *Journal of Environmental Assessment Policy and Management* 2(2000) 339-367
- [45] M. G. Villaluz; Advancing the EIA system in the Philippine. [Internet], UNEPEIA Training Resource Manual. Case Study 26 (2003) 257-260 <<http://www.unep.ch/etu/publications/35%20257%20to%20260.pdf>> [Accessed 15 Dec 2012].
- [46] I. R. L. Gorre; Environmental impact assessment in the Philippines and its implications to human rights. Diliman, College of Social Sciences and Philosophy, University of Philippines (2005) <http://web.kssp.upd.edu.ph/eis/fora_proceedings_2005-02-11.html> [Accessed 2 August 2008]
- [47] GoP; Pakistan environmental protection ordinance, 1983. The Gazette of Pakistan, Ministry of Law and Parliamentary Affairs, Islamabad, Pakistan (1983)
- [48] M. M. Ariyabandu; KotNizam – the story of a development driven disaster. The News, Islamabad: June 2 (2002)
- [49] GoP; Pakistan environmental protection act, 1997. The Gazette of Pakistan, Senate Secretariat, Islamabad, Pakistan (1997a)
- [50] F. Pastakia/NIAP; Environmental protection and the eighteenth amendment: impact of constitutional amendments on environmental protection legislation, analysis of laws in force and assessment of implementation issues. National Impact Assessment Programme, Karachi, The World Conservation Union (2012)
- [51] O. Nadeem and T. B. Fischer; An evaluation framework for effective public participation in EIA in Pakistan. *Environmental Impact Assessment Review* 31(2011) 36-47
- [52] S. Heiland; Requirements and methods for public participation in SEA. In: M. Schmidt, E. Joao and E. Albrecht, eds. *Implementing strategic environmental assessment*. Berlin, Springer (2005)
- [53] U. Jha-Thakur, P. Gazzola, D. Peel, T. B. Fischer and S. Kidd; Effectiveness of strategic environmental assessment - the significance of learning. *Impact Assessment and Project Appraisal* 27(2009)133-144
- [54] D. A. Kolb; Management and learning process. *California Management Review*, 18(1976) 21–31
- [55] D. A. Kolb, R. E. Boyatzis and C. Mainemelis; Experiential learning theory: previous research and new directions. In: *Perspectives on cognitive, learning, and thinking style*. eds. R. J. Sternberg and L. F. Zhang. Mahwah, NJ: Lawrence Erlbaum (2000)
- [56] U. Jha- Thakur, T. B. Fischer, P. Gazzola, S. Kidd and D. Peel; Exploring relevant skills and knowledge areas for strategic environmental assessment. *The Environmentalist* 92 (2010) 12-16.

Table 1: Comparison of public participation in EIA in the selected developed and developing countries

Criteria/indicators for reviewing public participation in EIA	Methods used to inform/invite the public	Accessibility of the EIA related information	Quality of EIA related information provided to the public	Public consultation/ participation techniques during EIA review	Location and accessibility of consultation/ public hearing venue	Transparency of the decision making process	Influence of public concerns on the decisions
Selected Developed Countries (USA, UK, Canada, the Netherlands)	Public notices through internet/ newspapers, newsletters, direct communication with stakeholders	Published on the internet, hard copy is also available in Environmental Assessment Agency offices/Local Planning Authorities/ public libraries	Sometimes deficiency of information in EIA reports, complex and difficult to understand by common people	Written comments, public hearings and community advisory groups	Normally held near city centre sometimes expensive to reach by poor people	Moderately transparent (Comparatively more transparent in the Netherlands)	Moderate, public concerns sometimes lead to minor changes in project design and conditions of EIA approval (Comparatively better in the Netherlands)
Selected Developing Countries (India, China, Thailand, Philippine)	Public notices published in newspapers	Full EIA report mostly inaccessible except its executive summary	Generally imprecise/full of jargons	Public hearing/public meetings	Normally held near city centres, mostly expensive to reach by poor people (occasionally held near project site)	Opaque/lacking in transparency	Weak (preference is given to economic benefits than to possible environmental impacts)

Source: Authors' own construct based on literature review