

ENVIRONMENTAL IMPACT ASSESSMENT LAW AND PRACTICE:  
THE EU AND TURKEY

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## **ABSTRACT**

### **ENVIRONMENTAL IMPACT ASSESSMENT LAW AND PRACTICE: THE EU AND TURKEY**

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Since its introduction, Environmental Impact Assessment (EIA) has become an important tool for planning, environmental management, environmental decision making and environmental preservation in European Union (EU) and in Turkey as well. This thesis provides an overview of the EU's and Turkey's EIA law and practice by discussing current transposition and implementation problems. After discussing socio-economic and cultural reasons which played significant role in transposition and practical application problems in the EU and in Turkey, the thesis lays down measures and mechanisms to improve the effective implementation of the EIA legislation both in Turkey and in the EU.

Keywords: European Union, Turkey, Environmental Impact Assessment

## ÖZ

### ÇEVRESEL ETKİ DEĞERLENDİRMESİ HUKUKU VE UYGULAMASI: AVRUPA BİRLİĞİ VE TÜRKİYE

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Ortaya çıktığı tarihten bu yana Çevresel Etki Değerlendirmesi (ÇED), Avrupa Birliği ve Türkiye’de planlama, çevresel yönetim, çevresel karar alma ve çevre koruma süreçlerinin önemli bir aracı haline gelmiştir. Bu tez çalışması, Avrupa Birliği ve Türkiye’deki ÇED hukuku ve uygulamasını mevcut sorunları da inceleyerek ortaya koymaktadır. Avrupa Birliği ve Türkiye’deki ÇED uygulamalarındaki sorunların ortaya çıkışında önemli rol oynayan sosyo-ekonomik ve kültürel nedenlerin incelenmesinin ardından, ÇED uygulamalarında verimliliğin artırılmasına yardımcı olacak önlem ve önerilere yer verilmiştir.

Anahtar kelimeler: Avrupa Birliği, Türkiye, Çevresel Etki Değerlendirmesi

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## **LIST OF ABBREVIATIONS**

|        |                                                                                    |
|--------|------------------------------------------------------------------------------------|
| EAP    | Environmental Action Programme                                                     |
| EEC    | European Economic Community                                                        |
| EC     | European Community                                                                 |
| EIA    | Environmental Impact Assessment                                                    |
| EIS    | Environmental Impact Statement                                                     |
| EMAS   | The European Eco-Management and Audit Scheme                                       |
| EMP    | Environmental Management Plan                                                      |
| EU     | European Union                                                                     |
| EU-27  | Twenty Seven Member States of the European Union                                   |
| GIS    | Geographical Information System                                                    |
| IAIA   | International Association for Impact Assessment                                    |
| IMPEL  | European Union Network for the Implementation and Enforcement of Environmental Law |
| NEPA   | National Environmental Policy Act                                                  |
| OJ     | Official Journal of the European Union                                             |
| SEA    | Strategic Environmental Assessment                                                 |
| TEIEN  | Turkish Environmental Information Exchange Network                                 |
| UN     | United Nations                                                                     |
| UNECE  | United Nations Economic Commission for Europe                                      |
| UNEP   | United Nations Environment Program                                                 |
| UNFCCC | United Nations Framework Convention on Climate Change                              |

## **CHAPTER 1**

### **INTRODUCTION**

World has started to witness an unprecedented economic development and environmental degradation after the Second World War. Mass housing projects, new jobs, emerging industries and technological advancements caused serious environmental degradation especially in Europe and the United States. During the second half of the 1960s, public awareness about growing environmental problems began to rise. In 1972, Club of Rome, a group of people comprised of businessman, scientists and politicians, carried out a research with the researchers from Massachusetts Institute of Technology. This study showed that, with present (1972) rates of consumption of resources, the limits to growth on the earth would be reached within one hundred years (Club of Rome website, March 2013). However, findings of the study revealed that it was possible to change the present situation through establishing a balance between economic growth and environmental preservation.

As a result of growing interest and awareness, new pieces of legislation that aimed to balance the relationship between environment and development were started to be introduced both in the United States and Europe. Environmental Impact Assessment (EIA) was one of the most important examples to newly emerging legislation that aimed to preserve this balance. It was first introduced in United States in 1969 through National Environment Policy Act (NEPA) and considered to be a very significant and unprecedented measure in environmental law and policy. It introduced a national policy on the preservation and restoration of environmental quality and aimed to establish a system in which federal government agencies take environmental impacts into account during decision making process. NEPA required all federal government agencies to make an analysis and evaluation of all the environmental effects of their programmes. In addition to this, NEPA introduced

obligations for federal agencies to review their procedures for compliance with the provisions of NEPA and take necessary measures to ensure adherence.

Framework and principles of NEPA have influenced numerous countries and international organizations to formulate their own EIA systems. NEPA has also constituted an important model for EIA policy of European Union (EU). In 1970s, public concern over environmental degradation was growing across the Europe. European Commission stated that too much economic activity has taken place without using environmentally-friendly technology and that the impacts of these activities on environment should be taken into account during planning and decision making (Wood, 2003, p.35). Hence, Commission started working on introduction of a uniform EIA system for all Member States. Such a system was desired for two reasons. Firstly, a uniform EIA would introduce measures to limit environmental degradation and foster environmental protection in all Member States. Secondly, this uniform system would prevent distortion of competition in cases where one Member State could gain unfair advantage by allowing projects that will harm the environment of another Member State (Glasson et al., 2005, p.40). Thus, after lengthy discussions on various draft proposals, the EIA Directive (Directive 85/337/EEC) was adopted in 1985.

EIA introduced by the European Commission is a process which aims to enable high level of environmental protection as well as integration of environmental considerations into preparation of developmental projects. Upon its adoption, the EIA Directive provided a flexible framework for Member States. The Directive laid out a general framework and left the details to be specified by Member States. Mainly, the Directive necessitated certain group of public and private projects to be assessed to determine their significant impacts on environment before the approval of the projects.

Apart from assessment procedure and steps that should be followed during an EIA process, the Directive included provisions on public participation which is

considered to be a very important pillar of the EIA process. Public participation was officially recognized and incorporated into the European Union's legislation with EU's Directive 85/337/EEC, Directive 90/313/EEC, the Strategic Environmental Assessment Directive, Directive 2003/35/EC; and United Nations Economic Commission for Europe's (UNECE) Espoo Convention, Protocol on Strategic Environmental Assessment, Aarhus Convention.

Aarhus Convention, otherwise known as the UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, is an international environmental treaty which was signed on June 1998 by more than thirty five European and Central Asian countries. The United Nations Economic Commission for Europe, a United Nations (UN) organization which aims to achieve economic integration and cooperation among its members, organized the Aarhus Convention with the contributions of numerous environmental agencies and non-governmental organizations. This Convention played significant role in introducing broad and democratic principles with regard to public participation in environmental decision making and access to environmental information. Aarhus Convention constituted an important step towards democracy since it underlined the importance of transparency, availability and accessibility of information regarding decisions made on environmental matters. After the EU became a Party to the Convention, the Public Participation Directive (Directive 2003/35/EC) was introduced to ensure compliance with the Aarhus Convention.

Another important UNECE treaty which introduced important principles that strengthen the EIA framework was the Convention on Environmental Impact Assessment in a Transboundary Context (otherwise known as the Espoo Convention). The EIA Directive had a significant influence on the work of UNECE in the development of the Espoo Convention (Marsden, 2008, p.74). The Convention cuts across environmental problems and tries to address wide variety of environmental problems so long as the effects of those problems have an impact on a state outside the source state (Craik, 2008, p.102). The Espoo Convention urges its

signatories to consult each other on all significant projects which are likely to have important adverse transboundary impacts on other states. The Convention was signed in 1991 by the European Union along other countries and it entered into force in 1997. Initially, development of the Espoo Convention was influenced by the EIA Directive. Upon its introduction, Espoo Convention played an influential role in strengthening the procedural base of the EIA Directive. After becoming a Party to the Convention, EU has introduced Directive 97/11/EC (amendment to the EC Directive 85/337) to incorporate the provisions of the Espoo Convention into the EIA Directive.

EU has further strengthened its EIA system by introducing the Strategic Environmental Assessment Directive (SEA Directive). During the formulation of the original EIA Directive, a discussion took place about whether to include assessment of strategic proposals into the EIA Directive. However, during the negotiations, several Member States opposed possible incorporation of strategic assessment of plans and programmes. Hence, the promulgation of strategic environmental assessment was delayed for many years till the adoption of the SEA Directive in 2001. The SEA Directive advocates assessment of the environmental effects of certain public plans and programmes. Similar to EIA, SEA lays down a scheme of strategic assessment process which includes screening, scoping, public participation, decision making and post-decision monitoring. Since its introduction, the SEA Directive has become an important tool for integration of environmental considerations into economic decisions. In addition to this, the SEA Directive had a significant influence on the development of the Protocol on Strategic Environmental Assessment to the UNECE Espoo Convention (otherwise known as the SEA Protocol). This Protocol focused on establishing procedural SEA requirements in a national context and was signed by European Union and various UNECE Member States (Marsden, 2008, p.93).

EU's Environmental Action Programmes (EAPs) have significantly contributed the development and broadening of EIA across the Union. EAPs lay down general

policy framework for EU's environmental policy. Starting from the adoption of the first EAP in 1973, all EAPs underlined the importance of taking environmental impacts into account at the earliest stage possible. Especially the Sixth EAP played a significant role in strengthening the EIA process. It underlined the necessity to improve the implementation of the EIA Directive to be able to integrate environmental concerns into land-use planning and management processes. Currently, European Commission is preparing Seventh EAP that will address the shortcomings of Sixth EAP and introduce a long term vision to respond environmental challenges.

As a result of all the above mentioned developments, EU felt the need to revise its EIA process several times. Up until now, the EIA Directive went through three different revisions. These revisions were done to adopt the EIA Directive to the changing nature of EU, changing environmental problems and issue as well as making the Directive in line with the requirements introduced in international conventions that EU had signed. The EIA Directive was revised in 1997 for the first time due to its shortcomings in screening process, transboundary EIA, public participation and post-decision monitoring. However, despite some substantial amendments, the Directive continued to attract criticisms. In time, the need to further revise the EIA Directive became crucial. Hence, the Directive was revised for the second time in 2003 to incorporate principles about public participation and access to environmental information of Aarhus Convention into the EIA Directive. This amendment also aimed to strengthen the core principles of EIA process. In 2009, the EIA Directive was revised for the third time. 2009 amendments broaden the scope and number of projects which were listed under Annex 1 and Annex 2. In 2011, all three revisions were codified by Directive 2011/92/EU.

Since its introduction, EIA Directive has become a significant tool for environmental management and protection across the European Union. The Directive introduced rules and obligations that were unprecedented for most of the Member States hence, this has resulted in problems with regard to correct and

complete transposition and effective practical application of EIA legislation. Several of these problems are result of the unclear nature of some provisions of the EIA Directive. In some cases, differences in implementation levels and operational compliance are related with country's lack of previous experience on environmental law making and implementation. In addition to this, lack of a culture that acknowledges the importance of preservation of environment made correct transposition and implementation of EIA legislation harder. Apart from these, there is a lack of uniform EIA practice throughout the EU. This results in significant level of implementation differences among Member States and causes irregularities in different steps of EIA. Moreover, this lack of harmonized EIA practice causes significant problems when one or more Member States carry out transboundary EIA.

Today, all high income countries and most low and middle income countries have their own EIA procedures (Lee and George, 2000, p.3). EU's EIA system played a significant role in development of EIA systems throughout Europe since EIA practice started to become mainstream with European Commission's EIA Directive in 1985. Hence, one of the main objectives of this study is to provide an overview of EU's EIA law and practice by discussing current transposition and implementation problems. In addition to this, this thesis aims to analyze ways and mechanism to improve the effective implementation of EIA across the EU and lay down a future agenda. While addressing the above mentioned issues, reports, surveys and studies finalized by the institutions of European Union are incorporated into this thesis to complement the analysis. Apart from above mentioned objectives, this study aims to address following questions: Which developments and pieces of legislation contributed the strengthening of the EU's EIA policy? What are the legal, cultural and socio-economic reasons behind the ineffective implementation of EIA across the EU? Which measures can be taken to strengthen the enforcement and implementation of EU's EIA legislation?

Another objective of this study is to provide an overview of Turkish EIA system and assess the compliance of Turkish EIA legislation with EU's EIA legislation. Similar

to Europe, in Turkey, environmental degradation caused by fierce economic development started to receive attention in late 1970s and early 1980s. Hence, Turkey introduced its first environmental legislation, Environment Code No. 2872 in 1983 to protect and improve the environment. Apart from underlining the importance of preserving and protecting environment, Environment Code has also made a reference to EIA with Article 10. Establishment of a substantial EIA system happened with the enactment of By-law on Environmental Impact Assessment in 1993.

The EIA Directive played an influential role in the development of Turkish EIA system and introduction of EIA By-law. However, EU's influence on Turkish environmental law and EIA law undoubtedly increased when Turkey became a candidate country for EU membership in 1999 after the Helsinki European Council (Helsinki Summit). In March 2001, Turkish government announced the National Programme for adoption of the *acquis communautaire*<sup>1</sup>. In 2002 Copenhagen European Council, EU agreed to start accession negotiations in October 2005. As one of the conditions for full accession, Turkey has to adopt the entire body of EU law. In other words, for Turkey to become a full member, it has to close 35 chapters of *acquis communautaire* successfully. Environment chapter is among those chapters that Turkey must take necessary actions to make its environmental law fully aligned with EU's environmental law. Environmental impact assessment, being an integral part of environmental law, is among the subjects that Turkey needs to achieve full compliance with EU's EIA law.

At present, Turkey has achieved certain degree of compliance with regard to EIA legislation since majority of the EIA Directive has been transposed into national

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<sup>1</sup> *Acquis communautaire* is the collection of common rights and obligations which bind all the Member States together within the European Union. It includes Treaties, laws, case law of the Court of Justice of the European Union, declarations, resolutions, international agreements concluded by the Union and those concluded by the Member States between themselves with regard to the Union's activities. Retrieved from [http://europa.eu/legislation\\_summaries/glossary/community\\_acquis\\_en.htm](http://europa.eu/legislation_summaries/glossary/community_acquis_en.htm) (Accessed on April 20, 2013).

legislation via EIA by-law. However, Turkey needs to make necessary arrangements to incorporate provisions on transboundary EIA into Turkish EIA by-law.

