CAPACITY DEVELOPMENT FOR ENVIRONMENTAL IMPACT ASSESSMENT

- THE SPANISH PUBLIC INSTITUTIONS AS A CASE STUDY -

by

Pilar Clemente Fernández

Thesis presented in part-fulfilment of the degree of Masters of Research in accordance with the regulations of the University of East Anglia

School of Environmental Sciences
University of East Anglia
University Plain
Norwich
NR4 7TJ

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Abstract

This research project investigated the implications of Capacity Development (CD) for Environmental Impact Assessment (EIA). The justification of this study is based on the theory which points out the existence of other ways (apart from impact on decision-making) in which EIA can contribute to its final goal: Sustainable Development. One of them was by promoting institutional changes and a practical approach to deal with this is through CD.

For that purpose, a conceptual framework was designed and applied to a case study: the Spanish public institutions responsible for EIA. It involved a systematic analysis of different capacity levels of the EIA system, identifying the main deficiencies which affect the effective performance of these institutions. For example, low economic expenditure for EIA, ineffective public involvement mechanism, incorrect and minimalist transposition of the European legislation in EIA, organizational shortcomings and insufficient human resources.

In addition, some initiatives for enhancing capabilities are outlined, suggesting that the first step is to obtain a long-term political commitment. The ‘governance approach’ to CD is proposed as a way to enhance such capacities in a sustainable way. This approach is one that is participatory, accountable, transparent, cost-effective and based on society’s long-term vision (UNDP 1997).
Acknowledgements

I would like to thank my supervisor Dick Cobb for the advice and guide he has given to me. Indeed, he has been the indispensable ‘pillar’ for the ‘construction’ of this dissertation. Thanks also to the other MSc course staff, Alan Bond, Mat Cashmore, Tracey Nitz and Alan Ovenden for their support throughout this year; in particular to Mat, my first advisor, for believing in me from the beginning.

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### Abbreviations and Acronyms

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<th>Full Form</th>
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<tr>
<td>CD</td>
<td>Capacity Development</td>
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<tr>
<td>CDE</td>
<td>Capacity Development for the Environment</td>
</tr>
<tr>
<td>CEA</td>
<td>Competent Environmental Authority</td>
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<tr>
<td>CSA</td>
<td>Competent Substantive Authority</td>
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<td>EA</td>
<td>Environmental Assessment</td>
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<td>EC</td>
<td>European Commission</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<td>EID</td>
<td>Environmental Impact Declaration</td>
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<td>EIS</td>
<td>Environmental Impact Statement</td>
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<td>EU</td>
<td>European Union</td>
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<tr>
<td>IPPC</td>
<td>Integrated Pollution Prevention and Control</td>
</tr>
<tr>
<td>KITS</td>
<td>Knowledge, Information, Tools and Skills</td>
</tr>
<tr>
<td>LRD</td>
<td>Legislative Royal Decree</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Co-operation and Development</td>
</tr>
<tr>
<td>SD</td>
<td>Sustainable Development</td>
</tr>
<tr>
<td>SEA</td>
<td>Strategic Environmental Assessment</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<td>WCED</td>
<td>World Commission on Environment and Development</td>
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Chapter One – Introduction

1.1. Background

Environmental Impact Assessment (EIA) was developed for the first time in the 1960s as a result of increased pressure on the environment due to an incessant industrial development which took place after the Second World War. Public concern for the environment was more and more significant and eventually led to the formalization of this tool in the USA in 1969. Since then, EIA has been spread to more than 100 countries around the world (Benson 2003). At the same time, there is not doubt that the nature and use of EIA have evolved in response to new environmental problems, and changed values, perspectives and priorities (Glasson et al. 1999); for example, sustainable development\(^1\) (SD). It is a key concept that has gained increasing international acceptance during the last two decades and has been considered as the ultimate aim of the EIA (Sadler 1996).

Simply defined, EIA is a systematic process to identify, predict and evaluate with hindsight the environmental effects of proposed actions and projects (UNEP 2002a). Indeed, reducing the burden of environmental impacts is necessary if development is to become sustainable. However, there is a lot of debate about the suitability of EIA for achieving sustainability in practice (e.g. Novek 1995; Hardi and Zdan 1997). One way in which EIA can contribute to this final goal is by promoting institutional changes (Bartlett and Kurian 1999; Cashmore et al. 2004), and a practical approach to address this issue is through Capacity Development (CD).

According to Sagar (2000), Capacity Development for the Environment (CDE) is the individuals, organizations, institutions and societies’ ability to identify and solve environmental problems as part of a wider attempt to achieve SD. Regarding EIA, the ‘International Study of the Effectiveness of Environmental Assessment’, carried out in 1996, the purpose of which was to reassess whether Environmental Assessment (EA) can remain a sustainable tool for the 21\(^{st}\) Century, proposes CD as

\(^1\) Sustainable Development: ‘development that meets the needs of today’s generation without comprising those of the future generations’ (WCED 1987)
one of the ten significant ways for strengthening the effectiveness of EIA.

This research focused on the CD for EIA in public institutions. One of the main reasons in choosing the public sector is because of its essential role in the development process. Thus, this can either constrict or facilitate the performance of the EIA process. With this in mind, what this project did specifically was to investigate the level of capacity for EIA in public institutions, using Spain as a case study.

1.2. Outline of the subsequent chapters

In the next chapter the concepts established in the literature and work which back up directly and indirectly the use of CD within the EIA process will be discussed. This will be followed by a brief description of the Spanish EIA system, mainly focusing on its legislative and institutional frameworks. Chapter three will show the method of analysis designed for the analysis of the case study alongside a justification for the employed qualitative research methods. The analytical presentation of the results together a detailed discussion of the findings will be outlined in the chapters four and five. The last chapter concludes this study and opens up the debate pointing to possibilities for future research.
Chapter Two – Environmental Impact Assessment and Capacity Development

2.1. Introduction

In order to understand the role of the CD it is necessary to identify the theory which justifies its application within the EIA process. As was mentioned before, some authors state that there are several ways in which EIA can contribute to its final goal i.e. the achievement of SD (Cashmore et al. 2004). Firstly, the chapter starts discussing one of these ways and then, CD is identified as an approach for putting such theory into practice. This is followed with a description of the Spanish EIA system. Finally, the last section describes concisely the overall project purpose and the specific aims to achieve this.

2.2. Environmental Impact Assessment in theory: consideration of institutional change

EIA is a process with several important purposes. Sadler (1996) categorizes these as ‘immediate’ and ‘ultimate’. On the one hand, the immediate and principal objective is to provide a systematic process for assessing impacts of projects as an aid to improved decision-making and environmental outcomes (Glasson 1999). On the other hand, the ultimate purpose of EIA is as an aid to help achieve SD. In order to achieve the latter it is necessary to be effective in the first (Sadler 1996).

However, the effectiveness of the EIA process in achieving its goal of helping reach better decisions has been questioned (Cashmore et al. 2004). There are several studies of the impacts of EIA on decisions which back this up. Wood and Jones (1997) carried out a study of the influence of EIA on planning decisions in the UK. This is a particularly interesting case-study which tends to reflect the international experience (Glasson 1999). They concluded that the impact of EIA on planning decisions has been ‘gradual rather than revolutionary’ (Wood & Jones 1997, p. 1254);
they state that EIA influences decision-making but it does not alter its decision, due mainly to passive integration with the decision processes it is intended to inform.

As a result of that, a timely question to ask is how much (or if) EIA really helps SD. According to Cashmore et al. (2004), a good understanding of decision processes is a crucial condition to more effective practices, but there are other ways in which EIA can contribute to SD goals; these ‘alternative’ ways are causal processes that socially and institutionally amplify the effects of EIA; it includes emancipation of stakeholders and incremental changes in institutions, organisations, philosophy, science and culture (See Figure 1).

Some authors even agree that this indirect influence of EIA on environmental management (by stimulating changes in institutional environmental capacity, politics, values and accountability) is more significant than its direct influence on decision processes (Cashmore et al. 2004).

![Figure 1 EIA as an agent of incremental change. Source: Cashmore et al. (2004)](image)

Nevertheless, in spite of this ‘powerful’ impact that EIA could produce in institutions and, therefore, societies, little research has been carried out on theory about the nature and operation of these causal processes (Cashmore et al. 2004). The same
authors state that this is mainly due to the fact that the research community has focused little on the degree to which EIA is achieving its substantive purposes (i.e. whether it achieves its key objectives) rather than procedural (i.e. whether it is undertaken according to established expectations). From an effectiveness point of view, Sadler (1996) states this concept includes both substantive and procedural criteria. If this contention is accepted, the issue of effectiveness in EIA has been only partially addressed by researchers (Cashmore et al. 2004).

Thus, on the basis of the preceding discussion, this project ‘explored’ beyond decision-oriented theory by investigating and analysing one of these causal pathways: institutional change (see Figure 1). Specifically, it was focused on public institutions in Spain, i.e. the competent authorities which have direct and indirect connection with EIA process.

Bartlett and Kurian (1999) propose a theory which identifies some of the causal processes described before. They present six models for EIA. One of them is called ‘organisational politics model’. This maintains that EIA may change the internal politics of an organisation, and the way EIA may influence policy is by the degree of internal transformation or reform that it causes in organisations. Culhane et al. (1987) call this the ‘internal reform model’, wherein CD in environmental expertise affects the politics and dynamics of government agencies. Another model suggested by Bartlett and Kurian (1999), and linked to the ‘organisational politics model’, is the ‘institutionalist model’. This suggests that successful EIA will generate ‘changes in the mandates, rules and procedures of the agencies that in turn will influence and shape the notions of culture, values, norms and principles in the larger society’ (Bartlett and Kurian 1999, page 428). By taking into account this model, the success and effectiveness of the impact assessment process is evaluated by the degree to which values are transformed, ways of doing things are changed, and perspectives on what should be done are modified to incorporate environmental values (Bartlett 1997; Smith 1993). As Bond (2003) suggests, this model considers EIA like a ‘virus’ infecting institutions and gradually changing the way they operate.
Having analysed the theory which underpins this project, the next section will discuss a way of putting it into practice. In particular, CD in EIA is proposed as a practical approach for the promotion and measurement of change in public institutions.

2.3. Environmental Impact Assessment in practice: institutional change through Capacity Development.

Capacity building, as traditionally defined, is a complex and broad topic. According to UNEP (2002b) this involves three different aspects (See Figure 2).

Figure 2: definition of capacity building. Source: UNEP (2002b)

- It means building abilities, relationships and values that will enable organizations to improve their performance and achieve their development objectives.
- It includes strengthening the processes, systems and rules that influence collective and individual behaviour and performance.
- And it means enhancing people’s technical ability and willingness to play new developmental roles and adapt to new demands and situations.

However, the term CD is now increasingly preferred to capacity building. A definition of CD suggested by UNDP is ‘the process by which individuals, organizations, institutions and societies develop the ability to perform functions, solve problems, and set and achieve objectives’ (quoted in Sagar 2000, p. 4). This is a more appropriate term since it better expresses that it is a dynamic process building upon an existing capacity base (OECD 1993).

Because this project was focused on EIA, and bearing in mind the theory discussed in the last section, the role of CD must be considered in the general context of the environment and specifically the contribution of EIA towards achieving more sustainable forms of development. Taking into account these aspects, a suitable definition of CD for the Environment (CDE) proposed by Sagar (2000, p 7) is: ‘the ability of individuals, groups, organizations, and institutions in a society to devise and implement solutions to environmental issues as part of a wider effort to achieve
sustainable development’. In effect, this is an evolutionary version of the definition of capacity building in Agenda 21\(^1\).

A study which promotes the link among CDE, SD and EIA effectiveness is the ‘International Study of the Effectiveness of Environmental Assessment’, carried out in 1996. It was established to review whether Environmental Assessment (EA) can remain a relevant tool into the 21\(^{st}\) Century, responding to the demands of a changing world and the challenges of SD. One of the ten themes proposed in this study for strengthening the effectiveness of EA is CD.

There is no overall agreement on what constitutes the key components of CDE. However, according to Clark (1999) there is a general consensus on the five basic components of CDE: (i) the economic, cultural and political context in which organizations operate, (ii) Public sector institutional context, (iii) networks and linkages between organizations, (iv) organizations and their management, and (v) training and education.

Specific research on CD for EIA in institutions has been carried out by the EIA Centre at the University of Manchester (George \textit{et al.} 2001). This Centre has been involved in this topic since its creation in 1988 as a focus for implementation of the European EIA Directive (85/337/EEC). Their findings proposed a range of different issues for EIA capacity development. Figure 3 shows these specific subjects in relation to the five main components of CDE mentioned before.

As this diagram illustrates, CD for EIA covers a wide range of issues. This is because it is an approach that may be used by ‘everybody’: individuals, organizations, institutions and societies. Because of that, CD must be considered in a specific context (George \textit{et al.} 2001). In other words, this is a tool that can be ‘moulded’ so that it can fit in different situations.

