**Evaluation of the environmental impact assessment system in Iran**

**Abstract**

EIA in Iran was formally introduced in 1994, but to date little EIA-related research has been undertaken in the country. In this paper, the authors provide an evaluation of the Iranian EIA system, focusing on EIA legislation, administration and process. Data was collected on the basis of a literature review, document analysis and semi-structured interviews. This involved some translation from Persian into English. Evaluation of the findings indicate that Iran has adopted the democratic tools of EIA and SEA, which considering its political context is encouraging. However, currently the Iranian EIA system does suffer from weaknesses such as inadequate screening and scoping, lack of alternative consideration, public participation, EIA implementation and follow-up. The paper proposes some initial recommendations based on international experiences and sets out the direction for future research.

**Keywords:** Environmental impact assessment (EIA), EIA system, evaluation, Iran

1. Introduction

Environmental Impact Assessment (EIA) has been around for half a century (Arts et al, 2012) and is applied in nearly all countries worldwide (Drayson et al., 2017; Morgan, 2012). EIA identifies potential environmental impacts of a proposed development and assesses them for different options prior to a planning decision being made (Drayson et al., 2017). The evolution of EIA systems in developing countries have frequently been in reaction to natural calamities (Jha-Thakur, 2006; Ahmad et al, 1985). Another reason is that there are requirements of funding institutions like the World Bank (Munyazikwiye, 2011). Compared to many jurisdictions in the developing world, Southeast Asia and Latin America, countries in the Middle East and North African region were relatively late in introducing EIA systems (Ahmed and Wood, 2002). EIA was first introduced in the Middle East in 1982 in Oman (Moradi, 2009), followed by Turkey, Tunisia and Egypt in the 1990s (Ahmad and Wood, 2002; George, 2000; Moradi, 2009).

Although EIA procedures are similar worldwide, the quality of EIA systems varies from country to country (Suwanteep et al., 2016). Several EIA research studies have been conducted and published for countries in the Middle East and North African (MENA) region (see Ahmad and Wood 2002; CITET 2003; El-Fadl and El- Fadel, 2004; ESCWA, 2001; Al-Azri et al., 2014).

EIA in Iran was first introduced in 1994 by the 2nd National Development plan (NDP) (Khosravi and Jha-Thakur, 2018). However, work on reviewing Iran’s EIA system is rather limited and the attempts that have been made so far do not result in thorough evaluations of the Iranian EIA system. Hence, the aim of this paper is to evaluate the Iranian EIA system and to identify its strengths and deficiencies. Ultimately, recommendations for its further development are provided. In doing so, the paper is structured into five sections. First, the context of this research is presented, followed by the methodology. The third section presents evaluation results and in the fourth section, the weaknesses of the EIA system are discussed. Finally, conclusions are drawn, and recommendations are provided.

* 1. *Setting the context:*

*1.1.1.* *Political system*

The political system in the Islamic Republic of Iran is a unique and complex blend of theocratic and democratic government. The 1979 Revolution changed the regime and established a government structure based on Islamic law. Following the Revolution, a constitution was written to reflect these concepts and Iran’s current political system and government structure was established (Jones, 2009). Geographically, Iran is divided into 33 provinces that are administered by central government (Hashemi, 2012). Iran can be considered a centralized country based on the distribution of its administrative functions (Dienel et al., 2017).

*1.1.2. Environmental protection in Iran*

Sixty countries globally are said to mention the environment in their constitution and Iran is one of them (Taghvaee et al., 2015). Article 50 of Iran’s constitution is the highest- ranking legal reference, addressing environmental conservation (Yousefi et al., 2015). The Iranian parliament has also paid attention to environmental protection of natural resources since the 1950s. The chronology of environmental protection laws, which have been passed by the Iranian parliament include those on Hunting and Fishing (1956), Water Pollution Control (1969), Environmental Protection (1974), Air Pollution Control (1995) and Waste Management (2004).