Similar to the EU case, Turkish EIA system faces problems with regard to effective implementation. Some of these problems stem from lack of environmental culture and primacy of economic concerns vis a vis environmental ones. Other problems are related with technical aspects of EIA such as lack of an up-to-date environmental database, poor quality reports due to lack of technical guidelines and training. One objective of this thesis is to lay down the problems that Turkish EIA system faces and identify the reasons of these problems. In addition to this, this study focuses on laying down measures that can be employed to improve effective implementation of EIA process in Turkey.

In addition to introduction and conclusion chapters, this study is arranged into three main chapters. Chapter 2 gives a definition of environmental impact assessment and lays down the distinct characteristics of EIA that separates it from similar processes. In addition to this, a thorough explanation of steps of an EIA process is provided including brief information on environmental impacts and effects. The general overview of an EIA system is given in this chapter to provide a background for the following chapters which deals with EU's and Turkey's EIA systems.

Chapter 3 starts with a summary of sources of European Law to provide a context to the specific pieces of legislation mentioned in the rest of the chapter. The chapter next gives an overview of evolution of EU's EIA law and policy by giving reference to pieces of legislation and soft law instruments that contributed the evolution and strengthening of EIA across the EU. The chapter next provides data on EIA activity across the EU. Furthermore, issues that EU faces with regard to implementation and transposition are outlined with their reasons by giving reference to studies conducted by the European Commission. Having reviewed the reasons of implementation and transposition problems, chapter proposes recommendations to improve the implementation and enforcement of the EIA Directive in particular and EU

environmental law in general. Lastly, EU's changing perspective on the EIA Directive is given to provide an insight to EU's future agenda on EIA.

Chapter 4 considers development and current status of Turkish EIA system by giving reference to relationship between Turkey and EU. Chapter affirms the role that Turkey's candidacy to EU plays on development and strengthening of Turkish EIA process. After examining the legal framework of Turkish EIA system, chapter provides data on practical application of EIA in Turkey. The chapter then addresses the issues that Turkish EIA face with regard to transposition and implementation. Finally, chapter concludes by proposing measures to overcome the weaknesses of Turkish EIA system.

## **CHAPTER 2**

### **ELEMENTS AND STEPS OF ENVIRONMENTAL IMPACT ASSESSMENT**

#### **2.1 Environmental Impact Assessment**

There is no single universally accepted definition of environmental impact assessment (Noble, 2006, p.2). It is mostly defined as a tool, study or a process. A compact definition offered by United Nations Economic Commission for Europe (UNECE) states that environmental impact assessment (EIA) process is “an assessment of the impact of a planned activity on the environment” (Glasson et al., 2005, p.4). More comprehensive definition offered for the concept defines EIA as “the need to identify and predict the impact on the environment and on man’s health and well-being of legislative proposals, policies, programmes, projects and operational procedures, and to interpret and communicate information about the impacts” (Glasson et al., 2005, p.3). The International Association for Impact Assessment (IAIA) defines EIA as “the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made” (Noble, 2006, p.2). In conclusion, EIA is formulated to:

Ensure that human impacts upon the environment arising out of projects, programmes and policies are fully assessed by ensuring that their economic, social and environmental costs are fully disclosed before choices are made (Gillespie, 2008, p. 221).

As it has been explained above, EIA studies the environmental consequences of developmental actions. It should be noted that, EIA is not a mechanism for preventing development. What EIA aims is to predict the impacts of a proposed action find a way to decrease the adverse impacts to minimum levels and try to balance the relationship between development and environment by ensuring that developmental decisions are made by taking environmental impacts into account. In

addition to this, EIA aims to ensure environmentally sensitive development by setting up a framework for formulation of development actions (Glasson et al., 2005, p.8).

EIA process includes both short-term and long-term objectives. Short-term objectives include the prediction and minimization of the negative impacts by improving the design of the proposed action. Whereas, long-term goals encompass more comprehensive elements such as: protection of human health and natural systems, promotion of sustainable development, increase public participation in environmental decision making processes. All these goals are based on integrity, utility and sustainability principles (Noble, 2006, p.4). IAIA expanded these principles to define the notion of best practice<sup>2</sup>. According to IAIA, EIA based on the notion of best-practice is practical, relevant, efficient, adaptive, interdisciplinary, credible, transparent, purposive, cost-effective, focused, systematic, rigorous, integrated and participative (IAIA website, July 2012).

Another characteristic that separates EIA from other similar processes is that, EIA offers a systematic, holistic and multidisciplinary way of assessment (Glasson et al., 2005, p.4). Being a multidisciplinary practice, EIA encompasses environmental engineering, sociology, economics, politics and law. It aims to identify impacts of a planned activity on human beings, flora and fauna, landscape and townscape, cultural heritage assets, eco-systems, land, water, climate and air as well as noise levels in a systematic way (Lee and George, 2000, p.4). Since EIA encompasses many areas, it overlaps with other impact assessment studies such as health impact assessment, social impact assessment, and risk assessment.

Last but not least, EIA applies to wide range of developmental action encompassing projects from different sectors such energy, agriculture, manufacturing, transport,

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<sup>2</sup> Best practice is defined as: "adhering to a number of general principles, or the best way of doing things, as determined by the specific social, political, cultural, and environmental context within which the EIA is taking place" (Noble, 2006, p.5).

forestry, fishing, tourism, waste disposal and treatment, mining and infrastructure. It is being applied to many projects either newly developed ones or already existing ones that require modifications.

### **2.1.1 Characteristics of Environmental Impacts**

It is possible to classify and lay down numerous characteristics of environmental impacts in number of ways. However, due to the purpose of this thesis, attention here is limited to most common classification and characterization of environmental impacts.

Firstly, it is necessary to give a definition of the term 'impact' to provide a better understanding of the nature of environmental impacts. In an EIA context, an impact is a net change in biophysical and socio-economic characteristics of the environment as a result of a proposed action or project (Jain et al., 2002, p.68). As Boyle stated, with regard to nature of the environmental impacts, it is possible to identify five main types:

1. Adverse impacts are negative effects that are directly connected to the proposed activity. Adverse effects decrease the quality of environment, or compromise its integrity by causing undesirable or irreversible effects.
2. Synergistic impacts occur when different impacts interact with each other and create a total impact which is greater than sum of each single impact.
3. Incremental impacts are marginal effects on environment which resulted from the proposed action.
4. Antagonistic impacts occur in rare cases where one adverse impact eliminates the other adverse impact.

5. Additive impacts can occur when either more than one same type of development actions affect the same environmental element; or when single action results in several effects that result in impacts on the same environmental component (2006, p.30-32).

Duration, frequency, and continuity of these environmental impacts may vary as well as the magnitude. Duration of an environmental impact is the length of the time that it occurs whereas frequency denotes the change in the condition of environment. Continuity of an environmental impact means whether the effects are continuous or they last for short periods. Also, magnitude (size) and spatial dimension of impacts may change depending on each case.

It is possible to talk about direct and indirect impacts when the spatial extent of impacts is considered. Direct impacts are direct results of a development action on a specific project site. Indirect impacts generally occur in a long-term as a result of direct effects of a project. In many cases, direct impacts are easier to predict, identify and assess vis a vis indirect effects. Lastly, another important characterization that must be taken into account while examining environmental impacts is the degree of reversibility or irreversibility (Noble, 2006, p.35). An environmental impact is considered to be a reversible one when the affected environment can be returned to the stage before the realization of the project. This is not the case when the environmental impact is irreversible since to a large extent, it is not possible to mitigate the impact.

### **2.1.2 Methods of Impact Identification**

There are various methods and approaches used in EIA process for impact identification. Initially, many of these methods were developed in response to NEPA and they were improved throughout the years (Glasson et al., 2005, p.107). These methods serve the purpose of organization of information for further research and evaluation. Nature of impacts, availability of resources and the availability of data

play important role while selecting a method. Since every method has its own strengths and limitations, in many cases, it is necessary to use more than one method during the EIA process.

Due to purpose of this thesis, it is not possible to discuss all of the methods in a single chapter. Hence, methods given in this chapter will be confined to most common and accepted methods of impact identification. These methods can be listed as:

#### **2.1.2.1 Checklists and Flowcharts**

Checklists are the simple and systematic method for identifying key impacts, their significance and cause-effect links between sources of impact and environmental components. There are four types of checklists commonly used in EIA process: simple-impact identification checklists, questionnaires, descriptive checklists, threshold of concern checklists. It should be noted that, checklists are not suitable for detailed analysis since they are not comprehensive enough to include all potential impacts, and are too general. Hence, they are mostly used together with other methods. Similar to checklists, flowcharts are used for identifying pathways between impact sources and between primary and secondary impacts without quantifying the magnitudes of impacts.

#### **2.1.2.2 Networks**

Networks are used for identifying cause-effect links between proposed action and environmental elements. Networks try to reproduce the complex relationship between proposed project and environment that would likely to be affected from the realization of the project. Flow diagrams are often used in this method. Despite showing a clear picture of cause and effect relationship, networks can be time-consuming and too complex if they are not kept compact and free from trivial impacts. In addition to this, networks lack temporal and spatial scale.

#### **2.1.2.3 Scorecards**

Scorecard is a method used for comparing and ranking receptors or impact sources by assessing their importance. In this method, scores for several criteria are assigned to each impact or receptor. Relative importance of impacts or receptors is assessed by using a scale, e.g. percentage.

#### **2.1.2.4 Matrices**

Having several similarities to checklists, matrices are one of the most commonly used methods for impact identification. They are two-dimensional checklists in which potentially affected environmental elements are listed in one axis and activities of the development action or project on the other axis (Glasson et al., 2005, p.109). Matrices aim to provide basic information on importance, time frame or magnitude of impacts and effects. They help to include wide range of impacts into analysis and ensure that potential impacts are not overlooked. Apart from simple matrices, there are more sophisticated and complex matrices such as weighted matrices, time-dependent matrices and magnitude matrices.

#### **2.1.2.5 Maps**

Maps are used for indicating impact zones and receptor sites and mostly essential in an EIA process. Overlay and feature mapping is used for identifying and lay out impacts, areas of environmental sensitivity or receptors. Using overlay and feature mapping is especially advantageous when assessing land-use projects. Generally, overlay maps integrate more than two components; but as the number of components increase, it becomes harder to manage and assess the data. Overlay mapping are useful to understand the spatial distribution of impacts. To overcome the limitations of overlay mapping, Geographical Information Systems are put into use in various environmental studies, including EIA.

#### **2.1.2.6 Geographical Information Systems**

Geographical Information Systems (GIS) are computer-based methods which started to be widely available in the late 1980s with the advancements in information and communication technology. It is used for recording, analyzing, combining, and displaying geographical information of any kind that can be mapped on the ground (Noble, 2006, p.52). Geographical Information Systems overcome the limitations of overlay mapping since they are capable of processing large data sets and great number of data points and parameters. However, GIS fail to effectively detect potential issues which are hard to be mapped. In addition to this, being computer-based, GIS necessitates periodic updating which is both time consuming and expensive.

#### **2.1.2.7 Modelling**

There are number of different models used in the assessment of the impact of the project on different environmental components. Ecological modelling, air and water quality modelling, noise modelling can be given as examples to this method. Modelling basically focuses on simulation environmental conditions to determine the effects of the impacts on environment. This method is generally preferred in complex projects which are big in size.

### **2.2 EIA Process**

Before discussing the steps of a typical EIA process, it should be noted that EIA is more a cyclical activity than a linear one since there is constant need for feedback and interaction between each step (Glasson et al., 2005, p.5). Steps of an EIA process can be outlined as:

1. Screening
2. Scoping

### 3. Environmental Impact Prediction and Mitigation

### 4. Post-Project Monitoring and Auditing

#### **2.2.1 Screening**

Screening is the initial stage of an EIA in which the projects with few or no impacts are eliminated and allowed to proceed whereas the ones with significant impacts or those that requires assessment due to specific regulations are identified. In short, at screening stage, whether a proposed project requires an EIA is determined. Location of the project, characteristics of the potential impacts and features of the proposed project plays important role while determining if a project should undergo an EIA (Gillespie, 2008, p.229). In general, projects which should undergo a screening process are pre-determined by laws and regulations by each country. These projects which are categorized under different project types are considered to have 'significant' impacts on environment. The projects which are not openly stated and categorized under law undergo a process of identification of certain thresholds, project scale and level of adverse impacts.

It is possible to talk about three main approaches to screening: threshold-based screening, case-by-case screening and list-based screening. In threshold-based approaches, proposed projects are put into categories and set certain thresholds for each type of project. The necessity of conducting an environmental impact assessment is determined by assessing the importance and level of these threshold criteria. In case-by-case screening, a checklist of regulations and procedures are prepared and the necessity of conducting an environmental impact assessment is determined by evaluating project characteristics against these pre-determined regulations. In list-based screening, a checklist of projects is made based on two criteria: the potential of the project to cause significant effects and/or regulatory requirements. Regulatory requirements are important since they lay out the projects which have to undergo environmental impact assessment. Although there are certain

predefined categories that were identified by institutions such as the World Bank and European Commission, these project categories and lists should be used flexibly depending on the scale and geographic setting of the projects (Noble, 2006, p.69). Besides above mentioned screening methods, there are many hybrid approaches used during screening process. Hybrid approaches include the use of thresholds, lists and discretion in the selection of projects.

### **2.2.2 Scoping**

A proposed action or project may have numerous adverse environmental impacts and effects. However, it is not feasible to include and assess all potential impacts and consequences of a proposed action. Hence, scoping process is necessary to identify important impacts that should be taken into consideration while conducting an EIA. In other words, scoping process involves assessing the potential significance of individual environmental impacts and selecting the ones that should be included in assessment report and environmental impact assessment process. In a way, scoping establishes the boundaries of the assessment process by determining which environmental impacts and issues are going to be included. It should be noted that in many EIA systems scoping was not an original requirement and was added to the process in time.

Scoping stage includes several steps: description of proposed activity or project, finding alternatives to project, identification of environmental baseline conditions, determining assessment boundaries and identification of potential impacts (Noble, 2006, p.80).