\(^1\) Agenda 21 is the global blueprint for sustainable development, the content of which was agreed at the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992. Chapter 37 of Agenda 21 is about capacity building: ‘National mechanisms and international cooperation for capacity building’
As was previously mentioned, this project focused on CD for EIA in Spanish public institutions. Even though much of the effort on CD has focused on developing countries (and with a justified reason), this research investigates whether countries considered as developed, such as Spain, also have serious shortcomings in their systems, and that an approach as CD is the correct strategy to provide recommendations for overcoming such deficiencies.

One of the main reasons for choosing the public sector for this project is because of their crucial role in the development process. As Clark (1999) points out, there is now a general consensus that a ‘capable government’ which can perform functions effectively is a prerequisite for development; governments are ultimately responsible for creating the framework for development. ‘This requires that within the public sector there is capacity to identify problems and formulate and implement suitable policies, respond flexibly to public needs and demands and foster participation in debate and decision-making’ (Clark 1999, page 36). Coming back to EIA, the public sector is responsible for the environment issue and can either constrain or facilitate
the performance of EIAs. Public administration, it could be argued, has responsibility and authority for legislation, regulations and policies affecting the civil service, budgetary support, definition of responsibilities among ministries and the effectiveness of the policy environment (Clark 1999).

2.4. The Spanish EIA system

EIA in Spain is regulated by specific legislation which indicates the type of projects requiring EIA, the content of the EIS and its administrative procedure. Because every region has its own environmental competences, the Community of Madrid was chosen as an example of regional EIA legislation. Also, the institutional EIA framework and the effectiveness of this system are briefly described.

2.4.1. EIA legal framework

National Legislation

EIA is required by Legislative Royal Decree (LRD) 1302/1986 and RD 1131/1988. The evolution of the specific legislation in EIA is shown in Figure 4. The first Decree transposes EC Directive 85/337 into Spanish Law. This Decree has only one annex, which enumerates projects requiring EIA (in addition to projects that are listed in Annex 1 of the EC Directive).

LRD 1131/1988 approves the rules for the execution of the EIA and develops several aspects such as: (i) definition of activities subject to EIA, (ii) Introduction of a scoping process, and (iii) regulation of the information and public participation system.

RD-law 9/2000 modifies LRD 1302/1986 and incorporates the amendments introduced by the new EIA Directive, EC Directive 97/11. With this amendment, those projects listed in the Annex II that are subjected or not to EIA, are screened through a ‘case by case examination’. In addition, this regulates the possibility of asking for the opinion of the competent environmental authorities (CEA) before the preparation of Environmental Impact Statement (EIS), and points out the new demands for the evaluation of projects with transboundary impact.
Law 6/2000 consolidates 9/2000 with amendments to 1302/1986. Finally, the EC Directive 2001/42 on Strategic Environmental Assessment (SEA) demands the consideration of environmental assessment of certain plans and programs. This Directive is still to be implemented.

The need for EIA for certain projects is also set out in other legislation, sectoral legislation, which uses EIA to control activities it regulates (see Table 1).

Table 1 Sectoral Legislation on EIA

- EC Directive 92/43 on ‘Habitats’ and EC Directive 79/409 on ZEPAS (Special protection areas for wild birds).
- Decree 2414/1961 on activities classified as annoying, unhealthy, damaging, and dangerous.
- Decree 833/1975 on protection of the Atmosphere.
- Ministerial order of the Minister of Industry of 1976.
- Law 15/1980 on nuclear security.
- Real Decree 116/1984 on restoration of places affected by the extraction of carbon.
- Real Decree 1211/1990, which approved the rules of the law on terrestrial transports.

Regional Legislation

The 17 Autonomous Communities, according to the competences recognized by their respective statutes\(^1\) have developed the basic legislation on EIA. Thus, although the national legislation was created, the environmental protection structure delegates many decision-making powers to the regions. Even though every autonomous community has its own procedure, they have two aspects in common: (i) a considerable increase of projects requiring EIA and (ii) differentiation of the information required in the EIS and in administrative procedure according to the type of activity (Gomez 2001).

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\(^1\) Autonomy Statutes attribute legislative duties to regions on: urbanism and planning, agriculture and ranching (or livestock), hunting and fishing, and environmental protection.
Figure 4 Evolution of the EIA legislation in Spain

EUROPE
- EC Directive 85/337
- EC Directive 97/11
- EC Directive 2001/42 on SEA

SPAIN
- Legislative Royal Decree 1302/1986 on EIA
- Royal Decree 1131/1988 on which the rules for the execution of Legislative Royal Decree
- Royal Decree-Law 9/2000 of Modification of Legislative Royal Decree 1302/1986 on EIA
- Law 6/2001 of modification of The legislative Royal Decree 1302/1986 on EIA
- National SEA legislation still to be implemented

REGION OF MADRID
- Law 10/1991:
  - EIA
  - Environmental Description
- Decree 123/1996
- Law 2/2002 of EA:
  - Environ Analysis for plans and programs
  - Ordinary and in short EIA for projects and activities
  - EA of activities (of Env Description)
Due to the peculiar characteristics of the Community of Madrid (for example high density of population and high economic activity), the pressures on the environment are considerable. Thus, it has been necessary to develop specific legislation which provides suitable regulations for the protection of the environment in this region. For that purpose, Madrid has developed the Law 2/2002 of Environmental Legislation which considers the EC Directive 85/337 for EIA (and its amendment of EC Directive 97/11) and the EC Directive 2001/42 for SEA\(^4\) (See figure 4). Thus, this legislation is applicable to plans, programs, projects and activities\(^5\) with potential environmental repercussions. It establishes four types of procedures (Table 2). The screening process is based (i) on list of actions shown in the annexes I, II, III and V of the regional law and (ii) on case-by-case approach by considering criteria from the annex VII.

This law attributes some competences to the environmental local authorities of the region (a lower tier of local government not shown on figure 4); in particular for the procedures and resolution of the EA of activities (the fourth type of procedure mentioned above).

2.4.2. EIA Institutional framework

Spanish legislation differentiates between competent substantive authorities (CSA) and competent environmental authorities (CEA). The latter are the authority for approving the EIS, but the former approves or rejects the projects in question. They are different and independent. Thus, EIA is a parallel process for the authorization of a specific project. The procedure requires the developer to present a summary-report of the project (including a brief description of the most significant

\(^4\) Surprisingly, this regional law has implemented the Directive on SEA, which it has not been implemented a national level yet.

\(^5\) Activity refers to ‘the exploitation of an industry, establishment, facilities or in general whatever action which may affect significantly to the environment’: pubs, veterinary surgeries, repair shops, etc (Law 2/2002 of the EA of the Community of Madrid 2002)
Table 2. Law 2/2002 of the Madrid region

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<tr>
<th>PROCEDURE</th>
<th>TYPOLOGY</th>
<th>EXAMPLE</th>
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<tr>
<td>STRATEGIC LEVEL</td>
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<tr>
<td>Environmental analysis</td>
<td>12 types of plans and programs (Annex I)</td>
<td>• Energy</td>
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<tr>
<td></td>
<td></td>
<td>• Mining Industry</td>
</tr>
<tr>
<td>Ordinary EIA</td>
<td>101 types of projects and activities (Annex II)</td>
<td>• Gas and oil refinery</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Thermal Plant with power &gt; 300MW</td>
</tr>
<tr>
<td>In-short EIA</td>
<td>53 types of projects and activities plus 76 more</td>
<td>• Thermal Plant with power &lt; 300MW and &gt; 50MW</td>
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<td></td>
<td>necessary to study case by case (Annex III and IV)</td>
<td>• Hospitals</td>
</tr>
<tr>
<td>Environmental Assessment</td>
<td>26 types of activities (Annex V)</td>
<td>• Garages and repair shops</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Veterinary surgery</td>
</tr>
</tbody>
</table>

environmental impacts of the project only if the developer considers it appropriate) to the CEA and the CSA. Then, the CEA may (but not is necessary) consult with potentially affected persons, institutions and administrations in relation to the potential environmental impacts of such project, and they must respond within 30 days (this forms part of the scoping process6). Figure 5 shows a diagram of the EIA administrative procedure.

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6 Scoping process: it is a process carried out previous the elaboration of the EIS, which its main aim is to determine, from all the potential impacts of a project, which are significant and require further consideration (Glasson et al. 1999).
At the same time, the developer (by itself or through environmental consultants) prepares an EIS. When this is completed, the developer presents both the technical project and the EIS to the CSA. If is required by the substantive procedure, for the project (including the EIS) to be made publicly available for consultation. This authority sends a file to the CEA with the technical project, the EIS, the results (if required) of the public consultation and any observations made by them. The CEA must subject the EIS to public consultation when it is not carried out within the substantive procedure. It must be made publicly available for consultation. On the basis of the comments received, and within 30 days of the end of the public information phase, the CEA must notify the developer if the EIS needs alterations. There are 20 days to complete any modifications.

Once the EIS is accepted, the CEA makes a ‘non-binding decision’ in the form of an Environmental Impacts Declaration (EID). It declares whether the project is accepted, rejected or has imposed conditions from an environmental point of view. This must be sent to the CSA in 30 days and published in the official gazette. Finally, the CSA approves or rejects the project by considering three documents: the technical project, the EIS and the EID. As well, the CSA is the authority responsible for the monitoring process of the project, and of its specific EIA.
Figure 5. Administrative procedure of EIA divided in two stages: before and after the preparation of the Environmental Impact Statement (EIS) (Adapted from Gomez 2001)

**Before the preparation of the EIS**

1. Scoping process (10 days)
   - Consultation phase
   - Reception of publicity requirements (30 days)
   - Sending to developer: 1. Publicity requirements 2. Most significant aspects to consider in EIS

2. Preparation of the EIS by developer

**After the preparation of the EIS**

- Sending to CSA: 1. Technical project 2. EIS
- Public information, if required, through the substantive procedure on: 1. Project 2. EIS
- CSA send to CEA: 1. Technical project 2. EIS 3. Results from public consultation
Communication to developer of aspects that must be completed in EIS (30 days)

EIS needs more information?

YES

Communication to developer of aspects that must be completed in EIS (30 days)

Completion of EIS (20 days)

NO

Developer sends file with description of project and EIS to CEA

Reception of file in CEA

Environmental Impact Declaration (EID). Sending it to CSA (30 days)

Approval of the project by taking into account:
- Technical project
- EIS
- EID

Monitoring of the project, including the EIS by CSA
2.4.3. Level of effectiveness of the EIA system

A review published in 2002 by the European Commission (EC) about the implementation of Directive 97/11/EC has shown that Spain presents deficiencies in its transposition, leading to numerous complaints to the Commission. In fact, this is the country with the highest number of complaints regarding EIA: there were 215 complaints between 1997 and 2001, when the EU average was 58 (European Commission 2002). Some of the deficiencies are outlined here.

Firstly, there is a lack of annual recording and monitoring of EIA activity. Secondly, there is no control on the quality of the content of EISs and EIDs. Thirdly, there is a generic delay of the results of EIDs when it comes to decision-making. Fourthly, there is inadequate coordination between the EIA Directive and other European Directives (IPPC, Habitat Directive, etc). Fifthly, the recording and monitoring process carried out by CSA after the authorization of a project is ‘weak’, consisting only of a vigilance measure to control the application of specific corrective measures.

On the other hand, the OECD (2004) published an Environmental Performance Review of Spain and indicated some achievements in the environmental area: a strengthened institutional and legislative environmental framework, a network of environmental authorities and new laws. In particular, EIA procedures have led to stricter conditions or project modifications.

Therefore, despite a gradual improvement in the application of EIA for the last few years, the Spanish EIA system still has weaknesses that must be addressed. This is another point which justifies this project.

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7 Consideration: in that period the number of countries that were members of the European Union were 15. Currently, the number has increased to 25.
2.5. Objectives and aims

The objective of this project is to investigate the level of capacity for EIA in the environmental public institutions.

Aims:

• Development of a conceptual framework so that the analysis is systematic and not haphazard (World Bank 1999).

• Application of the conceptual framework to the Spanish case to assess its capacity level regarding EIA, focusing the analysis on its main deficiencies.

• Formulation of recommendations for enhancing capabilities of the Spanish Public Sector.

2.6. Summary

This chapter has outlined the theory which justifies this project. EIA’s dual purpose, of having significant impacts on decision-making, and attempts to achieve SD are still questioned. The consideration of ‘institutional change’ has been identified as an alternative mode of acting on both purposes, and CD as a practical approach for achieving this. To put this research in a specific context, this chapter has also described the legislative and institutional framework and some weaknesses of the Spanish EIA system.
Chapter Three – Methods

3.1. Introduction to research design

In order to carry out a systematic analysis of the level of CD within the case study, a conceptual framework was designed. The procedure of this research project is outlined through a schematic presentation (See Figure 6).