*1.1.3. EIA in Iran*

In some countries, EIA legislation forms part of a general environmental law rather than being EIA specific (Sadler, 1996; Wood, 2003). In Iran, the legal basis for EIA is an article in the National Development Plan (NDP). NDPs are five-year codified programs drafted by the government and presented to parliament every five years (Zaboli et al., 2016). EIA was first introduced in 1994 through Note 82 of the 2nd NDP (1994-1998) (Khosravi and Jha-Thakur, 2018; MPO, 1994). According to the Note (1994, p.26): "*EIA reports should be provided during the feasibility and site-selection studies for any large projects*". Requirements for conducting an EIA were subsequently provided in the EIA Directive of December 1997 (Yousefi et al., 2015). Note 82 was then amended by Article 105 of the 3rd NDP (1999-2003), which required the DoE to provide practical guidelines (3rd NDP report, 1999). At the time the [United Nations Development Programme](http://www.undp.org/content/undp/en/home.html) (UNDP) was requested by the DoE to assist in establishing EIA guidelines (UNDP, 2003). Article 71of the 4th NDP (2005-2009) then confirmed Article 105 of the 3rd NDP (4th NDP report, 2005; Khosravi and Jha- Thakur, 2018). During this period, the Environmental High Council (EHC) increased the number of project types subject to EIA to 33. Article 184 of the 5th NDP (2010-2015) focused on conducting an EIA and mentioned Strategic Environmental Assessment (SEA) of plans and programs at national and regional level (5th NDP report, 2010). Currently, 55 types of projects are subjected to EIA based on the 2017 EHC decree (DoE, 2017).

Figure 1 shows that the number of EIA reports submitted each year have increased considerably over time. Rahmati (2014) provided useful analysis in his paper for the period from 1997 to 2012. However, data are neither readily available nor have they been updated.

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**Fig. 1. Number of EIAs submitted during 1997-2012 (Rahmati, 2014)**

Figure 2 displays the Iranian EIA procedure (DoE, 2016). Once the proponents submit their developmental proposal to the relevant DoE provincial office, screening for EIA is undertaken based on a screening list (DoE, 2004). The report consists of a description of the project, the surrounding environment, social and economic conditions, laws, regulations, potential impacts, mitigation measures, and the Environmental Management Plan (DoE, 2017). The report is submitted to the provincial EIA office for the initial approval from the provincial EIA committee. If approval is granted by the provincial EIA committee, the report is then forwarded to EIA Bureau in the DoE. The report is reviewed by the EIA committee mainly based on the report and the presentation given by the proponent. The EIA committee consists of representatives of various governmental bodies, including (Moradi, 2009) the Head of Deputy of Human Environment, the Head of the EIA Bureau, a related expert from the EIA Bureau, a representative of the Deputy of Natural Environment, an academic expert from a University, a representative of an NGO, the Head of the related provincial EIA office, and a representative of the Management and Planning Organisation (MPO). According to the Iranian EIA directive (2011), the EIA review process should be reviewed and a decision on the EIA report be reached within 45 days of submission.

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**Fig. 2. The EIA process in Iran**

2. Research method

*2.1. System level analysis*

International EIA evaluations have covered a range of issues, including at systems and project levels (Arts et al., 2012; Cashmore et al., 2009; Zvija´kova et al., 2014). At a project level, EIA practice is influenced by the actors involved, as well as their interests and positions (Fischer and Gazzola, 2006; Hilding-Rydevik and Bjarnadóttir, 2007; Kørnøv and Thissen, 2000; Runhaar and Driessen, 2007). On the other hand, at the system level, EIA depends on characteristics of EIA legislation such as the presence of “follow up” requirements (Arts, 2012; Sadler, 2004; Wood, 2003).

The main aim of the research underlying this paper was to evaluate EIA at systems level, and the initial focus is therefore on understanding the elements of the EIA system. Marara et al. (2011) have defined the legal, administrative and procedural framework as three key elements of the EIA system in their research. Suwanteep et al. (2016) have also introduced regulation of EIA, authorities involved, and EIA processes as main components. Overall, three common components are identified within the various approaches available of an EIA system, including EIA legislation, EIA administration and EIA Process.

*2.2. EIA review framework*

In order to evaluate the Iranian EIA system, existing review frameworks were studied (see Table 1). Within the context of developing countries, these can be broadly grouped under Wood (1995) and Ahmad and Wood (2002). The choice of criteria used depends on the authors’ purpose (Momtaz and Kabir, 2013).

Wood (1995) developed a set of 14 criteria to assess EIA systems within an international context. Criteria revolve around EIA legislation, administration, process and measures for improvement (Aung, 2017; Badr, 2009). Annandale (2001) modified Wood's criteria (1995), considering local organizational, jurisdictional and cultural issues of small developing countries such as the Maldives (Annandale, 2001; Ahmad and Ferdausi, 2016; Aung 2017). Annandale's revised criteria were utilised by Ahmad and Ferdausi (2016) and Aung (2017) to evaluate the EIA system in Bangladesh and Myanmar, respectively.