Firstly, proposed action is analyzed and defined clearly. This definition mainly includes general information of the project such as location of the project, nature and the purpose of the activity, resources required to realize the project, legal aspects of the projects including concerned authorities. This definition also includes information specific to the project; such as operations that will be carried out to

realize the project, possible environmental impacts and distribution and level of these impacts, environmental components that are going to be affected upon the realization of proposed activity. General information and site-specific information regarding the proposed activity is mostly provided by the project advocator. Also, the opinions of consultants, public and other professionals can be included into the description.

Secondly, project alternatives should be considered to prevent possible serious adverse environmental impacts on project site by considering other feasible approaches to carry out the project. As Gillespie pointed out, generating alternatives results in a desirable situation in which the proposed project can proceed without inflicting the same level of adverse impacts on environment compared to the original case (2008, p.229). All the alternatives must be compared and evaluated based on similar criteria to be able to determine the most suitable alternative.

Another important step is the determination of environmental baseline which is essential for component assessment. It includes the current and possible future condition of the environment without the realization of the project (Therivel, 2010, p.102). Environmental baseline is important to understand environmental impacts of a project since environmental impacts are the differences over time between the environmental conditions with and without the proposed action. The components of environmental baseline data generally includes biodiversity, air quality, soil quality, water quality, population, settlement pattern, quality of life and wage levels, employment, education, family life and many other elements.

Fourth step includes establishing clear boundaries for spatial and temporal assessment, in line with environmental baseline components (Noble, 2006, p.88). This necessitates choosing the relevant data obtained from baseline study and identifying key objectives and factors to establish the assessment boundaries.

Last step of a good scoping process involves defining potential impacts. In this step, key issues and potential impacts are identified for further evaluation and mitigation. As explained before, many impact identification and classification methods<sup>3</sup> can be used to assess the significance of an environmental impact. Nature of the project, availability of data and resources plays important role in choosing the method to be employed.

Scoping process is essential for a complete and satisfactory EIA. It helps to eliminate unnecessary and unrequired information and helps effective use of time and other relevant resources. Moreover, scoping is necessary to identify and give attention to concerns of public and scientific circles. Overall, scoping ensures precise, quality information and draws boundaries of a satisfactory EIA process.

### **2.2.3 Environmental Impact Prediction and Mitigation**

Environmental impact prediction and mitigation constitutes crucial and integral part of an EIA process. In addition to this, these stages are generally the most time and resource intensive stages of the EIA process (Therivel, 2010, p.160).

#### **2.2.3.1 Impact Prediction**

Firstly, it should be noted that, environmental impact prediction is different than identification of impacts during the scoping process. Scoping process deals with identifying important impacts that should be taken into consideration in environmental impact assessment whereas environmental impact prediction process focuses on identifying the magnitude of change in the environment with the proposed action (Glasson et al., 2005, p.126). A proposed project will have an impact on human environment (e.g. demography, health and economy) and biophysical environment (e.g. soil, air and water quality). It should be noted that, it is not possible to talk about a single list of impacts that should be considered in all

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<sup>3</sup> Most commonly used impact identification methods are checklists, networks, scorecards, matrices, maps, geographical information systems, models.

environmental impact assessment processes. Hence, impact prediction process is necessary to lay down the magnitude of change in a specific environment with each and every different project.

Impact prediction process requires a good understanding of features and outcomes of previous similar projects as well as the proposed project. The process includes identifying the direct and indirect impacts, duration of the impacts, and the nature of impacts and geographical scope of impacts (Glasson et al., 2005, p.128). Also, it encompasses detailed study of degree of reversibility and the likelihood of occurrence of a predicted impact.

It is possible to talk about several methods that can be employed as a method for impact prediction, such as: analogue techniques, judgmental techniques, experimental techniques, balance models, mechanistic models, and statistical models. Analogue techniques compare the impacts of existing projects or actions that have similar features and conditions to the proposed project. Judgmental techniques can be expert-based or non-expert-based and are among the most common methods that are used to predict impact. Many predictive methods in EIA benefit from judgmental technique. As the name implies, experimental techniques carried out to determine impacts of an action on project environment through experimentation in a field or in laboratory. Balance models are used to lay out inputs, storage and outputs for a specific environmental system and predict physical changes in environmental components. Mechanistic models use mathematical equations to identify cause-effect relations in environment where the project will likely to take place. Lastly, statistical models are used to describe the relationship between data or test hypotheses by using statistical techniques.

The choice of a prediction method or model depends on the nature of the impacts. Range of impacts, resource availability, consistency, adaptability and replicability of the method must be taken into consideration while choosing a method. Moreover, it should be noted that, all predictions have an element of uncertainty (Glasson et al.,

2005, p.135). But this does not necessarily mean that uncertain predictions must be discarded. In some cases where there is uncertainty in some predictions, a certain threshold level is set to limit the uncertainty. In such a case, probability analysis, sensitivity analysis or confirmatory analysis can be used to address the uncertainty.

After the possible impacts of a project on a specific environment have been identified, there is a need to evaluate the significance of these predicted impacts. Impact significance is determined by the characteristics of an impact (e.g. duration, frequency) and value attached to the element (e.g. human health and safety) that has been affected from the impact (Therivel, 2010, p.194). Evaluation of the significance of an impact must be done according to a legal or procedural framework of EIA procedure of the country that the project takes place. Apart from legal framework and guidelines, scientific evidence and data and degree of public concern must be taken into consideration during the evaluation process. In many cases, cost-benefit analysis constitutes a significant part of the evaluation process. Cost-benefit analysis is based on calculating and comparing benefits and costs of a project to evaluate the net social benefit. It starts with the definition of the specific project and continues with pinpointing costs and benefits and evaluating them. The analysis is concluded with displaying results. Cost-benefit analysis raises many questions and concerns as a method of evaluation since the only evaluation criteria is money. There are other methods such as scoring, weighting, threshold analysis, multi-criteria analysis, GIS, statistical test that is used in evaluation process.

#### **2.2.3.2 Mitigation**

Mitigation focuses on identifying measures that will minimize negative impacts on a specific environment, finding better alternatives and increase the positive impacts of a project (Therivel, 2010, p.209). In a normal cycle of impact management, the most desirable measure is to avoid negative impacts through finding alternatives to technology, design or location. This stage is not necessarily done after impact prediction; it can be done in earlier stage of EIA such as scoping. In cases which

earlier recognition and avoidance of potential impacts is not possible, impact mitigation measures are taken to minimize or decrease the magnitude or severity of negative impacts of a certain project. Mitigation can be carried out through structural measures or non-structural measures. Structural measures are engineering measures and modifications as well as design or site changes. Whereas non-structural measures include legal and institutional arrangements and instruments and capacity building. In cases where the mitigation option is unavailable or exhausted or presence of residual impacts<sup>4</sup>, compensation measure is taken to compensate for the damage. Compensation can be in the form of investment or in a form of recreational facility or environment. It should be noted that, compensation is the least desired form of impact management since the goal of impact management is to diminish negative impacts at earliest stage possible.

Another aspect of impact management is to create and enhance positive impacts. It aims to shape the project in a way that it produces some positive impacts on both society and environment. Generally, positive impacts of projects are about economic benefits and employment opportunities that enhance living conditions of locals.

### **2.2.3.3 Environmental Impact Statement**

An Environmental Impact Statement (EIS) is a report that includes non-technical summary, clear description of the project, overview of methods, environmental baseline conditions, predicted impacts, alternatives to project and mitigation measures. The content of the EIS varies in different EIA systems and is often specified by regulations. In addition to setting minimum content regulations, countries often introduce guidelines on how to prepare a good EIS. Depending on the requirements of each country or organization, EISs are prepared either by project developers or consultants and are presented to the review of public, consultants and environmental decision-making authorities.

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<sup>4</sup> Residual impact can be defined as net impact after mitigation.

EISs are often presented to public during public participation meetings. In these meetings the developer explains the proposed project with all its characteristics and impacts to the public which is likely to get affected from the implementation of the project. Following this, public make comments on the presented EIS and express their opinions and concerns.

#### **2.2.3.4 Public Participation**

Public participation is an essential part of EIA process that enables transparency and democratic decision making by providing information about a project's possible environmental impacts. In addition to this, public involvement is a key principal of sustainable development (Therivel, 2010, p.78). Thus, as Wood stated, EIA is not EIA without a public participation process (2003, p.275). Especially over the last twenty five years, demand and importance attributed to public involvement has risen throughout the world.

Public participation can take place at every stage in the EIA process (Wood, 2003, p.278). However, involving the public at the earliest stage possible is important for the quality and effectiveness of the EIA process. In most cases, public participation is carried out in scoping stage and during EIA report preparation. Public consultation and participation can be in various forms such as public meetings, workshops, committees, seminars and public hearings. These meetings and gatherings are crucial for identifying and assessing the interest and values of concerned public in early stages of a project. This early recognition of affected values helps the decision making authorities to consider alternative designs, project sites and technology. Hence, public involvement guides decision making authorities to take more socially accepted decisions. Public involvement also contributes to identification of possible adverse and positive impacts of a project. It enables public to comment and raise concerns about the project starting from early stages till the decision making process. Finally, public participation constitutes an important tool for post-project monitoring and follow up.

#### **2.2.4 Post-Project Monitoring and Auditing**

One of the most important steps of EIA is monitoring since many projects have a very long life cycle that must be monitored and audited for a long term. However, it should be noted that, it is not a mandatory step in many EIA procedures in European Union as well as in other countries. Monitoring can be described as observing, measuring and recording social, economic and physical components related with development impacts (Glasson et al., 2005, p.185). In general, a post-project monitoring process focuses on impacts of the project, effectiveness of the mitigation measures and assessing the compliance of developer with the requirements of the project (Gillespie, 2008, p.230).

Monitoring is generally carried out through comparison of the changes in environment before the realization of project and after the project is complete. Data gathered from monitoring needs to be reported to affected community in the project site, proponents of the project and to public. This reporting makes monitoring a valuable feedback mechanism.

Monitoring process goes hand in hand with auditing which is a periodic activity in which observations are compared on a basis of some pre-determined criteria. Monitoring is an internal part of project management since it provides information and data that can be used to develop and improve impact management. Monitoring process is important to assessing the credibility and accuracy of EIA process of a certain project. Additionally, it is a control mechanism designed to check if the developer of the project follows assigned mitigation measures.

At this point, it is necessary to refer to Environmental Management Plan (EMP). EMP is a part of EIA reporting process that consists of specific actions that must be carried out by the proponent. It encompasses overview of potential impacts, mitigation measure, plan to implement these measures and monitoring and auditing schedule that includes institutional arrangements. EMP is essential to carry out a

healthy EIA procedure since it aims to provide detailed information on how a proposed action may impact certain environment and how those impacts can be controlled and reduced (Environment Protection Authority, 2009).

## **CHAPTER 3**

### **THE EUROPEAN UNION'S ENVIRONMENTAL IMPACT ASSESSMENT LAW AND PRACTICE**

#### **3.1 An Overview of the European Union Law**

To understand legal terms and concepts used in this chapter, it is necessary to make an overview of sources of European law. This overview is also necessary to understand the obligations imposed on Member States by European law. In addition to this, providing a summary of sources of EU law will give an insight to the relationship between EU law and international law.

The Treaty of Lisbon was signed by EU Member States on 13 December 2007 and entered into force on 1 December 2009. Lisbon Treaty amended Treaty of Maastricht and Treaty of Rome and gave EU a separate legal personality. Hence, with the ratification, EU law replaced EC law (Marsden, 2008, p.137).

EU law has three sources: primary law, secondary law and supplementary law. Primary law mainly includes founding Treaties and treaties which are amending EU Treaties. The founding Treaties are the Treaty of Europe (otherwise known as Maastricht Treaty) and the Treaty on the Functioning of Europe Union (otherwise known as Treaty of Rome). Amending Treaties are Single European Act, The Treaty of Amsterdam, the Treaty of Nice and the Treaty of Lisbon. Other primary sources include Treaties of Accession and some additional treaties that make amendments on major treaties. The primary sources must be considered in all law making as well as interpretation (Marsden, 2008, p.138). All secondary legislation must derive from the Treaties to have a legal basis. In addition to this, EU institutions derive their power from founding Treaties while enacting legislation (Wolf and Stanley, 2003, p.73).

Secondary law includes regulations, directives, decisions and recommendations. International agreements signed by EU with a third party and agreements between Member States are also under secondary legislation. Regulations are legally binding and directly applicable in all Member States. Hence, there is no need for Member States to make transposition within the national system (Marsden, 2008, p.146). Similarly, directives are binding in all Member States as to the results to be achieved. However, choice and method to incorporate them into the national law of each Member State is left to the discretion of national authorities with a time limit for implementation. Decisions are only binding for those to whom it addresses (Wolf and Stanley, 2003, p.75). It can be addressed to specific legal person, Member States or companies. Recommendations and decisions are not binding but they should be taken into account while national courts make decisions.

Supplementary law consists of case law of Court of Justice of the European Union, general principles of law, fundamental rights and international law. The Court of Justice of the EU is an institution that interprets the meaning and scope of the EU law to make sure that it is applied same in all Member States. The ruling of Court of Justice of the EU is binding for the parties of an individual case. The decisions of the Court provide assistance for similar cases that may come up in future. General principles of law are unwritten sources of law that were developed through the rulings of Court of Justice of the EU. International law is another important source that Court of Justice of the EU respects and abides by while making a decision. Lastly, European Convention on Human Rights, Charter of Fundamental Rights of the European Union and constitutional traditions are three main sources that contribute to EU's supplementary law.

### **3.2 The Impact of National Environment Policy Act on European EIA Legislation**

National Environment Policy Act, otherwise known as NEPA, was among the primary sources that fostered the EIA in international arena. Starting from 1970s, EIA norms have spread to other states and international organizations (Craik, 2008,

p.23). European Community (now European Union) was also influenced from the objectives and provisions of NEPA while preparing its own EIA framework during late 1970s and early 1980s. Thus, to understand the evolution of EIA law and practice in European Union, it is necessary to give an overview of NEPA.

NEPA was introduced by US Federal Legislation in 1969. NEPA laid down the purpose of the Act as follows:

To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality (Jain et al., 2002, p.61).

US Council on Environmental Quality specified the initial objectives of EIA process. Council underlined the necessity of maintaining a safe and productive environment and encouraged the use of renewable resources. It also gave a reference to inter and intra-generational equity<sup>5</sup>.