As this figure shows, the design of the conceptual framework was based on the literature review on CD adapted for EIA. Denscombe (2002) states the purpose of documentary research is to provide background information, which is used as a ‘platform’ for a research project. After the framework was created, it was applied to the particular case study (the Spanish public institutions).

Due to the nature of this project, qualitative data was considered to be appropriate for the type of research, where the aim is to understand the generation of particular process in a small number of cases (Goodwin 2004).

In the first part of this chapter the development of the framework will be outlined. An overview of the case study research strategy and the selected qualitative methods will be provided in the second part. The chapter will finish by describing briefly the limitations of this research project.
3.2. Conceptual framework

CD is a process that must be considered in a specific context (George et al. 2001). There is a clear difference between developed and developing countries. Regarding EIA, the former have fully established EIA systems in contrast to the latter, where EIA systems (if they have them) are at an early stage of development. In addition, the environmental problems faced are diverse (water shortage, urban air pollution from motor traffic, damage to cultural heritage from tourist activities, etc), and because of that, an EIA system has to be designed to match the problems it is intended to solve (George et al. 2001).

As was mentioned before, this research used the Spanish public sector as a case study. This involved limiting the study to a specific context: Spain is a European country with a ‘fully’ established EIA system, and the chosen institution was the public administration. It is important to consider this when it comes to designing the conceptual framework. In fact, this is intended as an evaluation tool to (i) assess the capacity problems, and (ii) to identify capacity opportunities within the specific Spanish case. However, it contains the main components that all strategies for CD of EIA must consider.

This framework was based on other examples which have been developed during the past years (Nafti and George 2003; Bolger 2000; George et al. 2001; UNDP 1998; OECD 1995; Hildebrand and Grindle 1994). All of them reflect agreement on the notion that there are different capacity levels (e.g. individual, organizational, societal, etc) and that there are dynamic inter-relationships and connections among them. Taking into account the EIA context, five components or levels of capacity were suggested for this case study8 - 1. Enabling environment;

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8 Other frameworks include three or four levels of capacity. For example, the UNDP framework speaks of capacity issues at the ‘micro, meso and macro’ levels, while Bolger (2000) refers to four dimensions of capacity – ‘individual, organizational, network/sectoral and the enabling environment’.
2. Legal and institutional context; 3. Networks and links between organizations; 4. Organizations and their management, and 5. Human resources (See figure 7).

Figure 7: Conceptual framework for CD

The *enabling environment* refers to the economic, cultural and political milieu in which, in this case, public institutions operate and the degree to which this broader context facilitates or limits their capacity (Clark 1999). According to Bolger (2000), attempts to effect changes at this level take considerable time; while not all CD initiatives have as a priority to produce changes at this level, it is necessary to consider factors here which may have an impact on initiatives which are focused primarily on other levels of capacity.

The *legal and institutional context* includes laws, regulations and policies affecting the civil service, definition of responsibilities among institutional actors and the nature of the policy environment that support or impedes the
performance of functions (Clark 1999). In particular this project focused on (i) enabling and detailed legislation, (ii) quality of the EIA process, (iii) enforcing compliance with legislation and (iv) EIA administrative system of the Spanish EIA system.

*Networks and linkages between organizations* consist of the institutional arrangements and lines of communication which promotes information exchange among the involved organizations (World Bank 1999).

Traditionally, such information has been obtained in an ad hoc manner through access to databases, reports and documents, through the transfer of information and knowledge between experts (Clark 1999). However, in this way this information is not widely shared and is often out-of-date. In addition, it is too costly or impractical to obtain.

Thus, *information technologies* are expected to play an increasing role in improving the management and practice of EIA and, consequently, supporting CD (Clark 1999). In fact, EIA information would be available through one or more sites on internet maintained, for example, by national agencies and organizations. Through these sites, users could directly access available databases and information and make-on-line requests for specific items. Also, on-line directories can point users to other relevant information and to appropriate organizations and experts (World Bank 1999).

*Organizations and their management.* This capacity level focuses on organizational structures, processes and management issues. On the one hand, factors from upper levels of capacities affect the performance of individual organizations; on the other hand, it also depends on the availability, effective use and motivations of individuals (Bolger 2000; Clark 1999).

Finally, *human resources* refer to ‘*personal attributes and capabilities that sustain one in adverse circumstances*’ (Pearsall 2002, p. 1219). CD is usually focused on one specific aspect, which is education and training. However, the
human resources concept implies other issues which are necessary to consider in order to develop and retain the one available (World Bank 1999). In particular, this study considered the following aspects:

- awareness, education and training;
- support in the form of equipments and means;
- compensation by means of adequate salaries, incentives and professional growth; and
- adequate number of people.

Each of these components represents a level for a CD intervention and there is a dynamic interconnection among them (Bolger 2000). That means that it is possible to assess (i) opportunities and constraints at various levels, (ii) their potential impact on one another, and (iii) to determine the most appropriate type(s) of intervention (intervention only at one level or across several levels). An example of the potential interconnected impacts is the fact that organizational performance may be influenced as much by the enabling environment as by internal factors to the organization, such as skills, leaderships, etc. Figure 7 depicts this by drawing the boundaries between the levels of capacity with discontinuous lines. In addition, the concentric squares of the figure highlights the significance of thinking about individuals, organizations, programs, policies, etc as part of broader whole rather than as discrete connected issues. In essence, the framework ‘emphasizes the importance of understanding the ‘problem’ in its full dimensions, systematic analysis of opportunities and constraints, identification of windows of opportunity and promotion of strategic and integrated responses’ (Bolger 2000, p. 5).

After the framework was completed, it was applied to the case study using qualitative methods, which will be detailed in the following section.
3.3. Case study as the research strategy

Denscombe (2002) holds that the basic steps for small-scale social research projects (and this is the case of this Master’s Thesis) are three: strategy, methods of research and analysis of collected data. Case studies are one of the strategies designed for such purposes\(^9\). As was previously mentioned, CD must be considered in a specific context. As a result of that, case study was the chosen strategy since it involves an in-depth examination of one discrete case, or a small number of cases, providing a comprehensive understanding of an individual case and focusing on relationships and processes of that particular context (Yin 1994; Denscombe 2002).

Chapter two outlined the main reason in selecting this case study (the Spanish public institutions responsible for EIA process at national, regional and local level). In particular, this research focused on a specific region: Community of Madrid. The main criteria in choosing it were: (i) the possibility of gathering information about the EIA at national, regional and local level in the same city, namely Madrid and (ii) its ‘quick’ accessibility from Stansted Airport, which is relatively close to Norwich. This was an essential aspect considering time limitations of this research project.

3.3.1. Data collection

Case studies involve the use of multiple sources and multiple methods, i.e. it allows a researcher to use a variety of sources, types of data and research methods as a part of the investigation (Robson 2002). Yin (1984) points out that evidence for case studies may come from six sources: literature review, archival records, interviews, direct observation, participant-observation, and physical artefacts. For this research, documentation (including literature review) and interviews were elected as the best way of data collection.

\(^9\) Other strategies include experiments, surveys, histories, and the analysis of archival information (as in economic studies) (Yin 1994)
Literature review in social research is an indispensable part of the investigation, which complements data collected by other methods (in this case, interviews). The main types of material used in this project were books, journals, the Internet, newspapers, magazines and government publications.

Due to the nature of this project, a qualitative interview was considered the most appropriate method for the detailed investigation of the perception of the Spanish government employees regarding EIA. As Yin (1994) suggests, the interview approach is particularly suited to collecting large quantities of rich, detailed data in a time-efficient manner within a case study research.

In total 10 interviews were carried out for this study, as detailed in Table 3. The decision was based on Kvale’s (1996) indication of 15 +/- 10 interviews, as a standard number of interviews conducted in current studies. This number seemed to be suitable for this project, due to time and resource constraints. In addition, the same author suggests that it is better to undertake fewer interviews and spend more time on research design and data analysis (Kvale 1996).

The number of government officials interviewed at the different levels was representative and proportional to the total number of personnel working for EIA, which at national level is 30, at regional, 12 and at local, 3. In addition, it seemed appropriate to interview other involved practitioners within the EIA process in order to have external views about the current situation of the public institution. Thus, a professor (with experience of EIA preparation and analysis) and a member of the Spanish EIA association (with experience of EIA preparation and research) were also interviewed.

According to Goodwin (2004), three principal categories of interviews are usually identified in structure-based classifications: structured, semi-structured, and unstructured interviews. Given the particular aims of this project, a semi-structured interview was considered the best choice. In this type of interview, the researcher uses a list of predefined questions (known as the ‘interview guide’) on specific
Table 3. Category and number of interviews

<table>
<thead>
<tr>
<th>INTERVIEWEE CATEGORY</th>
<th>INTERVIEWEE SUBCATEGORY</th>
<th>No INTERVIEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Government officials</td>
<td>National level (Environment Ministry)</td>
<td>EIA team supervisor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EIA technician</td>
</tr>
<tr>
<td></td>
<td>Regional level (Advisory body of Madrid region)</td>
<td>EIA team supervisor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EIA technician</td>
</tr>
<tr>
<td></td>
<td>Local level (EA department of Madrid Council)</td>
<td>EIA team supervisor</td>
</tr>
<tr>
<td>2. EIA practitioners</td>
<td>Professor</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Member of the Spanish EIA association</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>10</td>
</tr>
</tbody>
</table>

Thematic elements of the research to ensure the key topics are covered in each interview (Bryman 2001). The main criteria which helped justify this choice were (i) because a degree of structure is important to ensure principal elements of the research are addressed, (ii) flexibility is needed to let interviewees develop ideas and speak more widely on the issues raised by the researcher and (iii) the answers are open-ended (Denscombe 2002).

Diverse interview schedules were designed for different interviewee categories and subcategories (Table 3). They included the same topics, but they were asked slightly differently, and the average number of questions was 30. They were recorded with a Dictaphone.

The predefined questions were structured with a general introductory statement and with an open question to calm the atmosphere due to the introduction of the Dictaphone (See Appendix I as an example of one of the semi-structured interview schedule).
The main part of the interview consisted of questions guided by the framework previously developed. Prompts were also used to guide the discourse to the specific context of the interview. The interviews lasted between thirty and ninety minutes. Typed transcripts were carried out immediately after the interviews were finished. For confidentiality reasons, the name of the interviewees was not included in the processed data.

The skills of an interviewer are an important factor in the quality of data produced (Bryman 2001). Two pilot interviews were undertaken to identify weaknesses and improve the interview technique. In fact, some questions, which were considered as not particularly relevant, were cancelled in order to adjust to the agreed time; in addition, the structure of some questions were modified to make it clearer.

3.3.2. Data analysis

Yin (1984, p. 99) points out data analysis consists of ‘examining, categorizing, tabulating, or otherwise recombining the evidence, to address the initial propositions of a study’, and that a general analytic strategy is necessary for the analysis of collected data from a case study. Thus, and as Dey (1993) suggests, the analytical strategy was carried out in three stages: description, classification and connection.

The description stage involved the transformation of the data in a textual form in order to be analysed. On the one hand, the recorded interviews were transcripts (and quotes of the verbatim transcripts were used to highlight specific points that summarize a particular point of view). On the other hand, material from documents was collected in note form or through photocopies.

The classification stage is about organizing and putting the data in order (Goodwin 2004), which in this case was by following the designed conceptual framework. In order to carry out this, a model of the framework adapted for the data analysis was developed. It was divided into categories (See Appendix II).
A summary of the interview results was produced and categorised following the model (See Appendix III). There were some categories which were completed through the collected documentation during the field work.

Other documentation was gathered for checking and/or corroborating the information from the interview data. In addition, other analytical techniques utilized for the data analysis were to create data displays such as flow charts, diagrams, figures, etc to examine the data in a clearer way. The use of different methods is a useful way for the corroboration of findings and for enhancing the validity of data (Mason 2002).

Finally, the connection stage consisted of putting all information together and analysing the interconnections between different types of data. The next chapter will show in detail this stage by presenting the results and discussion of this project.

3.3.3. Limitations

The first constraint this research had to face was the ‘limited’ amount of literature about CD for EIA. In addition, existing literature is predominantly focused on developing countries. For these reasons, a considerable amount of time had to be employed for understanding the role of CD within EIA and adapting this to the Spanish case.

As was outlined above, CD must be considered in a specific context. The ideal research would have been to investigate all institutions, organizations and individuals involved within the Spanish EIA system; for example, developers, CSAs, environmental consultants, regulatory agencies, NGOs, etc. However, due to time constraints, the research focused only on specific public institutions.
Another limitation is that some aspects of the EIA process were not considered. Time and space constraints entailed the inevitable necessity of restricting the study to the main characteristics of the process.