Ahmed and Wood (2002) developed a set of criteria to compare the EIA systems of Egypt, Turkey and Tunisia (Ahmed and Wood, 2002). Subsequently, their criteria were used in other country contexts for comparing and evaluating EIA systems. For example, El Fadl and El Fadel (2004) used it to compare the EIA system of the Middle East and North African countries; while Badr (2009) and Panigrahi and Amirapu (2012) used it to evaluate the EIA system of Egypt and India, respectively. Table 1 illustrates how extensively Ahmed and Wood's (2002) criteria have been used. Whilst Nadeem and Hameed (2008) also used Ahmad and Wood’s (2002) criteria, they combined it with two groups of criteria including, Wood (1995) and Fuller (1999) to review the EIA system of Pakistan. This was found to be especially useful for the context of the country as it lacked any background for conducting EIA reviews. Hence, this new set of criteria which consists of stages of EIA process, legislative provisions, guidelines and institutional set up for EIA helped in providing a comprehensive evaluation framework (Nadeem and Hameed, 2008).

|  |  |  |  |
| --- | --- | --- | --- |
| **Authors** | **Criteria** | **EIA system** | **Method** |
| Wood (1995) | Wood (1995)- Created by Author | international context | Literature review |
| Annandale (2001) | modified Wood (1995) | Maldives’s EIA system | Literature review |
| Ahmed and Wood (2002) | Ahmed and Wood (2002) | Egypt, Turkey and Tunisia | Interview |
| El Fadl and El Fadel (2004) | Ahmed and Wood (2002) | The Middle East and North Africa region | literature review |
| Nadeem and Hameed (2008) | Adapted from Wood (1995); Ahmad and Wood (2002); Fuller (1999). | Pakistan’s EIA system | Literature review and interview |
| Badr (2009) | Ahmed and Wood (2002) | Egypt’s EIA system | Interview |
| Moradi (2009) | Ahmed and Wood (2002) | Iran’s EIA system | Literature review and document analysis |
| Panigrahi and Amirapu (2012) | Ahmed and Wood (2002) | India EIA system | Literature review, and interview |
| Wayakone, and Makoto (2012) | Adapted from Wood (1995). | Lao PDR’s EIA systems | Literature review |
| Al-Azri et al., 2014 | Ahmed and Wood (2002) | EIA systems in the Gulf Cooperation Council States | Literature review |
| Ahmad and Ferdausi (2016) | Annandale (2001) | Bangladesh’s EIA system | Literature review |
| Aung (2017) | Annandale (2001) | Myanmar’s EIA system | Literature review, Semi structure interview |

**Table 1. Different EIA criteria in reviewing EIA systems**

Like Pakistan, Iran’s EIA system has not yet been thoroughly reviewed in international scientific journals. Therefore, Nadeem and Hameed’s criteria from 2008 was considered particularly suitable as a basis for our research. However, as EIA is context-specific, criteria need to be tailored to the idiosyncrasies of the country in which it is applied (Bond and Pope, 2012; Morgan, 2012; Zvija´kova et al., 2014). Accordingly, some sub-criteria were modified to better suit the Iranian context. For example, the legal basis in Iran is not an EIA-specific law, so questions about sufficiency of the existing law and implications of proceeding without EIA approval were considered to be important sub-criteria.

**2.3. Methodology**

The Iranian EIA system was first reviewed in 2009 by Moradi in his PhD thesis. His discussion focused on using a literature review and document analysis but was constrained by the scarcity of the Iranian EIA literature. To overcome this obstacle, we reviewed the Iranian EIA system against the adapted criteria (Table 2),using data collected through a combination of a literature review, document analysis and semi-structured interviews.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **criteria** | **Sub criteria** | **Source of data** | | |
| **Literature review** | **Interview** | **Document analysis** |
| **Legislative provisions for EIA** | EIA legal basis | **●** | **●** | **●** |
| Adequacy of the law for conducting an EIA | **●** | **●** | **–** |
| The EIA process steps in regulations | **–** | **●** | **–** |
| Implications of proceeding without EIA approval | **–** | **●** | **–** |
| **Administrative set up for EIA** | Competent authority for EIA | **●** | **●** | **●** |
| EIA review body | **–** | **●** | **–** |
| EIA centralisation at the national level | **–** | **●** | **–** |
| **EIA process** | Screening | **●** | **●** | **●** |
| Scoping | **●** | **●** | **–** |
| Consideration of alternatives | **●** | **●** | **–** |
| Public participation | **●** | **●** | **–** |
| EIA reviewing | **–** | **●** | **–** |
| EIA Follow-up | **–** | **●** | **–** |

Source: Adapted from Nadeem and Hameed (2008).