NEPA is comprised of two titles: Title 1, Declaration of National Environmental Policy and Title 2, Council on Environmental Quality. Title 1 mainly focuses on introducing a national policy on restoration and protection of environmental quality whereas Title 2 establishes an advisory body on environmental quality, namely US Council on Environmental Quality. Title 1 is comprised of three sections: Section 101, Section 102 and Section 103. Section 102(2) (C) is especially important in the Act since it became the main framework of EIA process. It requires all federal agencies to prepare an environmental impact statement that covers:

1. Environmental impact of the proposed actions,

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<sup>5</sup> Inter and intra-generational equity is the duty to safeguard and manage resources for future generations (Marsden, 2008, p.48).

2. Any adverse environmental effects which cannot be avoided should the proposal be implemented,
3. Alternatives to the proposed action,
4. The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
5. Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented (Jain et al., 2002, p.19).

The effects of NEPA have been comprehensive since this act has been instrumental in requiring reassessment of many federal programs both ongoing and newly proposed. As explained before, influence of NEPA was not only limited to United States. Adoption of NEPA and concern regarding the quality of life and protection of environment among the people around the world have produced significant environmental protection legislation in throughout the world besides the United States (Jain et al., 2002, p.61). Since the enactment of NEPA, EIA systems have been established in different forms throughout the world. It started with more developed countries such as Canada, Austria, Germany and France and spread to many European countries with the enactment of the European Union's Directive on Environmental Impact Assessment in 1985.

### **3.3 Evolution of Environmental Impact Assessment in the European Union**

Development and fostering of EIA law and practice in the EU goes hand in hand with the developments that took place in international environmental law. In this section, evolution of environmental impact assessment in the EU will be reviewed by focusing on significant environmental developments in international arena that influenced EU's environmental law in general and EIA law in particular. It should be noted that, there are numerous developments and soft law instruments that

contributed to the development of EIA law and practice in the EU. Following section will focus only on the major ones.

When the Treaty of Rome was signed in 1957 by France, Germany, Italy and Benelux countries to establish European Economic Community (EEC)<sup>6</sup>, the main aim was to achieve integration through economic expansion. Hence, there was no reference to environmental policy in Rome Treaty. There were only incidental pieces of environmental legislation mainly aimed to prevent distortions in common market. However, this started to change during the second half of the 1970s. The meeting of the European Council in 1972 in Paris and the UN Conference held on Human Environment in Stockholm in same year, marked the beginning of European environmental policy as a distinct sector of policy (Marsden, 2008, p.161). The UN Conference resulted in the Stockholm Declaration on the Human Environment that laid out significant principles regarding the use and protection of the natural environment and its relation to economic development. It emphasized the responsibility of states to respect the environment of other states. Principle 13 of the Stockholm Declaration stressed the necessity of process similar to EIA as follows:

In order to achieve a more rational management of resources and thus to improve the environment, States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve the human environment for the benefit for their population.<sup>7</sup>

Principle 21 of the Stockholm Declaration underlined the responsibility of states in a transboundary context stating that states has to ensure that activities within their jurisdiction do not cause damage to the environment of other states. After Stockholm Conference, United Nations Environment Programme (UNEP) was

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<sup>6</sup> After the Treaty of Maastricht the EEC became the European Community (EC). After the Treaty of Lisbon, EC became the European Union (EU). For further information see Council of the European Union official website <http://www.consilium.europa.eu/contacts/faq?lang=en&faqid=79264>. (Accessed on October 4, 2012).

<sup>7</sup> Declaration of the United Nations Conference on the Human Environment, Stockholm, 1972.

created in 1972 to cover wide range of environmental matters. In 1987, UNEP prepared a document called “Goals and Principles of Environmental Impact Assessment”<sup>8</sup> that outlined general principles and objectives for formulation of national and transboundary EIA which is compatible with sustainable development of planned activities.

In 1974, Sweden, Norway, Finland and Denmark governments came together and prepared Nordic Convention on the Protection of Environment to stress the urgent need to protect and improve the environment. In 1975, the European Commission launched a research on EIA due to a growing concern on effects of extensive economic activity on environment. By then, some Member States such as France and Germany already had some aspects of EIA system in their national law. Hence, it was felt that the requirements of a European EIA system could be integrated into the decision making process of Member States (Wood, 2003, p.35). Following the research of the Commission, the preliminary draft was issued in 1977. The draft listed several types of projects and underlined that projects which are likely to have a significant effect on environment were to be subjected to EIA. The draft also included required content of the assessment. Due to Britain’s and Denmark’s reluctance to accept a compulsory EIA system, the draft directive was not approved for a long time. After several amendments in the first draft, the European Community adopted the Directive 85/337/EEC (EIA Directive) and introduced uniform requirements for EIA to all Member States.

In 1987, UN Commission on Environment and Development prepared Brundtland Report titled ‘Our Common Future’ which highlighted the relationship between development, economic growth and environmental concerns by referring to sustainable development<sup>9</sup>. Report drew attention to the contradiction between

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<sup>8</sup> For more information see UNEP, Goals and Principles of Environmental Impact Assessment, 14 th Session. June 17, 1987.

<sup>9</sup> Brundtland Report defines sustainable development as “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”. Retrieved from <http://www.un-documents.net/wced-ocf.htm> (Accessed on April 25, 2013).

satisfaction of human needs and scarcity of available natural resources and called for initiating a change in consumption patterns (Hardi, 2007, p.18). Ambitious agenda of Brundtland Report played a significant role in convening of UN Conference on Environment and Development that was held in Rio de Janeiro in 1992. One of the most important outcomes of the Rio Summit was Rio Declaration on Environment and Development and Agenda 21. Principle 17 of the Rio Declaration asserts that EIA process must be implemented for projects that are likely to have significant adverse impacts on environment. No-harm principle, otherwise known as due-diligence principle, was already introduced in Principle 21 of Stockholm Conference. Principle 2 of Rio Declaration also highlighted the due diligence principle:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental (and developmental) policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond national jurisdiction.<sup>10</sup>

As stated above, one of the important outcomes of Rio Summit was an action plan called Agenda 21. Agenda 21 introduced policies and plans that national governments, local governments or multinational organizations can apply to achieve sustainable development. Since EIA's goal is to ensure that the projects are developed environmentally sustainable, the principles and policies of Agenda 21 coincided with the objectives of EIA process. In addition to this, it urged all countries to make an assessment of the environmental suitability of infrastructure of human settlements (Marsden, 2008, p.48).

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<sup>10</sup> Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, Principle 2.

Another important document which was opened for signature at Rio Summit was the United Nations Convention on Biological Diversity. It was signed more than 150 countries and it entered into force on 29 December 1993. Currently, the Convention has 193 Parties including European Union. The Convention on Biological Diversity focused on conservation of biological diversity, sustainable use of elements of biodiversity and fair sharing of benefits derived from genetic resources.<sup>11</sup> Article 14(a) of the Convention titled “Impact Assessment and Minimizing Adverse Impacts” called for the introduction of:

Appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological diversity with a view of avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures.<sup>12</sup>

Similar to Convention on Biodiversity, United Nations Framework Convention on Climate Change (UNFCCC) was an international environmental treaty which was opened for signature at Rio Summit. It was signed on 9 May 1992 and it entered into force on 21 March 1994. Currently, 194 countries and European Union have ratified the Convention. UNFCCC promoted stabilization of greenhouse gas emissions in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.<sup>13</sup> Upon realizing the inadequacy of emission reductions provisions in the UNFCCC, Kyoto Protocol was concluded on 11 December 1997 in Japan during an annual meeting of Parties to the Convention. Kyoto Protocol entered into force on 16 February 2005 and currently has 192 Parties including the EU. Both Kyoto Protocol and UNFCCC mentioned EIA as a tool to address climate change issues. Article 4(f) of UNFCCC acknowledges a role for EIA in climate change matters and encourages Parties to employ methods such as impact assessments, “with a view to minimizing adverse effects on the economy, on public

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<sup>11</sup> United Nations Convention on Biological Diversity, Rio de Janeiro, 1992, Article 1.

<sup>12</sup> Ibid., Article 14(a).

<sup>13</sup> United Nations Framework Convention on Climate Change, New York, 9 May 1992, Article 2.

health and on the quality of the environment, of projects or measures undertaken by them to mitigate or adapt to climate change”.<sup>14</sup> Similarly, Articles 2, 3 and 12 of the Kyoto Protocol urges Parties to implement policies and measures to minimize adverse effects of climate change.<sup>15</sup>

The Espoo Convention, otherwise known as Convention on Environmental Impact Assessment in a Transboundary Context, is one of the key documents that aim to introduce environmental impact assessment to projects and developmental actions that may also affect the environment of other states. By underlining the transboundary nature of environmental impacts, the Espoo Convention signaled a leap forward in international law (Gillespie, 2008, p. 226). The Convention was adopted in 1991 and entered into force in 1997. It was amended in 2001 and 2004. Both amendments have not entered into force yet. Upon entering into force, 2001 amendment will open the Convention to accession upon approval by UN Member States to countries which are not members of UNECE whereas 2004 amendment will revise list of activities under Annex 1 and introduce some other minor changes.<sup>16</sup> European Union signed the Convention on 26 February 1991 and introduced Directive 97/11/EC to align the EIA Directive with the requirements of the Espoo Convention. Currently, more than 40 states, including EU Member States and member states of UNECE are parties to the Espoo Convention.<sup>17</sup>

Being one of the first multilateral treaties which focused on transboundary impacts of developmental actions, the Convention describes the requirements and procedures of carrying out a transboundary EIA. According to the Convention, EIA is “a national procedure for evaluating the likely impact of a proposed activity on the

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<sup>14</sup> Ibid., Article 4(f).

<sup>15</sup> Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 1998, Articles 2, 3 and 12.

<sup>16</sup> For more information see <http://www.unece.org/env/eia/eia.html> (Accessed on March 4, 2013).

<sup>17</sup> For full list of the parties and signatories of Espoo Convention, see [http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-4&chapter=27&lang=en](http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-4&chapter=27&lang=en) (Accessed on January 2, 2012).

environment”<sup>18</sup> Transboundary EIA shares the objectives of an EIA but it also gives consideration to involvement of country or countries that may be affected by transboundary impacts of a developmental action originating from another Party to the Convention. The Convention lists several activities under Annex 1 that requires an EIA such as nuclear reactors, thermal power stations, large dams, deforestation of large areas. In cases where a project is listed under Annex 1, Party of origin<sup>19</sup> notifies other Parties which are likely to get affected from the adverse impacts of a proposed project. Upon receiving notification, the affected party<sup>20</sup> decides whether it wants to participate in the EIA procedure and notifies the Party of origin. The Convention does not foresee a creation of any multilateral institutional structure for carrying out transboundary EIAs but it urges parties to conclude further multilateral agreements for the purpose of introducing procedures for joint EIA or joint monitoring (Craik, 2008, p.160). In cases whereby the affected Party wishes to take part in EIA process, Party of origin enters into consultations with the affected Party. The Party of Origin distributes the EIA documentation to the public of the affected Party for review and consultation and makes a final decision.<sup>21</sup> Following this, the final decision documentation is made available to public of the affected Party and the public of the Party of origin as well. Overall, it can be safely concluded that the Espoo Convention is a significant instrument of international law that goes beyond a regional convention.

Lastly, it is necessary to focus on EIA practice of World Bank since it has the most prominent set of EIA requirements among many international organizations (Craik, 2008, p.108). Due to persistent criticisms coming from different circles, the World

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<sup>18</sup> Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 1991, Article 1(6).

<sup>19</sup> Party of origin is “the Contracting Party or Parties to the Espoo Convention under whose jurisdiction a proposed activity is envisaged to take place”. Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 1991, Article 1(2).

<sup>20</sup> Affected Party is “the Contracting Party or Parties to the Espoo Convention likely to be affected by the transboundary impact of a proposed activity”. Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 1991, Article 1(3).

<sup>21</sup> Convention on Environmental Impact Assessment in a Transboundary Context, Espoo, 1991, Article 4.

Bank focused on formulating certain requirements to enable development of environmentally sustainable policies and projects during the second half of 1980s. In 1989, the World Bank adopted environmental assessment as a standard procedure for Bank-financed investment projects (Güneş, 2007, p.84).

The World Bank “requires environmental assessment of projects proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making” (The World Bank, 1999). In World Bank’s perspective, environmental assessment takes into account the natural environment, human health, social aspects, transboundary and global environmental aspects. The World Bank promotes range of instruments that can be employed while carrying out an environmental assessment: EIA, regional or sectoral EA, environmental audit, hazard or risk assessment, and environmental management plan (The World Bank, 1999). It prepared and several manuals and guidelines that lays down the requirements of screening procedure, public consultation and post-project monitoring. Overall, being one of the ten environmental, social and legal Safeguard Policies of the World Bank, environmental assessment is an important tool for funding, environmental decision making and planning for the World Bank.

Having reviewed significant developments in international arena and instruments of international law that contributed the development of EU’s EIA law, it is necessary to explore the Directive 85/337/EEC (EIA Directive), Directive 2001/42/EC (Strategic Environmental Assessment Directive), and Environmental Action Plans that significantly shaped the EIA process of EU.

### **3.3.1 The Environmental Impact Assessment Directive**

The EIA Directive has had a significant influence on the application of EIA system in the Member States since most of them did not have a similar system prior to the enactment of the Directive (Marsden, 2008, p.184). As Wood argues, the EIA Directive represented the first EU intrusion into the planning domain of Member

States (2003, p.34). This was the reason why the preparation and adoption of the original document took a significant amount of time. After many discussions and preliminary drafts, the EIA Directive 85/337 was adopted in 1985.

Main objective of the EIA Directive is to contribute to the integration of environmental considerations into the preparation of projects, with the aim to reduce their environmental impact. Thus, the EIA Directive necessitates certain public and private projects to be assessed to determine their significant direct and indirect effects on environment before the approval of the projects. The Directive also necessitates another group of projects to be assessed if impacts were expected in view of the location, size or nature.

The EIA Directive requires projects listed in Annex 1 and Annex 2 to undergo an impact assessment process. Annex 1 includes various groups of projects that must be evaluated in all cases in all Member States. Annex 2 consist of projects that the Member States has to determine whether a specific project falling with the categories which should undergo an impact assessment process or not. The Directive also allows for cases in which impact assessment process need not to be undertaken even if it is a project listed under Annex1 or Annex 2. These projects are mainly on national defense matters.