The use of a case study as the research strategy added some difficulties to the investigation process as well. For example, it was not easy to decide what sources of data to incorporate in the case study and which to exclude. Furthermore, this approach involved working with qualitative data and this can be influenced by the researcher’s interpretation. In fact, a criticism often levelled at case studies, and at qualitative data in general, is that the results produced are deficient in terms of objectivity and reliability (Denscombe 2002). Therefore, in spite of a robust justification of the methods, there was a degree of interpretation and subjectivity of collected data (especially with data from interviews). For this reason, the strategy designed for data analysis was developed with special care and the time taken on this part of the research was significant.

Finally, the accessibility to government officials to arrange potential interviews was problematic, taking considerable time. In addition, the preparation and analysis of interviews was a very long and time-consuming process. First of all, they were developed in English for the supervisor approval, and then translated to Spanish. Secondly, the most relevant collected data, which was in Spanish, had to subsequently be translated into English for the written thesis.
Chapter Four – Assessing the actual capacity in EIA of the Spanish public institutions

4.1. Introduction

This chapter presents and discusses the capability level of the Spanish public institutions within the EIA process by applying the designed conceptual framework. In particular, the five different levels of capacity are examined: 1. enabling environment, 2. legal and institutional context, 3. networks and linkage among organizations, 4. organizations and their management, and 5. human resources.

4.2. Enabling Environment

As previously defined, this refers to the broad environment in which the institution operates. For this research, the economic, political and cultural contexts where the Spanish EIA public institutions function are specifically analysed.

4.2.1. Economic Issues:

A stable economic context is an important contributor to an enabling environment. According to World Bank (1999) financial capability is the basis for many weaknesses or strengths of the rest of capacity levels. Spain, as a developed country, has a satisfactory economic situation. However, the Environment is not actually considered as one of the main national priorities. In fact, according to OECD, Spain has a very low environmental expenditure and is very reliant on subsidies, government transfers and other forms of financial assistance (OECD 2004). This research corroborated this fact:

‘The Environment Ministry receives few funds in comparison with other Ministries’ (National government official #07 interviewed 24.05.2005).
Figure 8 shows the summary of expenditure budget for a range of Ministries in 2004. This figure demonstrates that the funds available for the Environment Ministry are significantly limited in comparison with other Ministries, such as Promotion or Defence. Consequently, this limited financial support to the environment has a negative effect on the public institutions, and possibly impacts on the effectiveness of the EIA system. For example, all interviewees agreed on a serious lack of personnel working for EIA:

‘There are several positions which are not covered yet mainly because of the competitive examinations. This takes long time until the results appear and in the meantime the number of EIA is increasing. We have a severe shortage of personnel’ (Regional government official #01 interviewed 18.05.2005).

Table 4 illustrates the public organizations responsible for EIA at national, regional and local level and the number of projects subjected to EIA per person and per year. This demonstrates an apparent shortage of personnel; annually, a government official has to be responsible for an average of 50 EIAs at national level, 80 at regional level and 250 at local level (however as was outlined in chapter two, a more simplified EIA processes operates at the
lower levels). In addition, the number of projects subject to EIA is continually increasing.

Table 4. National, regional and local organizations responsible for EIA

<table>
<thead>
<tr>
<th>Level</th>
<th>Name of department</th>
<th>Number of persons</th>
<th>Average of projects 10/person/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>General Subdirection of Environmental Evaluation (Environment Ministry)</td>
<td>30 + 15 administrative assistants</td>
<td>50 projects per person per year</td>
</tr>
<tr>
<td>Regional</td>
<td>Environment Prevention Service (Advisory body of Environment and Territory Planning of the Community of Madrid)</td>
<td>12 + 4 administrative assistants</td>
<td>80 projects per person per year</td>
</tr>
<tr>
<td>Local</td>
<td>Environmental Assessment Department (Madrid city Council)</td>
<td>3 + 4 administrative assistants</td>
<td>250 projects per person per year</td>
</tr>
</tbody>
</table>

Source: Survey 2005

Figure 9 shows the significant increase of the national EIDs from 1989 to 2003. In 2003, the number of EIDs was 262, which shows an increase of the 13.5% respect the previous year. This growth is projected to continue due to a continuous rise of the number of public projects during the last few years (Environment Ministry 2003).

Thus, this increase in the number of projects subject to EIA could be a justification for more personnel working for EIA. However, this has not occurred, at least in a proportional way.

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10 This includes projects and activities
4.2.2. Political Issues:

The two main political aspects when it comes to EIA process is its level of impact on decision-making process and the effectiveness of the public involvement.

Impact on decision-making process

As was mentioned in chapter two, the application of EIA is a parallel process in the project decision-making process (See Figure 5). This means that in practice the CEA is normally outside the decision-making process, having little influence on it (Gomez 2001). All interviewees corroborate this fact:

‘EIA does not impact much on decision-making because the majority of projects have been approved with hindsight before the EID is finished’ (Professor #03 interviewed 20.05.2005).

‘From time to time, the CSA give the authorization before the EID is published’ (Regional government official #02 interviewed 18.05.2005).
Indeed, the fact that EIA is a separate process means that this is more corrective rather than preventive, influencing little on the decision-making (German Institute of Urban Affairs 2004).

Another aspect that it is necessary to consider is the level of integration of EIA in the entire project cycle. The Europea Directive states that the EIS must be prepared before the beginning of the implementation phase, which is when the project draft has already been done. Figure 10 depicts the stages of a project process and where EIA operates. Firstly the project is set out and then the environmental baseline is elaborated to analyse the consequences of such project. EIA, therefore, reacts to developments, rather than anticipating them. Because of this, there is little influence in the project design.

Figure 10: Phases of a project (adapted from Gomez 2001)
Gomez (2001) points out there are three different types of approaches for EIA integration: reactive, semi-adaptable, and adaptable:

1. Reactive: when EIA process takes place after having decided the implementation of the project.
2. Semi-adaptable: when EIA process takes place before having deciding the implementation project. This is the one the EC Directive 85/337 suggests.
3. Adaptable: when there is a study of the environment prior to the design of a project. Here the environment is first and the project, the second.

This research shows that even though the legislation promotes a semi-adaptable integration, in practice the EIA process tends to be reactive, since it is usually carried out after having decided the project implementation. Thus its impact on decision-making process is not significant. Should the legislation be more exigent by making compulsory an adaptable integration of EIA?

Public involvement

As was mentioned in chapter two, public participation is involved in the scoping\textsuperscript{11} process and through a mechanism of public information established through the substantive procedure (project process) or through the EIA process, as required. On the one hand, in the scoping process, consultations are carried out by the environmental authorities with interested parties (public sector, private sector, associations, and affected people). On the other hand, the public information is through the publication of a note in the National Official Bulletin which announces the period for the presentation of statements and where to find the information available (Gonzalez 1999).

In theory, these measures may be suitable for a successful public involvement. However, this survey shows that in practice this system has several deficiencies. The perception of the all interviewees is that this

\textsuperscript{11} The Scoping process ‘is that of deciding, from all of a project’s possible impacts and from all the alternatives that could be addressed, which are the significant ones’ (Glasson et al. 1999, pp 90)
mechanism of public involvement is not effective. And some of the reasons mentioned are:

‘Only the public sector participates in the scoping process. Although the rest are invited to this, they do not participate’ (Professor #04 interviewed 20/05/2005).

‘Most lay people cannot access to the National Official Bulletin easily and understand it because of very technical writing’ (Government Official #02 interviewed 18/05/2005).

‘There is a lack of publicity on it’ (Spanish EIA association interviewed 24/05/2005).

4.2.3. Cultural Issues:

Spain has increased considerably its level of commitment regarding the Environment when it became a Member State of the European Union. The prompt implementation of the EIA Directive (one year later after its publication) and the generation of regulations at regional level indicates the interest and the commitment from the Public Sector.

However, Spain is still a country with a limited ‘culture of the Environment’, namely a culture which develops and promotes values and attitudes in line with the protection of the Environment (O’Riordan 2001). The process of a project decision-making is a clear example of this fact. Figure 11 shows the perception of the interviewees regarding the consideration level of the environmental factor in comparison to the social and economic ones when it comes to the main decision-making.

As this figure illustrates, all interviewees agreed that the economic factor is still the most important one in the decision-making process. The environmental factor is considered the second in significance. In particular,
the national government officials and the academic interviewed gave more weight to this factor compared with the rest.

![Figure 11: Trade-off of environment, economic and social factors](image)

And everybody agreed that the high or low consideration of the environment depends on the type of project:

‘The consideration of this factor depends on the type of project; there is little consideration in structural and public projects and a lot in private ones’ (Professor #04 interviewed 20/05/2005).

Finally, the social factor is taken into account least. The regional and local government officials agreed that this aspect is not significant at all.

Thus, it is possible to question that a real turn of the national culture toward the environment is produced only with the implementation of environmental legislation. Maybe a more deep commitment at political level would be necessary to get this. If this change is not carried out, the possibilities for achieving the SD goals are limited (O’Riordan 2001).
4.3. Legal and institutional context

The implementation of the EIA Directive 85/337/EC was the starting point for the employment of this tool in Spain. Despite the gradual improvement of this EIA system during the last few years (OECD 2004), there are still deficiencies (EC 2002). And there is not doubt that this entails another obstacle for an efficient performance of the public institutions. The main weaknesses found by this project are outlined in this section.

4.3.1. Enabling and detailed legislation

First of all, the Spanish EIA legislation lacks technical and scientific regulations to implement properly the existing laws (Hernández 2000). For example, the use of guidelines is not encouraged. There are only five guidelines for five different typology of projects and the European guidelines for the EIA process are frequently not being used. This is an important issue especially because is a relatively new tool and, consequently, there is not too much experience on this field.

Secondly, it seems excessive the proliferation of different definitions at national and regional level to find out whether a project must be subject to EIA. In fact, some interviewees pointed out that this complicates the execution of the EIA process when it comes to working in different regions. For example, in order to investigate whether or not a big dam must be subject to EIA; the national legislation states that ‘big dam are those with more than 15 metres of height, or between 10 and 15 taking into account two criteria (capacity higher 100.000 m³ or exceptional characteristics important for the security and economic publics)’. However, a Madrid level, the legislation points out that ‘dams with a capacity equal or higher to 100.000 m³ will be subjected to EIA, irrespective of the height of the dam’. 

Results and Discussion
Thirdly, there is an inadequate coordination between the EIA Directive and other European Directives with relevant implications for the EIA process, since the Spanish regulation has independent procedures. For example, the Directive 96/61/EC on Integrated Pollution Prevention and Control (IPPC) introduces a new authorization system for a lot of projects indicated in the annexes of the EIA Directive. Because of that, the Directive 97/11/EC suggests that the Member States should (but not compulsory) establish a unique procedure to fulfil the requirements of the Directives 85/337/EC and 96/61/EC. However, the Spanish system has not created a formal procedure for that purpose. This makes for a more complicated and prolonged EIA process:

‘...In Spain there is too much legislation and contradictory laws which confuse practitioners and produce delays in the process...I consider that this is an administrative chaos’. (Local government official #10 interviewed 26.05.2005).

4.3.2. Control of the quality of EIA process

There is no a formal measure for the control on the quality of the EIA procedures, and especially of the content of EISs. This is important to inform the public and decision-makers about the significant environmental effects of the projects (Glasson et al. 1999). There is no review body for that and any specific regulation for EIA review, affecting, consequently, the quality of the EISs. In fact, the interviewees agreed their quality is generally poor:

‘The EISs are not of good quality: they are theoretical and not fixed to the real problematic of the project’ (National government official #07 interviewed 24.05.2005).

A study backing up this perception was carried out by Canelas et al. (2005). They analysed the quality of 46 recent EISs (between 1998 and 2003) from Portugal and Spain. The main conclusion was that only the 9% of the Spanish EISs contained ‘full provision of information with no gaps or weaknesses’ and
30% contained ‘weak provision of information with gaps and weaknesses which hinder the decision processes’.

4.3.3. Enforcing compliance with legislation: follow-up programme and sanction system

Follow-up programme

If good practice on EIA follow-up is taken into account, it is possible to say that the Spanish EIA legislation constrains the performance of an effective EIA follow-up. According to Arts et al. (2001, pp 175) it refers to the ‘activities undertaken during the post-decision stages of the process to monitor, evaluate, manage and communicate the environmental outcomes that occur in order to provide for some follow-up to the EIA’.

The RD 1131/1988, in the article 11, demands only the elaboration of an environmental surveillance programme which controls the application of specific corrective measures indicated in the EIS:

‘system that guarantees the performance of the indications and preventive and corrective measures contained in the environmental impact statement’

The responsibility of post-decision control is CSA’s; although the CEA can (but this is not compulsory) carry out its own surveillance programme. Regarding the latter, it is not usually done. In fact, nearly every interviewed government official commented that they had never carried out one:

‘…we have a serious lack of personnel, so we cannot perform additional tasks. For us, everything finishes with the EID’ (National government Official #09 interviewed 24/05/2005).
Sanction System

The EIA Directive mentions nothing about enforcing compliance with environmental requirements. So, every Member State has to create its own sanction system for the enforcement of its own EIA legislation.