**–** Information not available.

**●** Information available.

**Table 2. List of evaluation criteria and sub criteria used to analyse the EIA system of Iran**

With regards to the literature review, it was noted that little published information is available on the Iranian EIA system. Due to the embryonic state of EIA research within the country, a literature review in itself wouldn’t have provided a sufficient level of understanding. Consequently, semi-structured interviews were conducted with EIA actors, taking into account different perceptions of different actors. For example, consultants earning money from preparing EIA reports could be more positive than a proponent paying for it (Arts et al., 2012). Care was thus taken to have a good mix of interviewees representing competent authorities, consultancies, universities, NGOs and proponents. This is illustrated in Figure 3. As questions were EIA-specific, the general public was not included in the interviews. Thirty interviewees were selected using snowball sampling, commencing with referrals from known contacts in the Iranian EIA community. Due to the range of roles, the sample is representative of all EIA actors at a national level.

Data was further substantiated using documentary review, including official publications such as legislation and reports released by the DoE. Most of the documents are published in Persian. They were translated wherever possible for consideration in research.

**Fig. 3. Interview participants by organisation type; N=30**

1. **Iran’s EIA system**

This section presents the findings, following the framework adapted (see Table 2). It is organized along the headings of EIA legislative provision, EIA process and EIA administration.

**3.1.** **Legislative provision for EIA**

In some countries, EIA legislation is integral to the general environmental law (Sadler, 1996; Wood, 2003). Moradi (2009) claimed that Iranian EIA law is a part of the NDP, which means every NDP should be ratified by Parliament before each following 5-year period starts. His primary concern about the Iranian EIA system was the lack of specific parliamentary EIA law. The lack of clear penalties for violations has been highlighted by other authors, too (Rahmati, 2013).

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**Fig. 4. Responses to the question of sufficiency of EIA existing legislation**

With regards to the sufficiency of existing EIA legislation, 63% of the interviewees (19) agreed that the regulations are not sufficient in that they do not cover all aspects of an EIA system (see Figure 4). The DoE’s participants in particular believe that EIA legislation is insufficient. They claimed that the current EIA law (part of NDP) only compels proponents to prepare EIA reports during the feasibility study, but lacks a penal code section for offenders. Accordingly, two interviewees claimed that if a proponent commences a project without an EIA, Article 690 of the Islamic penal code of Iran only compels them to pay a penalty for environmental degradation. As the financial penalties are relatively low, proponents will pay the penalty and continue the project. In this context, an interviewee from a proponent suggested: "We commenced a railway project without EIA approval and we received a letter from the court regarding environmental degradation in the project area (but not because of lack of EIA approval). Thus, we could continue our construction by paying the fine."

Another topic which emerged from some interviews was the issue of ‘sufficient legislation versus weak implementation’. Of the eight interviewees (27%) who claimed that the current EIA legal basis is sufficient, five were from consultancies and three from NGOs. These interviewees claimed that the main problem lies in the administration of the law and that there is a gap between legislation and implementation. An EIA expert in the Ministry of Petroleum claimed that Article 8 of the EIA directive considered penalties for EIA offenders based on Article 690 of the Islamic penal code, but the DoE cannot enforce EIA implementation. Two interviewees claimed that if a proponent commenced a project without an EIA, Article 690 of Islamic penal code could not stop the project proceeding without EIA approval. Accordingly, some interviewees mentioned that a recent investigation which was completed by the Iranian General Inspection Organization (IGIO) revealed that a total of 174 projects had commenced without EIA approval. The interviewees were further questioned about the implications of proceeding without EIA approval. Their opinion is summarized in Fig 5.

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Fig. 5. Reasons for starting projects without EIA approvals

Six interviewees (22%) from the EIA Bureau stated that due to the lack of penalties, courts were not issuing verdicts against proponents who start their projects without an EIA. Proponents sometimes dare to commence their project without an EIA for this reason. One interviewee from the DoE stated that: "A motorway began construction without EIA approval in a national park. However, the project was stopped by the DoE not due to the absence of an EIA approval but based on other laws".

Six interviewees (22%) mostly working in EIA consultancies said that the DoE weakness in carrying out inspections was the most important reason allowing proponents to begin projects without EIA. Some interviewees claimed that lack of both, punishment and inspection made it easier for some proponents to violate EIA requirements. An interviewee added that:

"The enforcement of an EIA law can make the DoE and local EIA offices more responsible and compel them to have strong inspection plans. In addition to this, a clear punishment chapter and stronger EIA law will enable judicial review to issue verdicts for offenders based on the absence of EIA approval".