The EIA Directive outlines principles for assessment as well as general public and environmental administrations participation procedures. Directive lays down a general framework and left the details to be specified by Member States. In other words, it provides flexible framework for implementation of EIA principles.<sup>22</sup>

Two years after the introduction of the EIA Directive, the EU introduced Single European Act. Single European Act added the 'Environment' title to Treaty of Rome signifying the acknowledgement of importance of creating an environmental

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<sup>22</sup> For further details see <http://ec.europa.eu/environment/eia/home.htm> (Accessed on April 20, 2012).

policy. With the ratification of the Act, environmental protection requirements became an integral part of European Union's other policies. An ideal to build a Community environmental policy was developed further with Treaty of Maastricht and Treaty of Amsterdam.

The changing nature of EU and its environmental objectives played an important role in revisions of the EIA Directive. Up until today, the Directive has been revised three times; in 1997, in 2003 and in 2009. The original EIA Directive had a limited content regarding the number and type of project it included in mandatory EIA. Also it did not have any provision on consideration of transboundary impacts of projects. Moreover, the original EIA Directive was limited to EIA of projects and did not include EIA of plans and programmes. It did not include post-decision monitoring as well. In 1993, the effectiveness of the EIA Directive was reviewed with a first five-year report (Wood, 2003, p.37). By taking the findings of the report and increasing recognition of the importance of sustainable development into account, EU introduced Directive 97/11/EC amending the original EIA Directive. This amended version of the EIA Directive increased the types of projects covered in the Directive as well as number of projects that requires mandatory EIA. One of the most important amendments was the incorporation of transboundary context that enabled public participation and consultation to other Member States that can be affected by a project. Revised version also introduced further categories for Annex 2 projects and provisions on screening, scoping, mitigation. Despite the revisions, amended EIA Directive continued to attract criticism due to its loose drafting. Thus, it was amended once more in 2003 with Directive 2003/35/EC (the Public Participation Directive). 2003 revision aimed to bring the EIA Directive in line with the public participation provisions of Aarhus Convention.<sup>23</sup>

In 2009, Directive 2009/31/EC amended the Annex1 and Annex 2 of the EIA Directive. Article 17 of the Directive 2009/31/EC introduced new provisions that

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<sup>23</sup> Directive 2003/35/EC will be further detailed under "Public Participation in the EU's EIA" heading.

require the application of EIA to projects which are related with capture and transport of CO<sub>2</sub> streams for the purposes of geological storage.<sup>24</sup> Original EIA Directive and all three amendments have been codified by Directive 2011/92/EU<sup>25</sup> of 13 December 2011.

### **3.3.2 The Strategic Environmental Assessment Directive**

The EIA Directive played an important role in the development of the SEA Directive since the SEA Directive was prepared along the lines of the EIA Directive. As Marsden stated, the SEA Directive originated from the consideration given to assessment of strategic proposals in the discussion of the preparation of the EIA Directive (2008, p.206). Similar to EIA, the negotiation and adoption of the SEA Directive caused lengthy discussion among Member States regarding whether to include policies and plans in the EIA Directive (Therivel, 2010, p.51). After a decade of negotiations and preparation of alternative proposals, the SEA Directive (2001/42/EC) entered into force in 2001. Member States were required to be in compliance with the provisions of the SEA Directive by July 2004 (Klane and Albrecht, 2005, p.15). However, as of July 2004, only five Member States were able to transpose the Directive into their national legislation. Following this, fifteen non-infringement procedures were opened for Member States which failed to complete transposition on time and five Member States were condemned (COM (2009) 469, Art.1). Transposition of the SEA Directive was completed by all Member States in 2009.

The SEA Directive aims to ensure environmental protection and “contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development”.<sup>26</sup> To achieve this objective, it stresses the necessity of establishing a common framework applicable in all Member States. The SEA Directive advocates environmental policy

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<sup>24</sup> Directive 2009/31/EC; OJ L 140/114, 05.06.2009.

<sup>25</sup> Directive 2011/92/EU; OJ L 26/1, 28.01.2012.

<sup>26</sup> Directive 2001/42/EC; OJ L 197/30, 21.07.2001.

integration for the environmental assessment of strategic proposals. Hence it can be safely concluded that the SEA Directive is designed to supplement the EIA Directive through strengthening and broadening environmental assessment process (Klane and Albrecht, 2005, p.28).

Articles 4 to 10 sets out the procedure and steps of SEA process for plans and programmes which are prepared for defined sectors. Similar to EIA process, steps of SEA are as follows: screening, scoping, reporting, post-decision monitoring and review (Sadler and Jurkeviciute, 2011, p.141-142). Public participation has a significant part in the SEA process as well. Unlike the EIA Directive, the SEA Directive does not contain a list of plans and programmes that must undergo an environmental assessment. Instead, it set out eleven sectors in which environmental assessment for the plans and programmes for these sectors are mandatory. Wide range of plans and programmes prepared for agriculture, forestry, fisheries, tourism, transport, waste management, telecommunication and plans and programmes which set the framework for future development consent of projects listed in Annex 1 and Annex 2 of the EIA Directive are subject to strategic environmental assessment.<sup>27</sup>

In a typical SEA procedure, first, possible significant effects of a proposed plan or programme are identified with possible alternatives to the action. These findings are pinned down by an environmental report that includes an analysis of possible impacts and alternatives. Thirdly, environmental authorities designated by Member States are consulted to determine the scope and findings of environmental report and draft of proposed action. The public is also informed and consulted regarding the draft and environmental report. After the consultations of the public and environmental authorities, decision to adopt or cancel a plan or programme is given by summarizing reasons, alternatives and measures that are taken. Lastly, a monitoring process that aims to detect adverse effects of the plan or programme during implementation is launched. As oppose to the EIA Directive, post-project

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<sup>27</sup> Ibid., Article 3(2a).

monitoring is mandatory under the SEA Directive. However, it should be noted that the SEA Directive introduces a weak monitoring process since the Directive does not require a modification in plan or programme as a result of the monitoring (Marsden, 2008, p.224).

Overall, despite its close procedural links to the EIA Directive, the SEA Directive offers more flexible framework for the assessment of strategic proposals. In some cases, this flexibility results in some uncertainties and ambiguities in implementation. In addition to this, late transposition of the Directive into national legislation and lack of previous experience for several Member States resulted in uneven and slow compliance to and implementation of SEA process. Despite more than a decade has passed since the adoption, SEA remains to be a challenging process for many Member States. Thus, it is safe to conclude that, in general, status and scope of SEA practice remains unclear throughout the Union (Sadler and Jurkeviciute, 2011, p.121). Nonetheless, SEA is increasingly becoming an important and integral part of EU environmental law.

### **3.3.3 Environment Action Programmes**

As discussed earlier, United Nations Conference on Human Environment was held in Stockholm in 1972. This conference signaled the growing public concern over sustainable development and environmental protection which led to the creation of national and international environmental agencies and environmental programmes. The EU's adoption of its first Environment Action Programme (EAP) in 1973 was one of the examples to environmental programmes created as a result of increasing public interest in environmental matters during 1970s. Since then, Action Programmes are political statements that outline EU's intentions for legislation and other activities in the years ahead (Wolf and Stanley, 2003, p.109). They include plans and legislative proposals that aim to align policies of EU with sustainable development and other environmental principles. In other words, important measures that are likely to become directives are included in EAPs.

First Environmental Action Programme covered the term 1973 to 1976 and set out various principles that formed the backbone of EU environmental policy. Similarly, some of these principles constituted a basis for the objectives of EIA. These principles are:

- Environmental protection is a matter for everyone in the EU at all levels; their cooperation is necessary for successful environmental policy.
- Environmental issues must be taken into account at the earliest stage possible
- Activities in one country should not degrade the environment of another country.
- There is a necessity for a clearly defined long term European environmental policy that incorporates cooperation and involvement at regional and international levels (Wolf and Stanley, 2003, p.109-112).

Second Environmental Action Plan designated the term 1977 to 1981. Second EAP underlined similar objectives and principles that first EAP had introduced and provided refinement to some environmental objectives. Third and fourth Environmental Action Programmes reflected a considerable change in EU's policy approach. Third EAP, covering the period 1982-1986, stressed harmonization of environmental emission standards, sustainable development and waste avoidance whereas fourth Environmental Action Programme proposed more integrated approach in environmental policy for the term 1987-1992. Fifth EAP covered 1993 to 2000, longer term compared to previous EAPs. It underlined the importance of integrating sustainable development into policy making by broadening the range and efficiency of environmental instruments, improving the availability to access to environmental information, quality of environmental information that is disclosed to public. These objectives also coincided with the objectives of EU's EIA Law.

Sixth EAP entitled “Environment 2010: Our Future, Our Choice” covered the period from 2002 to 2012.<sup>28</sup> One of the main objectives of Sixth EAP was to take environment into account regarding land-use planning and management. Sixth EAP stressed the necessity to improve the implementation of the EIA Directive to achieve this objective. Improving the implementation and enforcement of existing environmental legislation, creating partnerships with private sector, NGOs and stimulation of public participation were among the other main objectives of the Sixth EAP (Wolf and Stanley, 2003, p.111). The Sixth EAP is considered to be unprecedented since it is the first EAP to be adopted by the European Parliament and The Council of the European Union through co-decision (COM (2011) 0531). In addition to this, it is the first EAP which is legally binding (Klane and Albrecht, 2005, p.20). Currently, European Commission is preparing Seventh EAP<sup>29</sup> that will address the shortcomings of Sixth EAP and introduce a long term vision to respond environmental challenges.

Before giving a general review of European Union’s EIA practice, it is necessary to discuss evolution and fostering of public participation in EU’s EIA law and practice. Especially after second half of 1980s, public participation started to become a crucial and integral part of EIA process throughout the Union. Following the introduction of original EIA Directive, the EU has continuously strengthened the scope and provisions of public participation through introducing Directives and incorporating significant international treaties and protocols.

### **3.3.4 Public Participation in the EU’s EIA**

Public participation in environmental decision making is an objective of EU’s environmental policy (Klane and Albrecht, 2005, p.20). To facilitate this objective, the EU introduced several Directives that aim to promote effective public

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<sup>28</sup> For a summary of Sixth Environmental Action Programme see [http://europa.eu/legislation\\_summaries/agriculture/environment/l28027\\_en.htm](http://europa.eu/legislation_summaries/agriculture/environment/l28027_en.htm) (Accessed on January 19, 2013).

<sup>29</sup> For more information on Seventh EAP see <http://ec.europa.eu/environment/newprg/proposal.htm> (Accessed on January 5, 2013).

participation. In addition to this, by becoming a party to international treaties and conventions, the EU has strengthened the provisions of public participation and consultation in environmental decision making.

As explained earlier, the Espoo Convention includes provisions on public participation in cases where a proposed developmental action in one country will likely to have adverse environmental impacts on another country. Hence, with regard to public consultation and participation, the Espoo Convention goes beyond the purely domestic context of a regular EIA process. The provisions related with the public participation in the Espoo Convention were further strengthened with Meeting of Parties held regularly by the countries which are Parties to the Convention. During the Second Meeting of Parties in 2001, the importance and benefits of public participation in EIA in a transboundary context was highlighted. In the Third Meeting of Parties, guidelines on public participation in transboundary EIA were adopted. The Espoo Convention played an influential role on the provisions of the Aarhus Convention due to the strong relation between EIA and public involvement in environmental decision making (Schrage, 2008, p.43)

The UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (otherwise known as Aarhus Convention) is considered to be one of the most important documents on public participation and government accountability and transparency. It was signed on June 1998 and entered into force on October 2001. Currently, Aarhus Convention has 39 signatories and 46 parties.<sup>30</sup> European Union is a signatory of and Party to the Convention.

Aarhus Convention mainly focused on access to information, public participation and access to justice regarding environmental matters. Articles 4-5 deals with access

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<sup>30</sup> For full list of the parties and signatories of Aarhus Convention, see [http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg\\_no=XXVII-13&chapter=27&lang=en](http://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-13&chapter=27&lang=en) (Accessed on April 18, 2013).

to information and stresses the obligation of public authorities to disclose information regarding environmental matters. Articles 6-8 focuses on public participation in decision making and talks about the right to participate and involve in decision-making process. It allows affected community and non-governmental organizations to involve and make comments and raise concerns during the decision making process. It also enables the affected community and other concerned parties to access the results of decision-making process. Article 9 talks about access to justice that grants public to challenge decisions where the right to access to public participation or right to access to environmental information is violated. It also refers to cases in which the decisions are made without respecting environmental law.<sup>31</sup> To sum up, Aarhus Convention recognizes the importance and necessity of involving all stakeholders into decision making process. It enhances availability and accessibility of information regarding decisions made on environmental matters. Moreover, Convention enables accountability of governments and decision-making authorities as well as transparency of decisions-making process.

Aarhus Convention played an influential role in development of both the SEA Directive and the SEA Protocol. The SEA Directive is an important tool of integrating environmental protection into EU policies and it paved the way for the preparation of SEA Protocol (Marsden, 2008, p.91). Article 6 of the SEA Directive focuses mainly on participation and implementation of Article 7 of the Aarhus Convention. Article 7 of Aarhus Convention asserts that each Party makes necessary arrangements to provide opportunities for public participation in environmental policies, plans and programmes. The SEA Directive underlines the importance of access to and availability of information at various stages during an environmental assessment process. Similar to the SEA Directive, the SEA Protocol deals with participation, consultation and provision of information. Article 8 of the Protocol mainly focuses on obligation of each Party to ensure the public participation in strategic environmental assessment of plans and programmes by enabling public

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<sup>31</sup> For full text of the Aarhus Convention, see <http://www.unece.org/env/pp/treatytext.html> (Accessed on January 16, 2012).

concerned to express its opinions.<sup>32</sup> Protocol enables public participation in many sectors such as transport, agriculture and industry.

Directive 2003/35/EC, the Public Participation Directive, was introduced to incorporate several changes to EIA Directive to ensure compliance with Aarhus Convention (Marsden, 2008, p.192). Article 2 of the Directive focuses on public participation concerning plans and programmes. It defines obligations of Member States to give effective opportunities to public to participate during the preparation or review of the plans and programmes which are listed under Annex 1.<sup>33</sup> It also clarifies the term ‘public concerned’ stating that the term includes non-governmental organizations, groups and associations as well as legal or natural persons. In general, the Directive focuses on improving public participation and access to justice in line with the provisions of Aarhus Convention.