In the Spanish case, article 45 of the national Constitution, which deals with environmental protection, contemplates the possibility of establishing criminal and administrative sanction. Within this context, the specific EIA legislation shows a very good designed sanction system. At national level, the RD 1131/1988 on EIA has two entire articles about infractions and sanctions, where it is described (i) under what circumstances projects will be suspended (art. 28) and (ii) the possible compensations when a project would produce alterations to the environment (art 29) (at regional level the degree of detail is even more significant).

However, the enforcement of these laws and regulations are very weak:

‘the sanction system is well designed but laws are not being obeyed…I do not know any sanction connected with EIA’ (Spanish EIA association #04 interviewed 23.05.2005).

‘This is not adequate because this operates nearly never’ (Professor #03 interviewed 20.05.2005).

One surprising result from the interviews is that none of the national government officials knew the body responsible of the sanction system and how it works:

‘I do not know. Our role finishes with the preparation of the EID’ (National government official #06 interviewed 24.05.2005).
4.3.4. EIA administrative system

From an administrative point of view, the two main deficiencies identified in this research which affect the effective performance of the public institutions are delays on the preparation of the EIDs and the existence of several environmental organizations operating in the same territory.

Delays on EIDs

The majority of the interviewees stated that delays on EIDs are mainly as a result of a lack of quality of the EISs:

‘Because of the EISs are generally of bad quality, the CEA spends too much time completing them before carrying out the EIDs’ (National government official #06 interviewed 24.05.2005).

In theory, the CEA should give back the EISs to developer for correction. However, some government officials mentioned that, due to the fact that the EIS arrives after the public consultation phase is already carried out, the returns would mean delays of several months. And in order to avoid this, the CEA often corrects the deficiencies internally. Obviously, this produces fewer delays, but increases work loads.

According to the legislation, the time established for the administrative procedure in the EIA process (which is from the beginning of the public consultation until the preparation of the EID) should be between 90 and 120 days. However, this time is normally not complied with, the average being of 216,6 days, and at national level 410,5 days (Hernández 2000).
However, another interviewee mentioned this:

‘From time to time the CSA goes ahead to give the authorization before an EID is published on time’ (Regional government official #02 interviewed 18.05.2005).

Thus, even though the EIDs are prepared on time, some projects have been approved with hindsight. As was seen in the last section, the main reason is because of the way the system is designed (EIA is outside the decision-making process, becoming more corrective rather than preventive).

Perhaps, another motive for these delays is the lack of personnel. In fact, during the last few years, new legislation has been produced requiring new duties to be carried out by the public administration and the number of project subject to EIA is raised. However, the number of personnel has not increased as much as it should be (Gonzalez 1999).

The existence of several environmental public institutions with responsibilities and authorities for the EIA process

Table 2 showed the competent public administrations for EIA at national, regional, and local level. There is no a formal mechanism of coordination among them, thus affecting considerably their performance. Therefore, for example, if a project is evaluated at a national level, the Environment Ministry will be the body responsible for EIA. However, if a project is authorized by the CSA of the Madrid region, the Advisory body of Environment and Territory Planning will be the CEA. A paradox appears when, for the same type of action, for example a highway, may be assessed by the national or regional administration depending whether the highway forms part of the national or regional roads network. This involves that the criteria used may be very different for the same type of action or within the same territory (Gonzalez 1999; Gomez 2001).
4.4. Networks and linkage among organizations

This section analyses the actual coordination between the Public Administration and different types of EIA practitioners. Then it checks how much information technologies are used for information and communication exchange between them.

4.4.1. Coordination

Coordination among government officials from other institutions

Table 5 shows the coordination of the studied public bodies with other involved parties within the EIA process. Regarding the relationship among these three institutions, this is mostly through the scoping process (where they may (but not compulsory) submit a general report within 30 days without giving a reasonable technical position) and by one way of communication (telephone):

‘We ask for their opinion in the scoping process for national projects subject to EIA and affecting the territory of the Madrid region. But the communication is mainly via telephone; we meet hardly ever’ (National government official #06 interviewed 24.05.2005).

A timely question is if the consultation only through the scoping process is enough for EIA of national projects. In fact, the role of the Autonomous Communities here should be higher since they know much better the environmental conditions of their territories and the Environment Ministry only can access to this information through the EISs which, as was previously indicated, lack quality and rigor.
Table 5 Coordination of the Public Administration with involved parties

|                      | NATIONAL                                                                 | REGIONAL                                                                 | LOCAL                                                                      |
|----------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|                                                                            |
| 1. With government   | 1. Through the scoping process                                          | 1. Through the scoping process                                          | 1. Through the scoping process                                          |
| official responsible | • Formal and informal ways of communication.                             | • Formal and informal ways of communication.                             | • Via telephone                                                           |
| for EIA at different | But telephone above all                                                 | Above via telephone                                                     |                                                                            |
| levels.              |                                                                         |                                                                          |                                                                            |
| • Ways of            |                                                                         |                                                                         |                                                                            |
| Communication        |                                                                         |                                                                         |                                                                            |
| 2. With other        | 2. Above all with developers and other authorities to request information | 2. Idem                                                                  | 2. Idem                                                                    |
| involved parties     | relevant for EIA                                                        |                                                                         |                                                                            |
| • Ways of            | • Telephone, email, meetings                                            |                                                                         |                                                                            |
| communication        |                                                                         |                                                                         |                                                                            |
| 3. With general      | 3. A little; above all for big projects                                 | 3. A little.                                                             | 3. A little                                                               |
| public.              | • Meeting                                                                | • Telephone and visit hour                                               | • Telephone                                                               |
| • Ways of            |                                                                         |                                                                         |                                                                            |
| communication        |                                                                         |                                                                         |                                                                            |

Source: survey 2005

In addition, this research found out that the existing coordination is usually problematic:

‘There are very strong coordination problems, use of very different criteria, and normally there is a political conflict because every region has its own political party’ (Professor #03 interviewed 20.05.2005)

Perhaps this lack of real coordination is one of the main reasons for the existing competency problems between the State and the regions. Thus, it is
necessary to enforce the mechanism of consultation between the different environmental authorities to enhance the effectiveness of the EIA process.

**Coordination with other involved parties and the general public**

The relationship of the public institutions with other interested parties is mainly carried out with developers, CSAs and with other ministries and councils to request information relevant for the EIA process (see table 5). According to the interviewees, overall there is a good coordination between them, for example:

> ‘We normally have a good relationship with CSAs, although they still consider the environmental issue as a barrier within the project process’ (Regional government official #01 interviewed 24.05.2005)

The relationship with the general public tends to be little (See table 5). Before was indicated the public participation is mainly through a public information period within the authorisation process of projects or within the EIA process. Very few of the interviewed government officials have ever got in contact with ordinary people personally:

> ‘There is a visit hour although people normally phone for any request’ (Regional government official #01 interviewed 18.05.2005).

> ‘Through inspection department to see if there is complains, statements, etc. and sometimes through the CSA’ (Local government official #10 interviewed 27.05.2005).

**4.4.2. Information technologies**

As was previously discussed, EIA information in key organizations should be made available on internet through their own websites in order to establish a more efficient line of communication.
Results and Discussion

Figure 12 illustrates the main components that a website should have for the EIA process.

![Proposed framework for EIA network](image)


As this diagram shows, the information components that could be made available on an internet site are varied and diverse: key individuals and organizations involved in EIA management, research, training and consulting, copies of EIA legislation, policies and guidelines, etc.

This research has explored the websites of the studied public administrations and the Spanish EIA association one in order to a) investigate their utility by comparing with this diagram (figure 12) and b) corroborate the perceptions of the interviewees.

Firstly, the Environment Ministry website, [www.mma.es](http://www.mma.es), is not a good way for the information exchange in the EIA process; the department responsible for the EIA process (General Subdirection of Environmental Assessment) does not have its own webpage and the quantity of information regarding EIA which can be found is considerably limited: the EIA legislation and the procedure for a DIA. All interviewed people agreed on this:
'This website is not useful at all…I think that even it does not mention the EIA processes’ (National government official #06 interviewed 24.05.2005).

Secondly, the access to the Environmental Advisory Body of the Community of Madrid has not its own website. In fact, there is a website for the entire region. The website is www.madrid.org/comun/medioAmbiente. Here, there is a page connected with the EIA process, indicating the responsible organism at a regional level (General Direction of Environmental Quality and Assessment), the address, the contact telephone and fax, visit hour, competences, documentation necessary for EIA, legislation, etc. However, this information is very general. Nothing is mentioned about, for example, people and organizations, active EIAs, EIA products and services, baseline data sources, etc.

‘Only for information elements: you can see how the different processes are, if an area is protected or not… but there are very general things’ (Regional government official #02 interviewed 18.05.2005).

The same situation is found at a local level; there is a local website, www.munimadrid.es, where it is possible to access to environmental services. Nevertheless, the level of EIA information is very low; it consists of only one page about EIA legislation and the documentation necessary to carry out an environmental assessment of activities.

Thus, there is no doubt that the EIA public administration should exploit better the potential that internet offers for this purpose.

However, this deficiency can be overcome by the existence of the Spanish EIA association website, since it supposes a useful way for the information exchange regarding EIA. On the one hand, it offers access to people involved into the EIA process: international EIA associations and organizations, public institutions, NGOs, etc. On the other hand, it announces conferences, courses
and seminars, publications and documentations, EIA legislation, guidelines, active and recent EISs and EIDs, etc.

Unfortunately, this website is used infrequently. Figure 13 shows the percentage of interviewees who has ever visited this website.

Figure 13: % interviewees visiting the Spanish EIA association

Source: Survey 2005

67% of interviewees have never visited this website. Those answering yes visited it very little and consider it is not useful for the EIA process:

‘I visited this website once and, honestly, I think that there is not anything really useful’ (Local government official #10 interviewed 26/05/2005).

The Spanish EIA association stated that a great amount of effort is being spent to give publicity to this website but not too many results are being obtained. Maybe, the key is the lack of awareness at individual level about the potential benefits that internet can offer for the EIA process.
4.5. Organization and their management

In this section, how organizational deficiencies within the public institutions may influence the effectiveness of the EIA process is analysed. In particular, it is focused on structural, managerial and procedural limitations.

4.5.1. Structural and managerial shortcomings

Figures 14, 15 and 16 depict the organizational structure of the studied institutions. Firstly, at national level (Figure 14) there are 42 people working within the General Sub-direction of Environmental Assessment, of which 15 are administrative officers. There are five technical groups composed of four, five people and each group is specialized in EIAs for specific projects such as airports, roads, wind farms, etc. Five technical advisers check the work of these technicians, and there is also a legal adviser. Secondly, at regional level (Figure 15) there are 12 technicians and four administrative officers within the Environmental Assessment Service (although there are still positions to cover according to government official #02 interviewed 18/05/2005). This is divided into 3 sections, two of them dedicated to EIAs and, as at the national level, each section specializes in EIAs for specific projects and activities. Finally, there are only three people responsible for all the EA processes at local level (Figure 16) which means an average of 200 EAs dealt with per person annually. The position of head of department is not covered and the own technicians have to perform the function of the section head.

The main similarity among the three levels is that each technician is in charge of the entire EIA process for a particular project, from the scoping stage until the preparation of its corresponding EID.
Figure 14: organizational structure a national level

Environment Ministry
- General Secretary for the prevention of the contamination and climate change
- General Direction of quality and environmental assessment
  - General Sub-direction of environmental assessment
    - Subdirector
      - Technical adviser (5)
      - Legal adviser (1)
      - 5 Technician groups (4-5)
      - Administrative officer (15)

Source: Survey 2005

Figure 15: organizational structure a regional level

Advisory body of Environment and Territorial Planning of the Madrid region
- General Direction of quality and environmental assessment
  - Environmental assessment service
    - Head of service
      - Section 1: EIA 1
        - Head of section (1)
          - Technicians
      - Section 2: EIA 2
        - Head of section (1)
          - Technicians
      - Section 3: integrated environmental assessment
        - Head of section (1)
          - Technicians
          - Administrative officer (4)

Source: Survey 2005
A first sight it seems that responsibilities are well defined within each administration. This helps to work in an efficient way. However, this survey found out that in spite of this clear distribution of duties, there is a lack of coordination and communication among the personnel (This occurs above all at national and regional level since the coordination within the EA department at local level is easy since we are only three technicians):

‘Here we don’t have common criteria. Each group has its own criteria and, consequently, a different opinion of the other groups. For example, criteria to the noise assessment of a road passing through different regions, where the legislation noise is different in each region; which legislation do we have to consider? The most restricted one? Or differently depending on the region? (National government official #06 interviewed 24.05.2005).

Thus, the resultant fragmentation of responsibilities that the EIA process makes implicit may provoke the development of conflicting, or even opposite
outcomes in the decision-making process within the same organization. This results from a lack of formal mechanism coordinating personnel and unifying the criteria necessary for coherent and common results.