30% (9) of the interviewees who were mostly developers stated that the EIA approval process was very bureaucratic and took too much time to complete. Some interviewees also stated that most EIA approval processes in the EIA bureau would take between 3 and 4 years. Consequently, it is common for the developer to begin the project while the EIA process is still being carried out. Finally, 10% (3) of the interviewees mentioned political pressure as another possible reason for proponents starting their projects without EIA approval. Some regional proponents and lobbyists use their power and influence to start important projects without EIA.

**3.2. EIA process**

3.2.1. Screening

Screening in Iran is based on a threshold prepared by the DoE (Ahmadvand et al., 2009; Moradi, 2009). In Decree 138, 1994, the DoE initially prepared a list of 7 project types that require an EIA. Since then this list has been updated and now includes 55 project types that are subject to EIA (DoE, 2017). However, 74% (22) of the interviewees claimed that this list does not cover all developments, and some projects such as urban development are not on the list. Moreover, all interviewees claimed that the screening list needed to be followed on a case-by-case approach, because the scale does not allow for some projects to be included. However, they also believed that there was a shortage of resource capacity in all provinces which is in the way of the DoE adopting a case-by-case approach.

3.2.2. Scoping

Scoping in Iran is based on EIA guidelines and terms of reference (TOR) prepared by the DoE for 17 project types (Ahmadvand et al; 2009; Moradi, 2009). Until now these guidelines have not been updated, which means that at this stage it is very static and there is no public participation at the scoping stage of the Iranian EIA system.

Twenty-one interviewees were asked about scoping. Developers were excluded from scoping questions as initial discussions revealed that they were not aware of the scoping process. This is an indication of a lack of stakeholder engagement. Furthermore, this does not allow the developers to explore different kinds of impacts and issues needed to be included in EIA. However, EIA itself is unlikely to be effective without meaningful engagement of relevant stakeholders (Aung, 2017).

Understanding the scoping stage is not coherent in Iran, as 42% (9) of interviewees stated that there is a scoping stage in the EIA process. Furthermore, scoping is perceived as a stage at which geographical boundaries are merely defined for the EIA study. These interviewees were from consultancies, the EIA Bureau, and universities. On the other hand, 58% (12) of interviewees, who believed that scoping means identifying significant issues and determining those that need to be addressed in the EIA, said that the scoping step is bypassed in Iran by writing EIA reports according to a guideline or other terms of reference. This group was also interested to know more about how scoping should be done according to international scoping guidance.

3.2.3. Assessment of alternatives

Moradi (2009) noted that consideration of alternatives in the Iranian EIA system is mentioned in the Iranian EIA directive, requiring that technical and spatial alternatives of a project should be included in the EIA report. Goldooz (2010) also believed that the examination of alternatives did not actually happen in Iran. Most respondents commented that only two alternatives, consisting of the proposed project (i.e. the preferred option) along with the zero (i.e. no action) alternative are considered in the EIA reports. The interviewees were asked about the reasons behind not considering e.g. technical and spatial alternatives in EIA process. Eleven interviewees stated that EIA is conducted at the latest project plan stage when most of the details have been finalised and there is no opportunity to consider alternatives. Eight interviewees said that even if the projects had spatial alternatives, the final alternative is selected only based on economic criteria in the feasibility phase. Six interviewees also pointed out that political issues on some projects predetermined the location of the project; that is, projects do not consider any spatial alternatives during the planning process.

3.2.4. Public participation

Public participation is practically ignored in Iran’s EIA process (Nouri and Nikoomaram, 2005; Moradi, 2009). Ahmadvand et al. (2009) confirmed that there was no legal requirement for public participation. This was endorsed by 86% (26) of the interviewees. Three interviewees claimed that the main reason for this was that public participation had not been included in the ‘Iranian EIA Directive ‘, and ‘Guidance to EIA Report ‘, meaning there is no requirement for involving the public and stakeholders. However, two interviewees added an important point, namely that: "The Iranian dominant culture is based on centralized decision-making, which hinders the development of public participation not only in EIA projects but in all developments in Iran".

Interestingly, 14% (4) of the interviewees, mostly from water resource consultancies, thought that there was some public participation happening. They said that it was carried out for resettlement projects that directly affected people's livelihoods. However, public participation is a key component of EIA, not just in some specific cases, but always and everywhere (see e.g. Nadeem and Fischer, 2011). Therefore, this issue will need to be addressed in Iran.