Directive 2003/4/EC of 28 January 2003 repealed Directive 90/313/EEC of 7 June 1990 on freedom of access to information due to a growing need to incorporate several issues into original text after EU signed the Aarhus Convention. Amended text underlined the significance of access to and availability of environmental information.

### **3.4. An Overview of the European Union’s EIA Practice**

In 2010, after carrying out an elaborate study, an independent consultancy firm issued a final report titled “Collection of information and data to support the Impact Assessment study of the review of the EIA Directive”.<sup>34</sup> This study was carried out for Directorate-General for Environment, one of the Directorate-Generals that make up the European Commission, to provide data regarding the EIA activity across the

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<sup>32</sup> For full text of the SEA Protocol, see [http://www.unece.org/env/eia/about/sea\\_text.html](http://www.unece.org/env/eia/about/sea_text.html) (Accessed on January 19, 2012).

<sup>33</sup> Directive 2003/35/EC; OJ L 156/23, 25.6.2003

<sup>34</sup> For further information see “Collection of information and data to support the Impact Assessment study of the EIA Directive-Final Report”. GHK, September 30, 2010. London. Retrieved from [http://ec.europa.eu/environment/eia/pdf/collection\\_data.pdf](http://ec.europa.eu/environment/eia/pdf/collection_data.pdf) (Accessed on January 25, 2012).

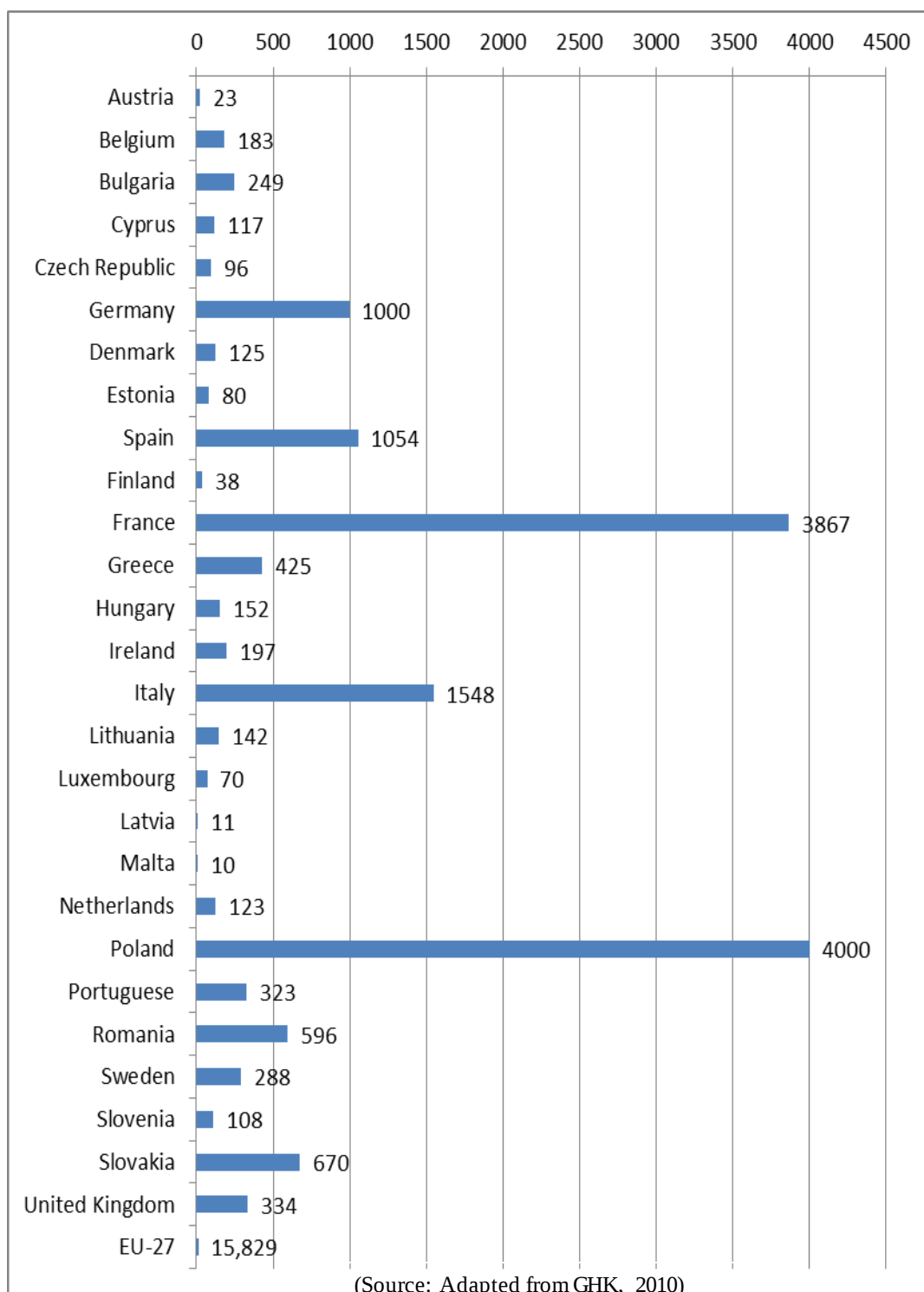
EU. The findings of the survey is important since it is one of the few comprehensive studies that laid down the number, duration and environmental benefits of the EIAs carried out in all Member States. The study utilized from case studies and the data supplied by Member States. In cases where the related data was not available, the study made estimates to fill the gaps. In this section, significant results of the above mentioned study will be summarized to provide a general outlook of the practice of EIA in the EU.

The study analyzed and quantified numerous data to identify characteristics of EIA activity across the EU. One of the findings of the survey suggests that, each year, approximately 16,000 EIAs and 34,000 screenings are carried out across the EU (GHK, 2010, p.19). Except from Estonia and UK, there has been an increase in the number of EIAs carried out between 2005 and 2008 and the number of EIAs carried out is generally correlated with the size of the Member State population. Following table shows the average number of EIA carried out by Member States per year between 2005 and 2008.<sup>35</sup>

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<sup>35</sup> With regard to data presented in Table 1, GHK made estimates based on a correlation between population and average annual EIAs for eight Member States (Bulgaria, Italy, Lithuania, Luxembourg, Portugal, Romania, Sweden, Slovenia) that did not provided data for its survey.

**Table 1** Average number of EIAs carried out by Member States per year (2005-2008)



Another finding of the study lays down sectoral breakdown of the number of EIAs undertaken in some Member States. Sectors are divided into three categories: infrastructure, development, other. Infrastructure category covers energy, transport, water and waste management. Development category consists of urban and industrial development. ‘Other’ includes all the other categories which are not covered by the infrastructure and development category. Table 2 illustrates the sectoral breakdown of the EIAs undertaken by selected Member States.<sup>36</sup>

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<sup>36</sup> The table 2 includes Member States which made information on sectoral breakdown available. Since it is problematic for GHK to make estimations on sectoral breakdown of projects to fill the gaps, the figure does not include Member States that did not provide relevant data on this matter.

**Table 2** Sectoral breakdown of EIAs by Member States

| Member States  | % of EIAs on<br>Infrastructure | % of EIAs on<br>Development | % of EIAs on<br>Other |
|----------------|--------------------------------|-----------------------------|-----------------------|
| Austria        | 22                             | 44                          | 34                    |
| Belgium        | 24                             | 49                          | 27                    |
| Cyprus         | 47                             | 33                          | 20                    |
| Czech Republic | 38                             | 25                          | 37                    |
| Finland        | 67                             | 5                           | 28                    |
| Greece         | 80                             | 10                          | 10                    |
| Hungary        | 48                             | 18                          | 34                    |
| Latvia         | 53                             | 11                          | 36                    |
| Malta          | 39                             | 33                          | 28                    |
| Slovakia       | 37                             | 44                          | 19                    |

(Source: GHK, 2010)

Study shows that average duration of an EIA procedure is 11.3 months including 1.2 month required for screening in some Member States (GHK, 2010, p.20). For instance, this duration is five months in Slovakia, seven months in Greece and fifteen in Finland (GHK, 2010, p.18). It should be noted that the duration of the EIA process depends on the characteristics of the project. In other words, smaller and simpler projects can take less time whereas larger and complex projects take several years.

With regard to costs, EIA represents small portion of total development cost. The average cost to private or public developers to carry out an EIA is €53,053 (GHK, 2010, p.17). However, this rate varies across the EU ranging from €2,500 in Ireland to €200,000 in Netherlands. EIA costs to project undertaker are approximately 1% of project costs but this rate varies ranging from 0.01% to 2.37% in different Member States according to the complexity of the project (GHK, 2010, p.2)

In conclusion, with regard to the benefits of carrying out an EIA, the study underlines that, EIA helps raising the profile of the environment in the decision making process. Moreover, EIA process advocates better integration of environmental concerns into development actions and decision. Through public participation, EIA process improves project design and reduces negative environmental impacts. Last but not least, study affirms that the Member States have widely recognized the benefits of carrying out an EIA.

Having focused on general overview of EIA practice across the EU, it is necessary to discuss issues and problems which shape the patterns of EIA practices that result in national variation in EIA performance.

#### **3.4.1 Issues in European Union's EIA**

EIA process has become a significant tool for environmental management and protection across the European Union since its introduction. However, effectiveness of enforcement and implementation of EIA in Member States has been increasingly

criticized by various institutions of the EU, environmental NGOs, EIA practitioners and many more.

According to the EU law, all provisions of the EIA Directive and related Directives must be transposed correctly into national law. A transposition is also necessary even if the Member State already complies with the obligations of the EIA Directive. In addition to this, transposition measures must cover the whole territory of a Member State and sanctions for non-compliance must be established. These sanctions must be elaborated by national authorities and they should be equivalent to sanctions for breach of equivalent national law. Apart from correct transposition, Member States are obliged to ensure the practical application of these Directives as well (Kramer, 2011, p.396). Hence, it is safe to conclude that the effective implementation is realized when formal transposition and practical application of the EIA Directive comply with the objectives specified in the EU law.

Especially during the early years of the introduction of the EIA Directive, Member States had problems regarding correct and timely transposition of the provisions of the Directive (Wood, 2003, p.45). In early years, some Member States such as UK, Netherlands and France transposed and started implementing the Directive on time whereas Member States such as Belgium, Portugal, and Greece were late (Kramer, 2007, p.136). Especially regarding the amendments of 1997 and 2003, further delays in the transposition of the EIA Directive was experienced. Ireland, Austria, Belgium and Luxembourg were among the countries that could not complete the transposition on time. Some of the transposition problems that Member States experienced in early years of the EIA were due to the objectives of the Directive which give primacy to environmental concerns. For many Member States, The Directive introduced rules and obligations that were unprecedented especially with regard to planning and permitting procedures (Kramer, 2011, p.157). EIA process required Member States to consider environmental protection and preservation over economic concerns. In other words, the provisions of the EIA Directive is designed to give priority environmental concerns which affects specific economic interests of

many actors such as developers, industrial companies, several public authorities. Today, most of the transposition problems are solved. However that is not the case with regard to implementation problems. Practical application of the EIA legislation is far from being successful and complete.

Unclear nature of some of the requirements of the EIA Directive is one of the issues that cause problems in effective implementation. One of the weaknesses of the Directive is its loose drafting that enables large discretion to national authorities. Due to the loose drafting of the Directive, Member States exceed their margin of discretion which results in large differences with regard to number of EIAs carried out in each Member State. Differences in the quality of EIA documentation and reports, non-application of some of the requirements, lack of harmonized practice for public participation are also consequences of lack of uniform standards for concluding EIA across the EU.

Another problem is related with the coverage of the EIA Directive. It covers both public and private projects. Hence, in many cases, public projects are simply approved without going under detailed evaluation since the competent environment agency is under the control of the government (Moreno, 2006, p.53). Lack of substantial standards for conducting an EIA process is another weakness of the Directive since it does not lay down a clear methodology. Thus, this leads to superficial assessments carried out to fulfill the obligations.

It should be noted that, in some cases, differences in national arrangements, implementation levels and operational compliance is related with country's lack of previous experience on environmental law making and implementation. This is especially the case for candidate countries and countries that are newly acceded to EU. Primacy of economic and political problems over environmental problems is a common symptom in these countries. Hence, as explained earlier, policies that foster economic growth is given priority over policies that introduces limitation to excessive use of natural resources. In addition to this, these countries tend to

perceive EIA as a costly separate process and they do not see EIA as an integral part of environmental management and planning. Secondly, even if environmental policies are introduced, the implementation and effectiveness of these policies are very insufficient since it is not enough to adopt environmental acquis without understanding the essence of what acquis is trying to establish. Moreover, as Bandi underlines, adopting EU law is not enough without focusing on domestic environmental problems that may require different or additional measures (2006, p.527). Lastly, another important problem is the lack of substantial environmental administration or insufficient funding of environmental bodies in these countries. Lack of such institutions prevents the public to access quality environmental information.

Overall, the problems in transposition and implementation of EIA stems from gaps and shortcoming in the EIA Directive as well as unique features of Member States. When formulating policies to ensure better enforcement and implementation, economic, social and cultural backgrounds of Member States must be taken into account as well as shortcomings of the EIA Directive.

Having reviewed the reasons of problems regarding the effective implementation of EIA in the EU, a review of Commission's report on the application and effectivity of the EIA Directive will be given to provide an insight to EU's overall evaluation with regard to implementation of EIA across the Union. Following the overview, several suggestions on how to improve the practical application of the EIA Directive will be discussed.

#### **3.4.2 The EU's Evaluation of Application and Effectivity of the EIA Directive**

In 2009, European Commission prepared a report that reviewed the twenty years of application of the EIA Directive in all Member States (COM (2009) 378). Report aimed to assess the effectivity of the EIA Directive and system throughout the

Union. The findings of the report are significant in terms of pointing out different levels of implementation and effectivity of EIA in all Member States.