4.5.2. Procedural issues shortcomings

As was previously discussed, the Spanish EIA legislation presents some deficiencies which limit, to some degree, the performance of the procedures essentials for an effective EIA process. For example, the control of the quality of the EIA process is not mandatory or the required EIA follow-up is incomplete. In addition, it was seen that other procedures are well defined in the legislation but that their applications are not successful due to several reasons. This is the case of the public involvement and enforcement procedures.

On the other hand, it was pointed out also that the administrative procedures act also as a barrier for a good EIA performance. For example, the differentiation between CSA and CEA forces environmental authorities to be outside the decision-making process, actually being more corrective rather than preventive.

This section clearly shows how the organization of the public administration affects its performance and, consequently, the correct development of the EIA process. In addition, how this organization is affected by upper levels of capacity (such as the enabling environment or the institutional context) was proven; in fact, deficiencies at these (higher) levels influence considerably on the performance of institutions.

However, there is no doubt as well that part of the success of an organization is due to the people who work inside. According to World Bank (1999), human resources are often the most critical element within an organization. The next section discusses this capacity level.
4.6. Human Resources

It was previously indicated that CD is normally focused on training without giving adequate attention to other aspects implicit in the concept of human resources, such as support in the form of equipments and means or compensation measures. This section analyses all these issues within the studied public institutions.

4.6.1. Education and training

In order to find out the actual individual capacity of the government officials, the type of education and training carried out by them were analysed.

As Figure 17 illustrates, half of the interviewees have achieved an MSc degree on EIA, 25% learned this subject through the public competitive exam, and the 25% remaining has never received EIA education.

![Figure 17 Education in EIA. Source: Survey 2005](image)

In addition, to those with an EIA education (75%), it was asked for the content of the course in order to see its quality (See Figure 18). The 50% received only theoretical lessons, the 33%, a mix of theory and practice, and only a 17% had practical experience in a consultancy for one year.

So it is possible to say that the percent of interviewed government officials educated in EIA is high (75%), although the quality of some courses could be questioned, since half of this 75% attended only theoretical lessons.

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12 Public competitive exam: it is a required exam to access to a position of government official
The professor and the Spanish EIA association representative were asked for their perception about the level of preparation in EIA within the public administration. Both of them agreed that individual qualification were of sufficient quality:

‘They are prepared. And it is getting better since EIA is taught at universities; there are more than 20 faculties instructing in EIA (Professor #03 interviewed 20.05.2005).

‘I think that they are prepared. What does not work is the administrative procedure, which complicates the official works’ (Spanish EIA association #04 interviewed 23.05.2005).

Continual training

Another aspect to be considered is the necessity of continual training in order to meet the new requirements from international law and policy (UNEP 2002a). Surprisingly, the 87% of interviewees have never had EIA training organized by the public administration (See Figure 19). Only one person received such training but for a very important reason: as a result of the transposition of the Directive 85/337/EC on EIA to the Spanish legislation:
’At the beginning (1986)\textsuperscript{13}, there were a lot of courses… I attended eight courses, and it was in that moment where I was formed for this job’ (National government official #08 interviewed 24.05.2005).

Figure 19 Training in EIA. Source: Survey 2005

The professor interviewed for this research was the person responsible for the EIA training when the EIA Directive was promulgated. He designed 17 different courses for every region and other courses addressed to officials from different ministries such as agriculture, industry, etc.

‘… These courses had four parts: conceptual frame, legislative frame, methodology and case studies’ (Professor #03 interviewed 20.05.2005)

It seems in that period there was an effort in preparing people for the EIA process. However, this formation period did not last long. It is necessary that competent authorities are conscious of the importance of carrying out regular training, in order to achieve synergy with international best practice and strengthen EIA efficiency.

\textsuperscript{2} In that year, 1986, Spain became a Member State of the European Union, a year after of the promulgation of the EIA Directive.
4.6.2. Equipments and means

In order to help personnel to perform its work in an efficient way, a good set of equipments and means must be available for everybody (UNEP 1996). Table 6 shows the type and quantity of equipments and means available for the government officials.

Table 6: equipments and means

<table>
<thead>
<tr>
<th>LEVEL OF PUBLIC ADMINISTRATION</th>
<th>National</th>
<th>Regional</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library with EA reports</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Database of EIA information</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Production of guidelines</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Good practice collection</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>EA newsletter</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Source: Survey 2005

The results obtained at national level were quite surprising because they do not have a library with EA reports and a database of relevant EIA information. In addition, when the question regarding the existence of an EIA library was asked, their answers were different; some of them said yes and others, no.

In order to find out the truth, a visit to the Ministry library was carried out and EA reports were no found. And because nobody could tell me if there was a place assigned for this, it was presumed that this does not exist.

The database of EIA information available is very limited, only with administrative information, although it seems they are working on it:

‘We have a very limited database. However, we are currently working to improve it’ (National government official #08 interviewed 24.05.2005).
At regional level, they have a library and a database with EIA information. And a local level, they do not have a library.

Regarding the production of guidelines, it was mentioned in another section that there are only five. In addition, the EC guidelines are not being used.

An individual level, people tends to collect EIS good practice and use them as references for other studies.

Finally, none of the administration published an EA newsletter. This result could be expected at regional and local level, but not a national level.

4.6.3. Others

Another aspect relating with human resources is the compensation that workers may receive by means of adequate salaries, incentives and carrier paths.

This survey found out that these measures are theoretically available but that in practice it works only at national level. They can receive a compensation called ‘productivity’, which means more money i) by working extra hours and/or ii) by the level of individual performance (analysis of productive effort).

However, and as World Bank (1999) points out, human resources are affected by shortages of qualified personnel and/or deficiencies in the management of the personnel available. These two aspects have been analysed already in other sections. This demonstrates once again the strong connection among the different capacity levels.
4.7. Summary

In general terms, the application of the conceptual framework has been a useful method to assess the Spanish public institutions capabilities regarding EIA. The main weaknesses from the different capacity levels acting as barriers for a more efficient performance of these institutions were identified and discussed. The next chapter will provide initiatives for strengthening its capabilities by taking into account the identified deficiencies.
Chapter Five – Enhancing capabilities

5.1. Introduction

The issues raised in the previous chapter indicate clearly that the performance of the Spanish public institutions responsible for EIA is weakened by several deficiencies. Figure 20 represents the applied framework with a summary of the main constraints analysed. In addition, it stresses the differentiation between external and internal limitations regarding such institutions.

Figure 20: external and internal constraints to the public institutions responsible for EIA

This chapter suggests some external and internal initiatives for enhancing the capacity of the public institutions.
5.2. Overcoming external weaknesses

There is not doubt that producing external changes is difficult to achieve and they take considerable time. However, it is necessary to address some deficiencies at these levels if an enhancement of the public institutions capabilities can be expected. The first step is to obtain a long-term political commitment to overcome the limited capacity to undertake EIA (UNEP 2002a). This necessarily entails an increase in the public funding to the EIA process (before it was mentioned that Spain has a very low environmental expenditure). The next step is to put this in practice; and a possible way is by having a governance approach to CD.

UNDP defines governance as ‘the exercise of economic, political and administrative authority to manage a country’s affairs at all levels’, and a ‘good governance’ approach to CD is one that is participatory, accountable, transparent, cost-effective and based on society’s long-term vision (UNDP 1997). Regarding CD for EIA process, it involves several aspects.

Firstly, environmental and social considerations need to be balanced against economic one within the decision-making process. For that purpose, an EIA adapted to bring a greater measure of ‘sustainability assurance’ to decision-making should be encouraged (George et al. 2001). A practical approach to get this is through integrated impact assessment, which links biophysical and socio-economic effects. However, it needs legal and practical support. A starting point would be to gain the support of policy-makers and government authorities by carrying out general awareness training of EIA, stressing the suitability of EIA as an essential sustainability management tool and the benefits entailed in its use within decision-making process.

Secondly, an authentic socialization of the EIA process should be encouraged, for example by:
- Real provision of information, which may involve details of consultants carrying out the EIS, all EIA documents and reports or reasons for main decisions.
- Diversification of the public participation methods such as advertisements, media, telephone ‘hot line’, community advisory committees, workshops, public meetings, etc (Lee and Wood 1995a).
- Opportunities for appeal against the various decisions made during the EIA process, as occurred in Western Australia and California (Wood 2003).
- Increasing the role of organizations such as the Spanish EIA association within EIA, since they may be an excellent intermediary between the competent authorities and ordinary people.

Clearly, all these measures must be implemented in a cost-effective manner, namely by taking into account the financial and time costs involved. Perhaps, the ratification of the Aarhus Convention\(^\text{14}\) will entail a boost for this aspect of the process.

Thirdly, another issue connected with governance is the legal and institutional framework for decision-making and policy formulation (UNDP 2001). With regard to the EIA Spanish system, some recommendations may be suggested.

On the one hand, Spain should remedy shortcomings in the transposition of the EIA Directive (EC 2002) and it should be expanded beyond the present minimalist translation of such Directive. This is a crucial point for the effectiveness of the Spanish EIA system. Figure 21 shows some measures requiring new legislative regulations. They are based on the analysed constraints.

\(^{14}\) Aarhus Convention is a convention on access to information, public participation in decision-making and access to Justice in environmental matters. The European Directive 2003/35/EC on EIA is a response to this Convention.
On the other hand, the coordination among the involved parties was identified as an important issue. With this regard, a clear definition of responsibilities is required. In particular, the Spanish EIA system should clarify the roles of central and regional authorities to avoid redundancies and conflicts and, consequently, enhance cost-effectiveness of the process (OECD 1997); perhaps, a formal and consistent mechanism of coordination between these authorities should be put in place. In addition, the use of information technologies should be encouraged as a mean to

Figure 21. Measures requiring a new legislative regulation

- Promotion of an adaptable approach for EIA integration within project decision-making, which is when there is a study of the environment prior to the design of a project (Gomez 2001).
- Development of practical management tools: guidelines, general manuals on EIA and sector topics. A good starting point would be to know the existing international guidelines. A useful document for that purpose, ‘a directory of impact assessment guidelines’ (Donnelly et al. 1998), is available on www.iied.org/docs/spa/dir_impassess.pdf. Also it is suggested the use of European guidance on screening, scoping, review and cumulative impacts, which is available on http://europa.eu.int/comm/environment/eia/eia-support.htm.
- Formal mechanism of coordination between EIA Directive and other European Directives.
- Introduction of a formal mechanism for the control of the quality of the EIA process, especially on the content of EISs. Two measures indispensable for this are the creation of a review system and the implementation of a completed follow-up programme. In addition, the legislation should make compulsory the preparation on an Environmental Management Plan (World Bank 1999) by developers.
- Taking real enforcement action in cases of non compliance and/or poor application of the law.

establish a better communication among all involved parties.

Finally, another initiative which should be considered is the financing of EIA research focus on the national requirements in support of the more effective EIA process.
5.3. Overcoming internal weaknesses

The last section analysed the organizational and human resources deficiencies present within the each studied environmental public institutions. This section provides some recommendations for overcoming such limitations.

Firstly, it is suggested an *increase of personnel* working for EIA. This research has proved the three organizations suffer from a lack of personnel, above all at regional and local level.

The second measure would be to *improve the management system* by the implementation of a coordination mechanism of the personnel, in order to work in a more efficient way. In addition, it is necessary for the personnel to apply the same criteria when it comes to assess the EISs for a more coherent and similar decision-making.

Another recommendation would be to provide them with *technical equipment and means* necessary to speed up the work of the government officials; for example, library with EIA reports, computerized database of EIA information, collection of good practice, etc. Furthermore, incentives should be encouraged by the motivation of the personnel.

Finally, continual *training* of the technicians is recommended in order to (i) assimilate the new legal requirements and (ii) achieve synergy with international best practice. For example, some useful training would be:

- Acquiring new tools and skills, for instance courses for EIA review and follow up.
- Advanced methods and other impact assessment tools, for instance methods of impact predictions, integrated impact assessment, social impact assessment, environmental risk assessment, etc.
Regarding the typology of training, UNEP (2002a) suggests a variety of possibilities, such as short course training, on the job training, EIA training in specific sectors (i.e. transport, energy, urban development, etc), workshops, conferences, etc. In order to make sure that the training is of good quality, it should fulfil basic requirements (See Figure 22).

Figure 22. Basic requirements for good quality training

- Use of KITS approach to promote EIA good practice, i.e. the training should impart Knowledge, Information, Tools and Skills necessary for its target audience to understand and undertake EIA to defined standards.
- Use appropriate teaching and learning approaches. These should be practical, be ‘learner-active’ and emphasize problems and conflict-solving situations.
- Use appropriate training methods, for example real-world case studies and simulation exercises, role playing situations, etc.
- Trainers should possess practical EIA experience and sound pedagogical skills.