3.2.5. EIA Follow-up

An effective EIA system is characterized by proper implementation of mitigation measures along with monitoring (Momtaz and Kabir; 2013). There is no literature on EIA Follow-up in Iran. However, interviewees unanimously agreed that mitigating measures were not being implemented. Monitoring was seriously deficient within the Iranian EIA system (Ahmadvand et al., 2009; Moradi, 2009). All interviewees confirmed this and claimed that lack of penalties and inspection discouraged developers from implementing monitoring. They claimed that inspections were very weak and were conducted at random due to a shortage of resource capacity in the DoE and the provincial body. The inspection officer from the DoE confirmed this and stated that there is a serious lack of personnel capacity regarding inspection responsibility in Tehran as well as in all provinces. Therefore, it is not possible to oversee whether all developers are complying with the EIA approval.

**3.3. EIA administration**

The DoE established the EIA Bureau under the Division of Human Environment in 1975, shown in Figure 6. The EIA Bureau is responsible for supervising the screening process, managing the review of EIA reports, deciding on the acceptability of EIA reports, and issuing EIA Guidelines (Ahmadvand et al. 2009). This means all decisions on EIA reports and approval are made in the EIA Bureau, which further demonstrates the centralized set-up of the Iranian EIA administration at the national level. The head of the EIA Bureau confirmed this and stated that in order to become less centralized, the EIA bureau formed a provincial EIA committee in 2013 to give local organizations an opportunity to participate in the EIA process. If a provincial committee doesn’t approve an EIA, then the report is not sent to the EIA bureau for final review. Furthermore, 20 types of projects have recently been delegated to the provincial EIA committee for making final decisions.

The EIA Bureau has approximately 15 staff members at national level (Ahmadvand et al., 2009), and there are one to five experts in each of the DoE offices in each of the 33 provinces who have responsibility for reviewing EIA reports and for inspection (Goldooz, 2009). Most interviewees suggested that the DoE was understaffed for coping with a workload that includes screening, reviewing reports, and inspection.

Ahmadvand et al. (2009) and Moradi (2009) believed that some of the staff in the EIA Bureau were not sufficiently professionally qualified for their role. This was confirmed during interviews. Twelve interviewees emphasized the need for training for the EIA Bureau staff. The other weakness mentioned by all interviewees was that existing guidelines were too general and ineffective. These guidelines were published in 2001 by the DoE and it is the EIA Bureau’s responsibility to update them, which has not happened to date (Ahmadvand et al., 2009). The head of the EIA Bureau stated that the DoE is currently preparing an update and context specific guidelines, and has associated contracts with consultancies for 4 types of projects, including dams, landfills, power plants and oil industries.

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**Fig. 6. Iranian DoE Organization Structure (Translated from Persian version on the** **DoE website, 2017)**

1. **Evaluation of the Iranian EIA System**

Iran is a developing country in which EIA was introduced more than 20 years ago. Moradi (2009, p.91) evaluated the Iranian EIA system for the first time based on corresponding laws and guidelines, but the dearth of literature meant these documents and literature review couldn’t provide a comprehensive picture. This paper has used a triangulation of literature review, document analysis and semi-structured interviews to overcome the weakness faced by Moradi’s (2009) review and strengthen the validity of the findings. The comparison of results of EIA in Iran in 2018 with those provided by Moradi (2009) reveals that over the past decade weaknesses of the EIA system appear to have not changed much. However, this should not undermine the fact that being a centralized Government, Iran has actually adopted EIA within its planning framework and also encouragingly, the country has initiated SEA as well. This is a major strength for a country with a complex political context like Iran’s as it indicates a will to adopt such democratic tools in delivering sustainability. Nevertheless, the EIA system in Iran is still embryonic and suffers from various deficiencies that are, however, also not uncommon elsewhere. Table 3 summarizes the main findings of this paper with regards to the performance of the EIA system in Iran. Fully achieved suggests that there is enough evidence for us to conclude that the criteria have been met. Partially indicates though there are some evidence that the criteria may be adopted, there are still gaps in the system. Not achieved at all indicates that there is evidence indicating criteria is not being met.

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Sub criteria** | **Performance of EIA** |
| **Legislative provisions for EIA** | EIA legal basis | Ο |
| Adequacy of the law for conducting an EIA | **©** |
| The EIA process steps in regulations | Ο |
| Implications of proceeding without EIA approval | Ο |
| **Administrative set up for EIA** | Competent authority for EIA | **©** |
| EIA review body | **©** |
| EIA centralisation at the national level | **©** |
| **EIA process** | Screening | **©** |
| Scoping | Ο |
| Consideration of alternatives | **©** |
| Public participation | **©** |
| EIA reviewing | **©** |
| EIA Follow-up | Ο |