Report states that, overall, principal objectives of the EIA Directive have been achieved and in general, all Member States have transposed and started implementing the requirements that the EIA Directive lays down. And in some cases, some countries go beyond the requirements of the Directive and introduced further obligations and responsibilities, especially regarding screening and scoping processes of EIA. However, there are other cases such as Ireland which failed to transpose the EIA Directive as amended. Court of Justice of the European Union found against Ireland in Case C-50/09 in 2011, that Ireland had not fully or correctly transposed elements of the EIA Directive.<sup>37</sup> Report adds that there are still some problems among the Union regarding the implementation of the amendments introduced with Directive 2003/35/EC. Despite difficulties in implementation, 2003 amendments contributed the consolidation of democracy in Union through enhancement of public involvement and participation in decision making. This is especially the case for the countries that became a member between 2004 and 2007.

Firstly, report lays down significant benefits of the EIA Directive and system. One of the benefits of EIA is that it enables transparency in decision-making process. Secondly, EIA proves to be an important tool for improving project design and decision making process. Another important contribution of EIA is that, it enables the incorporation of environmental concerns and considerations into developmental actions. Hence, it provides the set of requirements that helps establishing better environmental protection and conditions. And most importantly, EIA process gives the opportunity to Member States to initiate process where they can introduce their own principle for best practice.

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<sup>37</sup> Case C-50/09 European Commission v. Ireland (2011).

After reviewing the benefits, report focuses on problematic issues that need to be improved. Firstly, the number of EIAs carried out is very few in some Member States. This is especially the case for the projects listed under Annex 2 where Member States are given discretion to determine whether an EIA should be carried out. Another problem is the quality of information in EIA reports. According to report, EIA reports prepared in different Member States and also within single Member State show differences in the quality of information. Lack of standard practice among Member States regarding public participation is another issue since there is no established common reference point for the beginning of public consultations. In some Member States, public is consulted in early stages such as screening, and in some others in later stages. Moreover, in some Member States, due to national arrangements, some information and documents are not available for public display for certain amount of time. Fourth problem is the difficulty of implementing the procedures of transboundary EIA. Differences in time frames, languages and some other internal processes cause difficulties among Member States. Projects which are carried out under the jurisdiction of more than one Member States are also problematic due to broad principles of the EIA Directive regarding this issue and differences in national EIA procedures of each Member State. Another important shortcoming underlined in report is inadequate scope of the EIA Directive regarding biodiversity and climate change matters. Biodiversity and climate change problems are not directly addressed and assessed within EIA process since the EIA Directive does not include these issues explicitly and sufficiently.

Overall, despite certain shortcomings with regard to legal framework and practical application of the EIA Directive, report concludes that all Member States have established necessary regulatory frameworks and reached a certain level of implementation. Since EIA is an evolving process, it is possible to promote better effective implementation of the EIA legislation across the EU by introducing certain measures.

### **3.4.3 How to Improve Effectiveness of the EU's EIA**

Having reviewed the Commission's evaluation, it is safe to conclude that main objectives of the EIA Directive have been incorporated into national legislation of Member States. However, with regard to ongoing issues in implementation, several measures can be taken to strengthen effective implementation of EIA across the EU.

Firstly, a stronger procedure that promotes legal certainty of some loose provisions of the EIA Directive would constitute an important step towards effective implementation (Moreno, 2006, p.59). Similarly, introducing limitations to discretion given to Member States regarding the projects listed under Annex 2 of the EIA Directive is recommended. In addition to this, cases where Member States can be exempted from conducting an EIA should be clearly defined. Another important issue that needs to be addressed is the content of the EIA Directive. It is recommended that differences between public and private projects are realized through introducing specific requirements for cases where a public institution undertakes a project. In relation to this, in public projects, the agency which carries out the impact assessment process should be different from the one that initially proposed the project.

Another measure that can be taken to strengthen implementation of the EIA is increasing the degree of harmonization of legislation. Legal harmonization is an important prerequisite for standard and harmonized practical application. Starting from the establishment of the common market, the European Commission has been trying to align national regulations with the standards and requirements of the Union to create uniformity of legislation in all Member States. EIA is one of the areas where EU has been particularly active to actualize this objective. However, there are still some important variations in legal harmonization of EIA law across the Union. Each Member State has a different national attitude to some requirements of EIA process. As discussed before, these differences are reflections of the cultural, political, economic, legal and administrative practices of Member States. Thus, they

result in divergent practice of EIA across the Union. To establish a more harmonized and uniform EIA system, there is a need for more comprehensive harmonization of EIA legislation through introducing more strict regulations and rules that encompasses all Member States.

Another measure for effective implementation of EIA is initiating joint procedures in which requirements of the EIA and the SEA Directives are met. Despite their differences, two Directives are essentially complementary to each other. As explained before, the SEA Directive applies to plans and programmes whereas the EIA Directive applies to public and private projects. However, both Directives have many overlapping elements. Projects which are made up of sub-projects, projects that require changes to land use plans, plans and programmes which set binding criteria for the subsequent development consent of projects are examples to overlapping areas (Marsden, 2008, p.240). Hence, to overcome the inconsistencies and implementation problems resulted from overlapping elements, there is a need for initiating coordinated or joint procedure. In this context, merging of the EIA and the SEA Directives can be considered as a rather radical measure for initiating joint procedure. However, Commission's report on the application and effectiveness of the SEA Directive states that very few Member States favored merging of the EIA and the SEA Directives stating that each process should be completely separate in its own right (COM (2009) 469). Report added that the experience of Member States in application of the SEA Directive is limited. Hence, at this stage, introduction of a coordinated or joint network will contribute to better implementation more than merging of the two Directives.

Besides above mentioned measures, the EU can promote better enforcement and implementation of EIA law and practice through employing several institutional mechanisms effectively. One of the institutional mechanisms that helps better enforcement and implementation of the EIA legislation is the Court of Justice of European Union. The Court of Justice of the EU fines Member States in cases where they fail to comply with its judgments. In addition to this, the Court develops "gap-

filling” doctrines to ensure that non-transposed provisions of Directives still have a legal impact in national legislation of Member States which did not correctly or completely transpose a specific legislation (Macrory, 2006, p.390).

European Commission is another institution that plays a significant role in ensuring transposition, implementation and compliance by monitoring Member States and writing periodical reports that assesses level of transposition and application (Kramer, 2011, p.400). The Commission is responsible for investigating complaints and petitions coming from citizens, NGOs, EU organizations and the European Parliament. After having received the complaint, the Commission asks for documents and information on related issue from the relevant Member State and can take legal actions if it deems necessary. This complaint system is significant since it enables Commission to connect with citizens or NGOs across the Union. Apart from this, the Commission can use reports submitted by Member States to detect a breach of the EU environmental law.

Another very important mechanism that helps correct implementation of EU environmental legislation is European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL). IMPEL was founded in 1992 as an informal network that assisted national regulatory bodies to exchange information and feedback on legislation and application regarding environmental matters of Member States, acceding and candidate countries.<sup>38</sup> It assists Commission and European Parliament in implementation and enforcement of environmental law. Moreover, it facilitates the fostering of national networking system on environmental inspection and permitting. Despite being an informal body, IMPEL was recognized in Sixth Environmental Action Programme and Recommendation 2001/331/EC.<sup>39</sup>

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<sup>38</sup> For more information on IMPEL see <http://impel.eu/> (Accessed on March 2, 2013).

<sup>39</sup> European Union Network for the Implementation and Enforcement of Environmental Law, Multi-Annual Work Programme 2007-2010, adopted in Espoo, 6-8 December 2006.

IMPEL is currently working on better implementation and enforcement of different EU Directives such as EIA Directive, Public Participation Directive, Air Quality Framework Directive (96/62/EC), Landfill Directive (99/31/EC), Water Framework Directive (2000/60/EC) by carrying out different projects. IMPEL carries out various projects under two different clusters. First cluster is on improving implementation of EU environmental law whereas second one is about transfrontier shipment of waste. Projects covered by the EIA Directive and the Public Participation Directive fit into first cluster. Since 1997, IMPEL has finalized more than hundred projects on various subjects listed under two clusters.

At present, IMPEL is carrying out a project titled “The Implementation of the Environmental Impact Assessment on the Basis of Precise Examples”<sup>40</sup> with five Member States led by Austria. Overall, this project aims to improve methodologies, provide feedback to policy makers and develop good practice. Upon the completion of the project, a final report which includes recommendations on how to improve the implementation and enforcement of EIA across the EU will be presented.

In conclusion, by employing aforementioned institutional mechanisms effectively and taking certain measures that will strengthen the EIA legislation, the EU can promote effective implementation of the EIA process throughout the Union. As it has been underlined earlier, there is a growing need to take certain measures to strengthen EIA legislation to promote better enforcement and implementation. By recognizing this need, the European Commission decided to launch a wide public consultation process to collect opinion on effectiveness of the EIA process and assist Commission to review and amend the current EIA Directive. Commission prepared an on-line questionnaire available in all official EU languages for citizens, organizations and public authorities of Member States. Commission evaluated 1365 responses that were received as a result of on-line public consultation drew up

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<sup>40</sup> For further details see Project no:2012/09 on <http://impel.eu/projects/the-implementation-of-the-environmental-impact-assessment-on-the-basis-of-precise-examples-2/> (Accessed on February 27, 2013).

several important conclusions on functionality and effectiveness of the EIA Directive and EIA process.<sup>41</sup>

Upon the completion of on-line questionnaire, European Commission organized a conference for 25th anniversary of the EIA Directive. Conference was held in Leuven, Belgium and it brought together public authorities, environmental NGOs, industry organizations, representatives from EU and international organizations and academics. Conference aimed to get the views of all these actors on strengths and weaknesses of the EIA Directive.<sup>42</sup>

By taking the results from on-line questionnaire and opinions shared during the Conference into account, Commission set up a tentative timetable for adoption of a new Directive that will introduce amendments to the current EIA Directive. On 26 October 2012, Commission adopted proposal for a new Directive that will be finalized in 2014 and enter into force in 2016. According to Commission's press release, the new Directive aims to "adjust the procedure that determines whether an environmental assessment is needed. This will ensure that only projects with significant environmental impacts are subject to such an assessment".<sup>43</sup> Another objective of the new Directive is to "strengthen rules to ensure better decision making and avoid environmental damage".<sup>44</sup> In addition to these, the new Directive aims to "streamline the various stages of the EIA process, by introducing timeframes and a new mechanism to ease the process when several assessments are required and several authorities involved".<sup>45</sup>

Overall, it can be concluded that the new Directive aims to strengthen the quality of EIA and provisions concerning screening procedure. New Directive proposes to

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<sup>41</sup> For more information on the European Commission's public consultation see <http://ec.europa.eu/environment/consultations/eia.htm> (Accessed on February 6, 2013).

<sup>42</sup> For more information on the Conference see [http://ec.europa.eu/environment/eia/conference\\_25years.htm](http://ec.europa.eu/environment/eia/conference_25years.htm) (Accessed on February 21, 2013).

<sup>43</sup> European Commission press release, Brussels, IP/12/1158, 26.10.2012.

<sup>44</sup> Ibid.

<sup>45</sup> Ibid.

modify the criteria of Annex 3 of the EIA Directive to avoid unnecessary red tape for small-scale projects. With this amendment, it is desired that EIAs are carried out only for projects which would have significant environmental impacts. Moreover, new Directive introduces provisions that reinforces the quality of EIA by advocating mandatory scoping, mandatory post-EIA monitoring of adverse impacts. In addition to this, European Commission proposes another set of amendments that introduces certain time frames for screening, public consultation and final EIA decision to eliminate inconsistencies and increase efficiency. Lastly, new proposal includes previously excluded issues such as biodiversity and climate change to adapt the EIA to changing environmental conditions and issues. In relation to this, it advocates a coordinated approach between EIA Directive and other related Directives.

In conclusion, after twenty five years of application, there emerged a need for modifying the EIA Directive in line with the requirements of changing policies and circumstances. These amendments will play a crucial role on increasing the effective implementation of EIA process across the European Union. In addition to this, environmental and socio-economic benefits of proposed changes will outweigh the cost burdens resulted from the implementation of these new provisions.

## CHAPTER 4

### ENVIRONMENTAL IMPACT ASSESSMENT IN TURKEY

#### 4.1 General Outlook of Turkey-EU Relations

Turkey's intention to become a member of EU dates back to early 1960s. Turkey first applied for associate membership of the European Economic Community (EEC) in 1959. Instead of granting full membership, EEC signed an Agreement Establishing an Association between European Economic Community and Turkey on 12 September 1963.<sup>46</sup> Association agreement otherwise known as Ankara Agreement aims to strengthen economic and trade relations between Turkey and EEC through customs union. Ankara Agreement introduced a three staged process to establish a customs union between EEC and Turkey that will lead to Turkey's eventual membership. In 1970, Additional Protocol which prepared grounds for the establishment of the customs union by setting a timetable for the abolishment of tariffs and quotas on goods traded between Turkey and EEC was signed.

In 1987, Turkey made an application for full membership but received a negative answer on December 1989. On 31 December 1995, Customs Union decision came into force upon the finalization of agreement by Turkey-EU Association Council. With the initiation of customs union, quantitative restrictions and measures of equivalent effect on trade in industrial goods, including processed agricultural products, between Turkey and the EU was abolished. It also meant progressive alignment of Turkey's commercial and competition policy in line with EU's.

Turkey's efforts to become a full member continued in the following years. Turkey was disappointed when its eligibility to become a member was declined in 1997 Luxembourg Summit. However, in Helsinki Summit which took place in December 1999, Turkey was officially recognized as an EU candidate country. This meant that,

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<sup>46</sup> For more details on Ankara Agreement see <http://www.abgs.gov.tr/index.php?p=117&l=2> (Accessed on January 24, 2013).

Turkey will benefit from a pre-accession strategy designed to encourage and support its reforms. In March 2001, Turkish government announced the National Programme for Adoption of the *acquis communautaire*.

Another significant development took place in 2002 Copenhagen Summit. European Union stated that the negotiations will be opened in 2004 depending on Turkey's fulfillment of Copenhagen Criteria<sup>47</sup>. In its report, European Commission stated that the negotiations should begin in 2005. Hence, it is agreed on December 2004 to start accession negotiations of Turkey from 3 October 2005. On October 2005, European Council adopted Negotiating Framework that laid out the principles that characterized negotiations and a screening process was launched to examine the *acquis communautaire*.