Source: adapted from Lee et al. (1995b)

Again it is important to stress that all these measures must be implemented in a cost-effective way, as governance approach suggests.

5.4. Summary

This chapter has briefly outlined some initiatives for enhancing capabilities regarding EIA within the Public Sector. It was suggested the first step is to obtain a long-term political commitment, and the ‘governance approach’ was recommended as a way to enhance such capacities and make EIA a more sustainable tool, this latter being the final goal of EIA.
Chapter Six – Conclusion

6.1. Introduction

The objective of this study, investigating the capacity level for EIA in public institutions, was addressed by applying a conceptual framework to a Spanish case study.

The framework was used to analyse systematically the main aspects of the EIA process which constricted the effective performance of these institutions, emphasizing the importance of recognizing the problem in all its dimensions. It was particularly designed to examine five different levels of capacity within the Spanish EIA system.

6.2. Deficiencies and opportunities for EIA capabilities

Because CD must be considered in a specific context (George et al. 2001), the examination in detail of the Spanish case has facilitated the achievement of the objective of this research, to identify particular deficiencies and opportunities regarding capabilities in EIA.

Even though the Spanish EIA system is considered well-established due to its development under the European umbrella, this research has discovered numerous weaknesses which limit the capabilities of the public institutions. For example, inadequate funding of EIA, ineffective public involvement mechanism, incorrect and minimalist transposition of the European EIA legislation, lack of a real coordination among involved parties and insufficient human resources.

In addition, this research has highlighted some potential initiatives, both internal and external, for enhancing the capabilities of such institutions, analysing and suggesting a ‘governance approach’ to CD, which is one that is participatory, accountable, transparent, cost-effective and based on society’s long-term vision (UNDP 1997).
In order to reduce external weaknesses, the first step proposed was to obtain a long-term political commitment. Secondly, the use of integrated impact assessment within the decision-making process of projects was suggested and a more socialized (EIA) process was encouraged. Thirdly, some measures for the legal and institutional framework were proposed, such as the development of practical management tools, the introduction of a formal mechanism for the quality control of the EIA process, and the encouragement of the use of information technologies. Regarding internal weaknesses, the main suggestions were an increase in the personnel working for EIA, an improvement of the management system, an increase of technical support and continual training.

6.3. Recommendations for future research

With regard to the Spanish EIA case study, further research could adopt a more holistic approach. This could involve an in-depth investigation of the capacities of other public institutions taking part, direct and indirectly, of EIA process, such as diverse ministries, different Autonomous Communities, CSA, local authorities, etc. As well, other institutions (apart from the public administration) with an important role within EIA could be analysed; for example, educational organizations.

On the other hand, considering that CD is arguably beneficial to ‘everybody’ (i.e. individuals, organizations, institutions and societies), further examination of the capacity level of other involved parties in EIA would be possible, for example, developers, consultancies, stakeholders, etc. The designed framework would still be a suitable tool to assess their level of capacities because of the way it was created. This point is particularly important when it comes to establishing strategies for enhancing the effectiveness of an entire EIA system. Without doubting the essential role of the government in the development process, responsibilities should be shared among all involved parties (especially developers), particularly from an economic view point.
Another potential research line could be the assessment of capabilities at strategic level, namely SEA. Again, because the framework was designed in a way that its use may be expanded beyond its original purpose (it contains the main components that all strategies for CD of EA must consider), its application for SEA is perfectly feasible, with minor adaptation.

All these recommendations should be put in practice for the achievement of the final goal of EIA: the contribution to a more sustainable development. In addition, it is necessary to bear in mind this global concept needs a global answer by acting locally at the same time. Thus, it is strongly encouraged to assess other societies’ capabilities regarding EA, irrespective of their level of development. In fact, this study has proved that even developed countries suffer from deficiencies in their EIA systems (a way to make them ‘look at in their backyards’ would be through the application of the designed framework, since it was created for ‘fully’ established systems).

In chapter two was mentioned EIA can act like virus infecting institutions, gradually changing the way they operate (Bond 2003). But viruses need a mechanism for infection. This research has demonstrated CD could be a powerful and realistic vehicle for that purpose and, consequently, for spreading sustainability not only at institutional level but in entire EIA systems.
References


References


Environmental Assessment. Environmental Protection Agency, Canberra, Australia.


References


APPENDIX I
Semi-structured interview schedule
Interview Schedule

Interviewee
Time
Date
Recording No.

Briefing

I am interested in how the EIA system works within the Spanish Public Administration and wish to ask you a series of questions about this. The information gathered here will form an important part of my Masters thesis that I am conducting within the InteREAM Environmental Impact Assessment research team.

I would like to tape this interview, as an aide-memoire for the purpose of analysis. Your answers will be treated in the strictest confidence.

Do you agree if I tape this interview?

  o yes       o no

Warm-up

1) I would like to begin by asking you to describe me in some detail for how long have you been working with EIA. How many EISs have you been involved with? What is your specific role within the EIA process?

   • Overseeing the consultant’s work
   • Reviewing the EIA
   • Following-up on its recommendations
   • Regulating

Main part

Human Resources

2) One of the crucial elements for a successful EIA is the available human resources. Bearing this in mind, I am interested in knowing if you have ever received any training in EIA?

   o yes       o no, If No, What do you think you could have gained? Go question n.5

   If Yes:
   a) What kind of training have you done and how many?
      • Raising Awareness
• Acquiring tools and skills to improve EIA practice
• Using advanced methods and other impacts assessment tools
• Others (Please specify)

b) How often do you have to attend training?
   o never  o 1 per year  o 2 per year  o several per year

c) What forms of training?
   • Short course training
   • On the job training
   • Regular training workshop
   • Others (Please specify)

3) From your point of view, do you think that the EIA training you attended was **useful**?
   o yes  o no, If **No**, Why Not?

4)   a) Where did the trainer/s come from? Any specific academic institution?

5) Another aspect of human resource, apart from training, is the support in the form of **equipment and information**.
   a) Is there a library of EIA reports?
      o yes  o no
   b) Do you usually maintain a database of information collected during an EIA?
      o yes  o no
   c) Do you usually use general and/or specific guidelines?
      o yes  o no
   d) Do you collect examples of good practice?
      o yes  o no
   e) Do you produce an EA newsletter?
      o yes  o no

**Organization and their management**

6) Are there **specific units/departments/responsible person** to perform the key functions of the EIA process? Units for:
- EIA review (quality control)  o yes  o no
- Technical supervision  o yes  o no
- Monitoring  o yes  o no
- Regulation  o yes  o no

7) Do you think that EISs usually impact on decision-making? Why?
   o yes  o no

8) At which **stage of decision-making process** does an EIA impact?
   - Coordination among project planning, EIA and project implementation
   - Influence of the competent environmental authority within the decision-making process
   - Relationship between Competent Substantive Authority and Competent Environmental Authority

9) How much do you think that the **environment factor** is considered in the decision-making process?
   o nothing  o little  o a lot

10) The **social factor**?
    o nothing  o little  o a lot

11) And the **economic factor**?
    o nothing  o little  o a lot

12) Have your ever **controlled the quality** of a EISs and/or EIDs?
    o yes  o no

   *(Only if he/she have ever taken part of the elaboration of a public EIS). As a practitioner, have you ever used the European Union 'Guidance on EIA-EIS Review' before delivering an EIS?*

13) Regarding to **post-decision stage**, do you think that sufficient attention is paid to the environmental impacts that actually occur during the construction, operation and decommissioning of a development?
If No, What could be improved?

a) Have you ever carried out a post-decision control?

14) Do you think that there is an effective **public involvement procedure** in the Spanish EIA system?

a) Why do you think that this is like that?

15) Tell me at what degree you feel that the EIA process is transparent and accessible to **stakeholders**.

- Requiring the proponent to register all consultants
- Publishing these details and the EIA report
- Making all EIA documents and reports available to the public
- Publishing reasons for decisions (screening and final approvals)

**Networks and linkages between organizations**

16) Has you ever had to **coordinate** or get in contact with government officials responsible for EIA at national (Ministerio de Medio Ambiente, Regional (Conserjeria) or local (Ayuntamiento) level?

17) And what about the **coordination with other authorities** such as other ministeries, departments, etc?

a) Do you think that there is a good coordination between different departments within the Ministerio/Conserjeria/Ayuntamiento?

18) How is the **way to get and keep in contact** with EIA mangers, practitioners, researchers and educators?

- Telephone
- Email
- Fax
- Meetings
- Letters
- Others (Please specify)

19) Do you usually get in contact with the **general public**?
20) From your point of view, is the website of the Ministerio/Conserjeria/Ayuntamiento a useful means to exchange information?

- Information elements
- Communication elements

21) Have you ever used the website www.eia.es?

- yes
- no

a) If **Yes**, what do you think as a source of information?

**Public sector institutional context**

22) What is the body responsible for the sanction system at local/regional/national level?

- Yes
- No

a) Do you think that this sanction system is adequate to promote compliance with environmental requirements?

- Yes
- No

- Why?

23) Is there any kind of incentive for compliance?

- Yes
- No

26) To Local and regional authorities: Does the local/regional authority enforce compliance for large, government-owned projects?

- Yes
- No

27) Have you ever been involved in an EIA need to comply with a sectoral legislation such as EC Directive 92/43 on ‘Habitats’, Law 15/1985 on Water, etc?

- Yes
- No

a) If **Yes**, are there specific EIA guidelines and/or procedures for this sectoral legislation?

- Yes
- No
28) Have you ever had to use the Law 16/2002 on Integrated Pollution Control? For which kind of projects?
   o yes  o no
   a) Is there any method of coordination between the EIA legislation (LRD 1302/1986 on EIA at National level, Law 2/2002 on EIA at Regional level and local level) and the Law 16/2002 on Integrated Pollution Control?
      o yes  o no

The Enabling Environment

29) Do you think that the Ministerio/Conserjeria/Ayuntamiento receive sufficient funding for the EIA process and for follow-up functions?
   o yes  o no

30) Do you believe that EIA is related enough to the entire project cycle? Why?
   o yes  o no

31) Are there generally delays of the results of EISs and EIDs when it comes to decision-makings? Why?
   o yes  o no

32) Have you ever carried out and/or control an integrated impact assessment (It involves linking biophysical and socio-economic effects by complementing EIA with SIA and HIA)?
   o yes  o no

33) Finally, what do you think is the purpose of an EIA?
   - Impact on decision-making
   - Reduce the impact of the environment
   - Means for commitment regarding the protection of the environment
   - Saving costs of a project
   - Preventive tool
   - Control tool
   - Instrument to move towards Sustainable Development

I have no further questions; do you have anything that you want to bring up before we finish this interview?

Debriefing
Would it be possible to get back to you by telephone if I would like to clarify an aspect of the interview in the course of my further analysis? Or quoted?

Tel.: 
Thank you
APPENDIX II
Categories from the framework for data analysis
1. ENABLING ENVIRONMENT

1.1. Economic Issues
   1.1.1. Funding for the EIA process
   1.1.2. Way of use of resource available

1.2. Political Issues
   1.2.1. Commitment to a clear national policy
   1.2.2. Integration of the environment factor within decision-making process. Impact of EIA on decision-making
   1.2.3. Consideration of environment/social/economic factors on decision-making process
   1.2.4. Delay of EIS when it comes to decision-making
   1.2.5. Relation/Integration EIA to the entire project cycle
   1.2.6. Effective public involvement

1.3. Cultural Issues
   1.3.1. Level of commitment regarding the protection of the environment
   1.3.2. Concept of Environment (consideration of the social and economic aspects as well). Use of Integrated Impact Assessment
   1.3.3. Attitudes and values

2. PUBLIC SECTOR INSTITUTIONAL CONTEXT

2.1. Main administrative body for EIA (Diagram)
   2.1.1. Clear definition of EIA management responsibilities
   2.1.2. Specialized EIA body independent of the Competent Authority

2.2. Review body for EIA

2.3. Enabling and detailed legislation
   2.4.1. Regulations to implement particular laws (Environment quality standards, EIA review, community involvement, formal method of integration of IPPC regulation…)
   2.4.2. Sectoral legislation on EIA
   2.4.3. General and specific guidelines and procedures

2.4. Enforcing compliance with legislation. Sanction system

3. NETWORKS AND LINKAGES BETWEEN ORGANIZATIONS

3.1. Coordination. Institutional arrangement and lines of communication
   3.1.1. Among government officials responsible for EIA at national, regional and local level
   3.1.2. Among other authorities, EIA managers, practitioners, researchers and educators.
   3.1.3. With general public

3.2. Information technologies
   3.2.1. Environment Ministry web site (National level)
   3.2.2. Environment Adviser body web site (Regional level)
   3.2.3. Environment government of the city of Madrid (Local level)
4. ORGANIZATION AND THEIR MANAGEMENT (DIAGRAM)

4.1. Specific units to perform the key functions of EIA
   4.2.1. EIA review body
   4.2.2. Technical supervision
   4.2.3. Monitoring and sanction body
   4.2.4. Regulation