**●**– Fully achieved, **©** – Partially achieved, Ο– Not achieved at all

**Table 3. The performance of the EIA system in Iran**

Based on the evidence presented in the professional literature and on the suggestions provided by 19 of the 30 interviewees that the NDP is not sufficient, existing EIA legislation is established to be a weakness in Iran. Furthermore, the country lacks in effective penalties (too low and frequently not enforced). In this context, Bashour (2016) compared the EIA legislations of Lebanon, Palestine, Jordan and Aqaba and found that they differed in terms of setting penalties for EIA non-compliance. Lebanon’s Environmental Protection Law stipulates a penalty of up to US$132,000 or a year in prison for proceeding a project without EIA approval (GOL, 2002). The other countries don’t specifically address this issue. However, they have specific fines for activities that cause environmental degradation (Bashour, 2016). The EIA law in Turkey is part of an Environment Law. Article 20 of this law is about imposing administrative fines for violators. According to this Article “those who start construction or projects that come into operation before EIA process starts or ends shall be imposed an administrative fine of 2% of the project cost”. Moreover, the investor is obliged to restore the site to its previous state (Elvan, 2018).

In Iran, EIA legislation needs to become stronger and along with other environmental laws, EIA legislation should be clear about what effective penalties are. It should also be clear how enforcement is supposed to happen, including e.g. criminal sanction, civil sanction, and administrative sanction (Heidari et al., 2017).

Screening has been said to be inadequate by interviewees as the need for EIA is decided on only based on a threshold. This threshold does not cover all projects, and some types of development such as urban development projects are not on the list. Moreover, the threshold scale may exclude some critical projects. For example, based on the Iranian screening list, only dams with a height above 15m need to be subjected to EIA. However, the question should be whether dams with a height below 15m have significant environmental impact or not. Furthermore, the cumulative impacts of such smaller dams may have a more significant impact than a single large dam (Erlewein, 2013). Rajaram and Das (2010) believe that an effective screening approach has to be a hybrid of the threshold and case-by-case approaches. Therefore, including aspects of a case-by-case approach can be recommended for Iran’s EIA screening. However, for such an approach to be adopted in the future, the question of capacity building, both, institutional aspects and resources need to be given importance.

There is a somewhat blurred understanding of what is meant by scoping among interviewees. Fischer and Phylip-Jones (2008) stated that the purpose of scoping was to identify the important issues to be considered in an EIA, to determine the space and time boundaries for the EIA and anticipate the significant factors to be studied in detail. However, some interviewees perceived scoping as being merely defining the space boundaries for the EIA. Evidence shows that the scoping step in Iran is bypassed by writing EIA reports according to guidelines that have not been updated for 20 years. As a result, the scoping stage is deemed to be neglected within the EIA process. However, understanding of EIA is not just limited with regards to the scoping stage. Some interviewees from consultancies also had a very poor understanding of screening and the consideration of alternatives.

Referring to the categories developed by Jha-Thakur et al. (2009a) on ‘learning in appraisal’, Iran’s development of EIA is still at a low level. It can be said to be dealing with ‘learning about EIA’ (p,135) i.e. in terms of understanding EIA legal requirements and procedures. Currently, many involved in EIA are still ‘learning about’ the instrument, rather than advancing their knowledge on project impacts with EIA. This finding in itself is not concerning since even in developed countries with mature EIA systems, some lower level learning continues to happen (Jha-Thakur and Fischer, 2016; Weston, 2002). However, Kirchhoff (2006) believes that for EIA to work effectively and beyond the ‘learning about the instrument’ stage, appropriate skills are needed within government departments, the developers, EIA consultants, academics and NGOs. Training and education is needed for developing skills for EIA good practice (Jha-Thakur et al, 2009b) and is one of the main factors for personnel capacity building (Kirchhoff, 2006). Furthermore, with regards to EIA capacity building in the Iranian EIA administration, workload capacity and inadequate staff numbers are important factors that were mentioned by most interviewees. Capacity building is also a prime factor for EIA administrator decentralization. The Iranian EIA system has recently considered decentralization of the EIA administration as each province is responsible for the EIA decision making. In doing so, 20 types of projects have recently been delegated to provincial EIA committees for review and for reaching final decisions. However, insufficiently qualified personnel can be a greater issue at provincial level which affects decision making. This has been observed in India where decentralization itself has not helped in enhancing EIA efficiency (Paliwal and Srivastava, 2012). Therefore, before re-defining roles and delegating EIA decision making responsibility, development of provincial capacity is needed.

Public participation is currently the weakest link in Iran’s EIA process and legislation (Ahmadvand et al., 2009; Moradi, 2009; Nouri and Nikoomaram, 2005). In this context, Chen (2013) suggested that the development of public participation provisions in EIA legislation is frequently influenced by a country’s political culture of decision making. Public participation is valued less in countries where the political culture is less open and democratic (Chen, 2013; Purnama, 2003). Iran is administered by central government (Hashemi, 2012) and according to the existing distribution of administrative functions, Iran can be considered a centralized country (Dienel et al., 2017) which hinders the development of public participation culture in the EIA system. Chen confirmed this and stated that in many developing countries, the centralized and top-down governance mode is likely to constrain the development of public participation provisions in EIA. Also, two interviewees claimed that the low-level of environmental awareness in the population can constrain effective public participation and in turn can dilute the effect of public participation. The influence of a low level of public awareness as a barrier on effective public participation in EIA system has been affirmed by other authors (Chen, 2013).

Consideration of alternatives lies at the heart of EIA (Glasson et al., 2012), but is inadequately carried out in many countries (Kamijo and Huang, 2016). The Iranian EIA directive mentions that technical and spatial alternatives of projects should be included in the EIA report, but inadequacy of the consideration of alternatives was identified as a weakness by Moradi (2009). Most interviewees also confirmed this, commenting that the consideration of alternatives is still limited in the Iranian EIA system.

Another weakness identified in the Iranian EIA system is the lack of EIA follow-up. However, as Glasson et al. (2012) stated, monitoring and inspection of project implementation following approval are often absent from the EIA process, which was evident in Iran (Ghodoosi et al., 2006; Moradi (2009). Interviewees suggested that the lack of adequate penalties and inspection are the main reasons for this weakness. This is, however, frequently observed elsewhere, too. For example, EU Directive 97/11/EC that forms the basis for EIA legislation makes no provision for EU member states to engage in monitoring.

Many of the shortcomings discussed above are common within immature EIA systems. These include incomplete EIA regulatory framework, deficiency of the scoping stage, ineffective public participation, lack of follow-up and EIA implementation (Kolhoff et al., 2009). Although, Nadeem and Hameed (2008) found that Pakistan has sound legal provisions for EIA, they revealed several deficiencies in the EIA process, administration and implementation, owing to inadequate resource capacities, deficiencies in screening, scoping, ineffective public participation and absent of EIA follow-up. Panigrahi and Amirapu (2012) reviewed the EIA system in India and revealed various and similar drawbacks of India’s EIA system. These mainly include; inadequate capacity of EIA approval authorities, deficiencies in screening and scoping, poor quality EIA reports, inadequate public participation and weak EIA follow-up. Though common, Iran’s shortcomings coupled with its unique socio-economic context makes it a challenging setting for a democratic tool such as EIA.

1. **Conclusions**

This paper aims at contributing to the understanding of the EIA legal framework, process and general implementation in Iran. In the paper we have suggested various measures for overcoming current weaknesses. Importantly, we believe that regulators in Iran need to revise national EIA regulation to address the lack of adequate penalties for EIA violations. The existing EIA legal basis (as an article of the NDP) is not strong enough for effective action against EIA offenders. The parliamentary law needs to determine penalties to enforce EIA legislation. In this context, the role of parliament in passing EIA regulation is key towards having an effective EIA specific law.

There are currently several problems with EIA in Iran. These include deficiencies in screening and scoping, public participation, alternative consideration, and EIA follow-up. Some of the major areas arising are connected with insufficiently qualified personnel. As explained, the lack of inspection by the DoE influences EIA implementation and discourages developers to commit to EIA and implement mitigation measurement and monitoring. Iran is currently still ‘learning about EIA’ rather than learning about how to enhance environmental protection through EIA implementation. Thus, prioritizing capacity building is urgently needed. It is vital to develop capacity for actors involved in EIA, including DoE staff, consultants, developers, NGOs and universities to improve EIA stages such as screening, scoping, EIA reviewing, monitoring and inspection. Another weakness relevant to capacity building in the Iranian EIA system is guidance documents which the DoE has failed to update. The existing guidelines are sectoral; however, it is important that the DoE provides guidelines relating to screening, scoping, public participation and reviewing reports.

The Iranian decision-making culture currently hinders the development of public participation in EIA. Nevertheless, the absence of public participation in the Iranian EIA directive needs to be addressed in order to compel EIA actors to involve stakeholders during the EIA process. The DoE at national and provincial levels should have a mechanism in place to ensure that this participation starts from scoping, that the proponent has consulted stakeholders and incorporates their concerns into the EIA process.

It is important to point out that in our paper we have only looked at certain EIA system components, including EIA legislation, EIA administration and the EIA process. This has followed on from what other authors had introduced earlier, in particular Nadeem and Hameed (2008). To establish overall EIA performance in Iran, further research is needed to explore the factors that influence EIA implementation and performance.

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