4.2. Clear definition of responsibilities for key functions with an effective mechanism to coordinate them

4.3. Facility in getting and providing information for an efficient EIA process

4.4. Control of quality of the EISs

4.5. Post-decision stage. EIA follow-up programme

4.6. Public involvement procedure

4.7. Enforcement procedure

4.8. Strengthening EIA procedure for complex projects

4.9. Simplifying EIA procedure for simple projects

5. HUMAN RESOURCES

5.1. Awareness, education and training
   5.1.1. Target groups and type of training
   5.1.2. Continual training. Resource for training
   5.1.3. Quality of EIA training: trainers, methods, aids and teaching and learning approaches

5.2. Support human resources in the form of equipment and means
   5.2.1. Library of EIA reports
   5.2.2. Database of EIA information
   5.2.3. Production of guidelines
   5.2.4. Collection of good practice example
   5.2.5. Production of EA newsletter

5.3. Others
   5.3.1. Adequate number of government officials
   5.3.2. Managerial capacity: good coordination, effective use of resources, etc
   5.3.3. Compensation by adequate salaries, incentive and carrier paths
APPENDIX III
Summary of the results of interviews
<table>
<thead>
<tr>
<th>Section</th>
<th>National level</th>
<th>Regional level</th>
<th>Local level</th>
<th>Spa EIA association</th>
<th>Professor (of projects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Enabling Environment</td>
<td>1.1. No - 'Env. Ministry receives few funds by comparing other Ministries'</td>
<td>1.1. No - Lack of personal and equipment</td>
<td>1.1. No - only 3 people</td>
<td>1.1. No - 'But they could use better the resource available'</td>
<td>1.2.1. 'No, because a lot of project approved with hindsight'</td>
</tr>
<tr>
<td>1.1. Enough funds?</td>
<td>1.2.1. Normally yes</td>
<td>1.2.1. Depends on projects. little/nothing/a lot</td>
<td>1.2.1. No</td>
<td>1.2.1. Depends on project. - 'Lack of environmental awareness in the politic world'</td>
<td></td>
</tr>
<tr>
<td>1.2. Political issues</td>
<td>1.2.2. Enough/Nothing or little/ a lot</td>
<td>1.2.2. little/nothing/a lot</td>
<td>1.2.2. a little/nothing/a lot</td>
<td>1.2.2. a little/a lot/ less and less</td>
<td></td>
</tr>
<tr>
<td>1.2.1. Impact EIA on decision-making?</td>
<td>1.2.3. Sometimes</td>
<td>1.2.3. Sometimes</td>
<td>1.2.3. Sometimes</td>
<td>1.2.3. no applicable</td>
<td></td>
</tr>
<tr>
<td>1.2.2. Env/Soc/Eco factors on decision-making?</td>
<td></td>
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<td>1.2.3. Delays on EIDs?</td>
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<td>1.3. Cultural issues</td>
<td>1.3. No</td>
<td>1.3.1. No</td>
<td>1.3.1. No</td>
<td>1.3.1. No</td>
<td></td>
</tr>
<tr>
<td>1.3.1. Integrated Impact Assessment?</td>
<td>1.3.2. Impact on decision-making</td>
<td>1.3.2. Impact on decision-making and decrease of env impacts of projects</td>
<td>1.3.2. Preventive tool</td>
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<tr>
<td>1.3.2. Purpose of EIA</td>
<td></td>
<td></td>
<td></td>
<td>'But this is an utopia. Need for SEA'</td>
<td></td>
</tr>
<tr>
<td>2. Public sector institutional context</td>
<td>2.1.</td>
<td>2.1. only taking into account of it when the redaction of DIA.</td>
<td>2.1. only taking into account but not inside of EIA process</td>
<td>2.1. only taking into account but not inside of EIA process</td>
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</tr>
<tr>
<td>2.1. Enabling and detailed legislation</td>
<td></td>
<td>2.3.2. No</td>
<td></td>
<td>2.3.2. No</td>
<td></td>
</tr>
<tr>
<td>2.3.1. Use of IPPC regulation within EIA process?</td>
<td>2.3.2. Yes - 'there are only 5 guidelines for 5 different typology of project: roads, airports, dams, deforestation, wind farms'</td>
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<tr>
<td>2.3.2. Use of general and specific guidelines for EIA?</td>
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<td>2.2. Sanction system</td>
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<td>2.2.1. Only they take into account but not inside of EIA process</td>
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<tr>
<td>2.2.2. Yes</td>
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<tr>
<td>2.2.3. No</td>
<td></td>
<td></td>
<td></td>
<td>'In public projects as well'</td>
<td>1.2.3. no applicable</td>
</tr>
<tr>
<td>2.4.1. Organism responsible?</td>
<td>2.4.1. They don’t know. 2.4.2. -----</td>
<td>2.4.1. Environment promotion and discipline service 2.4.2. yes 2.4.3. No. 2.4.4. Yes but it is not obliged</td>
<td>2.4.1. No applicable 2.4.2. – the system is well designed but there is not a laws performance. 2.4.3. ---- - 2.4.4. -----</td>
<td>2.4.1. No applicable 2.4.2. - ‘No because this does not operate almost never’ 2.4.3. ----- 2.4.4. -----</td>
<td></td>
</tr>
<tr>
<td>2.4.2. Adequate?</td>
<td>2.4.3. tax exemptions for example’</td>
<td>2.4.2. yes 2.4.3. No. 2.4.4. No</td>
<td>2.4.2. yes 2.4.3. No. 2.4.4. No</td>
<td>2.4.2. Yes 2.4.3. No. 2.4.4. No</td>
<td></td>
</tr>
<tr>
<td>2.4.3. Incentives for complying with legislation?</td>
<td>2.4.4. It is not obliged for them</td>
<td></td>
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<tr>
<td>2.4.4. Regional organism has to control national projects?</td>
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</tbody>
</table>

| 3. Networks and linkages between organizations | 3.1. Coordination. | 3.1.1. With other government officials responsible for EIA at national, reg and local level? Ways of communication 3.1.2. Other authorities, practitioners, educators,etc? ways of Comunication 3.1.3. With the general public? Ways of communication | 3.1.1. Yes - ‘to consult about a national projects when it affects on its territory’ 3.1.2 Yes 3.1.3. A little. Meeting | 3.1.1. Yes, to the organization of conferences and events Telephone + meetings 3.1.2 Yes, as members of the association 3.1.3. No |
| | | 3.2. Information technologies 3.2.1. Useful Env. Ministry website? 3.2.2. Useful Env. Advisory body web site? 3.2.3. Council website? 3.2.4. Ever used the Spanish EIA association? Useful? | 3.2.1. No 3.2.2. ----- 3.2.3. ----- 3.2.4. No | 3.2.1. No 3.2.2. No 3.2.3. No 3.2.4. Very little | 3.2.1. No 3.2.2. No 3.2.3. No 3.2.4. No |
| | | | 3.2.1. ‘I can’t say to you if the government officials use it’ | 3.2.1. ‘I can’t say to you if the government officials use it’ |
| 3.2.1. Control of the quality of EISs? 3.2.2. Considerable attention of impacts after projects approval? 3.2.3. Ever carried out surveillance (vigilance) | 3.2.4. Very little | 3.2.1. Yes - ‘collaboration of a project’ -Telephone 3.2.2. No 3.2.3. No 3.2.4. Very little | 3.2.1. Yes - ‘collaboration of a project’ -Telephone 3.2.2. No 3.2.3. No 3.2.4. Very little | 3.2.1. Yes - ‘collaboration of a project’ -Telephone 3.2.2. No 3.2.3. No 3.2.4. Very little |

| 4. Organization and their management | 4.1. Control of the quality of EISs? 4.2. Post-decision stage 4.2.1. EIA follow up programme? 4.2.2. Considerable attention of impacts after projects approval? 4.2.3. Ever carried out surveillance (vigilance) | 4.1. No 4.2. 4.2.1. Vigilance programme. 4.2.2. ‘Technically yes since this is into the EID but we don’t control it. 4.2.3. ‘No, even we could do it according to the law. | 4.1. ‘Yes when I was consulter. But without using guidelines’ 4.2. 4.2.1.----- | 4.1. ‘Yes when But without using guidelines’ 4.2. 4.2.1.----- |
| | | 4.1. No 4.2. 4.2.1.----- | 4.1. No 4.2. 4.2.1.----- | 4.1. No 4.2. 4.2.1.----- |
| 4.1. Post-decision stage | 4.2.1. EIA follow up programme? 4.2.2. Considerable attention of impacts after projects approval? 4.2.3. Ever carried out surveillance (vigilance) | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ |
| 4.2. Post-decision stage | 4.2.1. EIA follow up programme? 4.2.2. Considerable attention of impacts after projects approval? 4.2.3. Ever carried out surveillance (vigilance) | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ |

| 4.2. Post-decision stage | 4.2.1. EIA follow up programme? 4.2.2. Considerable attention of impacts after projects approval? 4.2.3. Ever carried out surveillance (vigilance) | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ |
| | | | | |

| 4.2. Post-decision stage | 4.2.1. EIA follow up programme? 4.2.2. Considerable attention of impacts after projects approval? 4.2.3. Ever carried out surveillance (vigilance) | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ |
| | | | | |

| 4.2. Post-decision stage | 4.2.1. EIA follow up programme? 4.2.2. Considerable attention of impacts after projects approval? 4.2.3. Ever carried out surveillance (vigilance) | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ | 4.2. 4.2.1.------ |
| | | | | |
| 4.3. Public involvement procedure effective? | No | - ‘Only in two stages: scoping and public information period’ | 4.3. No | - ‘General people cannot access to NOB easily and it has a very technical writing’ | 4.3. No | - ‘There is a lack of publicity on it. People does not know about this’ | 4.3. No | - Only the public sector participate in the scoping process. Although the rest (organizations, private firms, etc) are invited, they don’t participate |
| 5. Human resources | 5.1. Awareness, education and training | 5.1.1. Master Degree, short courses, competitive examination and learning ad hoc within work place | 5.1.2. No | - ‘We receive other courses but not regarding EIA’ | 5.1.3. Above all theory and practice | 5.1.2. No | - ‘personally I attend conferences, events, etc but the council don’t promote EIA courses’ |  | - Generally speaking, government officials have qualified. What it wrongs is the administrative system.’ |
| | |  | 5.1.3. Theory + Practice |  |  | 5.1.2. No | - he council don’t promote EIA courses’ | 5.1.2. No | - ‘personally I attend conferences, events, etc but the council don’t promote EIA courses’ |
| | |  | 5.2.  | 5.2.1. Some of them say yes and others, no | 5.2.2. ‘Only with administrative data. We are working on this’ | 5.2.2. Yes, ‘but we need more room’ | 5.2.2. Yes | - ‘think that they have enough equipment. It is not enough and efficiently exploited’ |
| | |  |  | 5.2.3. Only at the beginning and the Spanish guideline. | 5.2.4. Yes | 5.2.4. Yes, also the very bad ones’ | 5.2.4. Yes | - ‘think that they have enough equipment. It is not enough and efficiently exploited’ |
| | |  | 5.3.  | 5.3.1. No | 5.3.2. ‘There is a lack of coordination between different groups because of the use of different criteria’ | 5.3.2. Generally yes | 5.3.2. Yes | - ‘think that they are not enough coordinated even within every group because you can get different answers from the coordinator and technicians.’ |
| | |  |  | 5.3.3. Yes |  | 5.3.3. No | 5.3.3. No |  | - ‘although I consider that their level of work is not as high as there is in the private sector’ |
| | | 5.2. Equipment and means | 5.2.1. Library? |  |  | 5.2.1. No |  |  | - ‘The government officials are more and more capacitated. |
| | |  | 5.2.2. Database? |  |  | 5.2.2. Yes |  |  | - ‘They have a very good equipment and means. And it is very difficult to access to them to EIA practitioners’ |
| | |  | 5.2.3. Guidelines? |  |  | 5.2.3. No |  |  |  | - ‘The government officials are more and more capacitated. |
| | |  | 5.2.4. Collection good practices? |  |  | 5.2.4. Yes |  |  | - ‘They have a very good equipment and means. And it is very difficult to access to them to EIA practitioners’ |
| | |  | 5.2.5. EA Newsletter? |  |  | 5.2.5. No |  |  |  | - ‘The government officials are more and more capacitated. |
| | | 5.3. Others | 5.3.1. Adequate number personal? | No |  | 5.3.1. No |  |  |  | - ‘The government officials are more and more capacitated. |
| | |  | 5.3.2. Managerial capacity? | No |  | 5.3.2. No |  |  |  | - ‘They have a very good equipment and means. And it is very difficult to access to them to EIA practitioners’ |
| | |  | 5.3.3. Any type of compensation measures? | No |  | 5.3.3. No |  |  |  | - ‘The government officials are more and more capacitated. |