In order for Turkey to become a full member, it has to successfully close 35 chapters of the *acquis communautaire*. Turkey opened and closed the chapter on Science and Research in 2006. In the same year, due to a political dispute regarding Cyprus issue, EU froze the opening of eight chapters and stated that no chapter will be opened until Turkey fulfills its commitments on Additional Protocol regarding the opening up of ports and airports to traffic from Cyprus. In 2007, five more chapters were opened to negotiation. In 2008, European Council adopted a revised version of Accession Partnership document and four more chapters were opened. In 2009, Taxation and Environment chapters were opened. In 2010, negotiations on Food

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<sup>47</sup> Copenhagen Criteria can be defined as: set of rules and conditions that a candidate country must fulfill to become a Member State. A member state must ensure the stability of institutions guaranteeing democracy, rule of law, human rights and respect for and protection of minorities; maintain the existence of a functioning market economy and insure the acceptance of the Community *acquis communautaire*. See [http://europa.eu/legislation\\_summaries/glossary/accession\\_criteria\\_copenhagen\\_en.htm](http://europa.eu/legislation_summaries/glossary/accession_criteria_copenhagen_en.htm) (Accessed on January 26, 2013).

Safety, Veterinary and Phytosanitary Policy Chapter were opened. Currently, there are 13 opened chapters and 1 completed chapter.<sup>48</sup>

As it has been noted above, Turkey has an official policy objective to become a member of European Union. Hence, after the Accession Partnership was put into effect, Turkey started to fulfill its obligations to adopt *acquis communautaire*. Environment chapter is one of the chapters that Turkey must make necessary changes to bring its environmental law in line with European Union law. Environmental Impact Assessment is an integral and important part of EU environmental law that Turkey is currently trying to make necessary procedural and practical arrangements to fulfill its obligations as a candidate country.

## **4.2 History of EIA in Turkey**

In Turkey, as in Europe, concern over environmental degradation and necessity to take certain measures to preserve the environment increased in late 1970s and early 1980s. Turkey introduced its first environmental legislation, Environment Code No. 2872<sup>49</sup> in 1983.

The objective of the Environment Code is defined as “to protect and improve the environment which is the common asset of all citizens; make better use of, and preserve land and air pollution; by preserving the country’s vegetative and livestock assets and natural and historical richness, organize all arrangements and precautions for improving and securing health, civilization and life conditions of present and future generations in conformity with economical and social development objectives, and based on certain legal and technical principles” in Article 1.<sup>50</sup>

Apart from underlining the importance of preserving and protecting environment, Environment Code has also made a reference to EIA. EIA has gained a legal stand

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<sup>48</sup> For further details on the EU-Turkey relations see [http://ec.europa.eu/enlargement/candidate-countries/turkey/eu\\_turkey\\_relations\\_en.htm](http://ec.europa.eu/enlargement/candidate-countries/turkey/eu_turkey_relations_en.htm) (Accessed on January 26, 2013).

<sup>49</sup> In some sources “Environment Law No. 2872” is used instead of “Environment Code No.2872”.

<sup>50</sup> Official Gazette dated August 11, 1983, numbered 18132, Article 1.

with Article 10 of the Environment Code which reads “the institutions, agencies and establishments that can lead to environmental issues due to their planned activities will prepare an Environmental Impact Assessment Report. In this report all impacts on the environment will be considered and the methods for eliminating the harmful impacts of wastes and scraps that may cause environmental pollution and corresponding precautions will be specified. The issues concerning the type of projects that this Environmental Impact Assessment Report will be required, its contents and the endorsement authority will be specified in a regulation.”<sup>51</sup>

In 2006, Code No. 5491 amended the Environment Code. Revised version incorporated sustainable development among its objectives. It also reasserted the significance of protecting biological diversity and introduced penal sanctions against damage to the environment, including the destruction of biological diversity, when detected through inspection and audits.<sup>52</sup>

As explained above, EIA was already mentioned in Environment Code No. 2872. However, it required establishment of a more comprehensive legal framework. Hence, on 7 February 1993<sup>53</sup>, By-law on Environmental Impact Assessment was promulgated on the basis of Article 10 of the Environment Code No. 2872. The purpose of the EIA By-law is “to regulate administrative and technical principles and procedures for the process of Environmental Impact Assessment”.<sup>54</sup> The EIA By-law was revised four times due to problems in implementation and Turkey’s obligation to harmonize its national law with the EU’s law.<sup>55</sup>

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<sup>51</sup> Ibid., Article 10.

<sup>52</sup> Official Gazette dated May 13, 2006, numbered 26167.

<sup>53</sup> Official Gazette dated February 7, 1993, numbered 21489.

<sup>54</sup> Official Gazette dated July 17, 2008, numbered 26939.

<sup>55</sup> First three revisions were done on 23 June 1997 (Official Gazette No:23028), 6 June 2002 (Official Gazette No:24777), 16 December 2003 (Official Gazette No:25318). The latest revision on the EIA By-law was done on 17 July 2008 (Official Gazette No:26939). In 2011, Ministry of Environment and Urbanization introduced an amendment to 2008 By-Law on EIA and added several more projects types under Annex 1 and Annex 2 of the By-law.

Except for articles related with transboundary EIA, in its wording, current EIA By-law is fully harmonized with the EU EIA Directive. Despite the fact that Turkey has been a member of UNECE since 1947, it has neither signed nor ratified the Convention on Environmental Impact Assessment in a Transboundary Context, or Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.

### **4.3 Legal Framework of EIA Process in Turkey**

In Turkey, the EIA Regulation was drafted by the former Ministry of Environment in 1993. Before the establishment of Ministry of Environment in 1991, General Directorate of Environment was the responsible body in terms of environmental matters since its establishment in 1978. In 2003, Ministry of Environment merged with Ministry of Forestry, thus formed the Ministry of Environment and Forestry. In June 2011, Ministry of Environment and Forestry became Ministry of Environment and Urbanization. Currently, “General Directorate of Environmental Impact Assessment, Permits and Control” which is designated under Ministry of Environment and Urbanization, is responsible for monitoring and inspection of projects which are within the scope of EIA.

Main structure of the EIA system in Turkey is very similar to the structure of the European Union’s EIA Directive (Turgut, 2003, p.163). Similar to EIA in European Union, EIA process in Turkey can be defined as:

Studies to be carried for determining the likely positive or negative impact that the projects will have on environment; studying possible environmental protection measures relating to these projects in order to minimize negative effects; determining and assessing selected technological alternatives and locations; monitoring and controlling the implementation of such projects.<sup>56</sup>

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<sup>56</sup> Official Gazette dated July 17, 2008, numbered 26939, Article 3.

According to the EIA By-law, preparation of an EIA report is obligatory for projects listed under Annex 1, projects listed in Annex 2 with “Environmental Impact Assessment is Required” decision has been made and projects whose total capacity increase is equal to or above the threshold value given in Annex 1. For projects which are listed under Annex 2, the developer must submit a petition to the Ministry of Environment and Urbanization asking for an examination to determine if an EIA application is required for the project that he is planning to implement. Upon the submission of the request, the Ministry makes a decision of “Environmental Impact Assessment is Required” or “No Environmental Decision is Required”. After receiving the decision, developer has to start the project in 5 years since before the validity of the decision expires within 5 years. The projects that received “Impact Assessment is Required” decision undergo EIA procedure like the rest of the projects which are subject to EIA process.

Before the realization of any project which is under the scope of mandatory EIA, the developer of the project must apply to General Directorate of EIA, Permits and Inspection with EIA Application File, which is prepared in line with the requirements stated in the EIA By-law. Upon the presentation of the file, General Directorate of EIA, Permits and Inspection examines the documents and information to determine if the file was prepared correctly. In cases of incorrect preparations, deficiencies and non-conformities, developer reviews and corrects the file and resubmits it to the General Directorate. Once the format of the file is approved, a Commission<sup>57</sup> consists of project owner, representatives of related organizations, institutions and officials from Ministry of Environment and Urbanization is formed. Also, a copy of the application file is sent to related governorate. After governorate receives the file, it makes an announcement to public about the initiation of an EIA process regarding a particular project and invite public to submit their opinions and

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<sup>57</sup> EIA By-law defines the Commission as “the Scoping, Examining and Evaluation Commission established by the Ministry in order to determine the scope and criteria of the special format given to a project and to examine and assess the EIA Report which is prepared in line with these principles”. Official Gazette dated July 17, 2008, numbered 26939, Article 4(r).

questions. Hence, a public participation meeting is arranged at the location of the project by the project owner or governorate. Upon the determination of the meeting place, the project owner is responsible for announcing the meeting in national and local newspapers at least 10 days before the date of the actual meeting.

Upon the completion of public meetings and hearing, the Commission gathers to get more information on environmental impacts of the projects as well as the outcome of the public meeting. If some of the representatives of the Commission have attended the public participation meetings, their recommendations and opinions regarding the outcome of the public participation meetings are taken into consideration during the commission gathering. After evaluating these pieces of information, Commission determines the scope of the assessment, format of the Environmental Impact Assessment Report and the working group that will prepare the Report. After receiving these pieces of information, developer is under the obligation to submit the EIA report to Ministry of Environment and Urbanization within one year. Generally, EIA Reports are prepared by eligible firms which have an EIA Proficiency Certificate given by the Ministry that allows them to prepare EIA reports and EIA application files.

When the Ministry receives the EIA report, it evaluates the report to determine if it has been prepared in correct format and by professionals who should have been part of the formation of the working group. Once Ministry decides the report is compliant with the requirements, a meeting with Commission members is arranged to assess the EIA Report in detail. Commence of the examination and assessment process and submission of the EIA Report is announced to the public on internet and also by other means. The EIA Report is made available to public at the center of Ministry of Environment and Urbanization, on its official website and at Provincial Directorates.

While assessing the EIA Report, Commission examines the accuracy and adequacy of information and documents presented and whether an effective public

participation meeting has been conducted. If deems necessary, Commission may conduct studies, request detailed information, tools, measurements from the developer during the assessment. After the finalization of the assessment of the EIA Report, developer submits the Report to the Ministry. By taking the public opinion and the studies of the Commission into account, Ministry gives an “Environmental Impact Assessment is Positive (EIA Positive)” or “Environmental Impact Assessment is Negative (EIA Negative)” decision. This final decision is announced to the public with its reasons.

The decision of “EIA Positive” indicates that as a result of the measures to be taken, negative environmental impacts of a proposed project can be kept at acceptable levels and thus the project is applicable whereas the decision of “EIA Negative” means that the realization of a proposed project is not advised due to significant negative impacts.<sup>58</sup> After receiving EIA Positive decision, the developer has to initiate the project within 7 years, before the expiration of the validity of the decision. The developer that received EIA Negative decision for his project may make a new application in cases which there is a change in all the conditions that resulted in EIA Negative outcome.

Last step in Turkish EIA process is post-decision monitoring during construction and operational phases. The Ministry of Environment and Urbanization monitors and controls projects which “EIA Positive” or “EIA is Not Required” decision has been made. In addition to this, the developer is under the obligation to deliver monitoring reports on initiation, construction, operation and post-operation phases. If the developer fails to comply with these obligations, the Ministry may give extra time for the developer to fulfill the requirements. In cases where the developer continues to fail to comply with the requirements, the project stops.

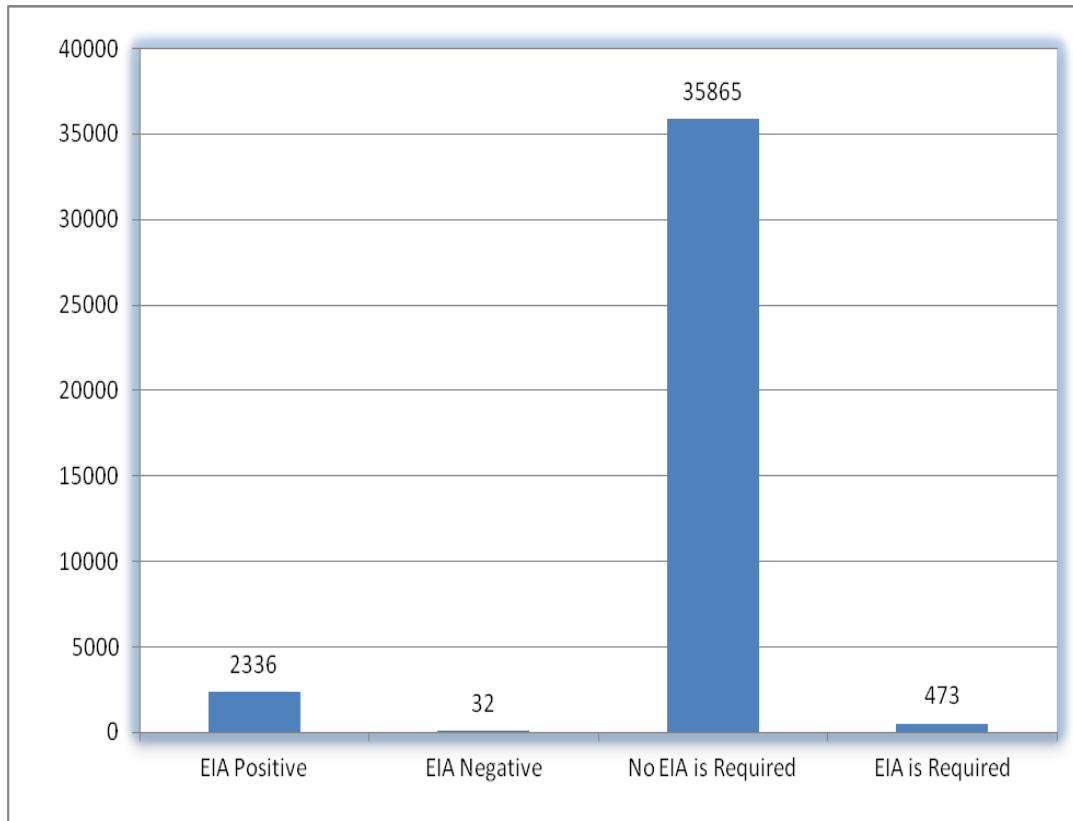
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<sup>58</sup> Official Gazette dated July 17, 2008, numbered 26939, Article 4(h), Article 4(i).

#### 4.4 An Overview of Turkey's EIA Practice

After laying down the legal structure of Turkish EIA, it is necessary to give an overview of data on practical application, made available by General Directorate of EIA, Permit and Inspection.

General Directorate of EIA, Permits and Inspection of the Ministry of Environment and Urbanization published data on EIA process carried out between the time of the adoption of the EIA By-law and 2011. Figure 1 shows the number of EIA decision between 1993 and 2011.

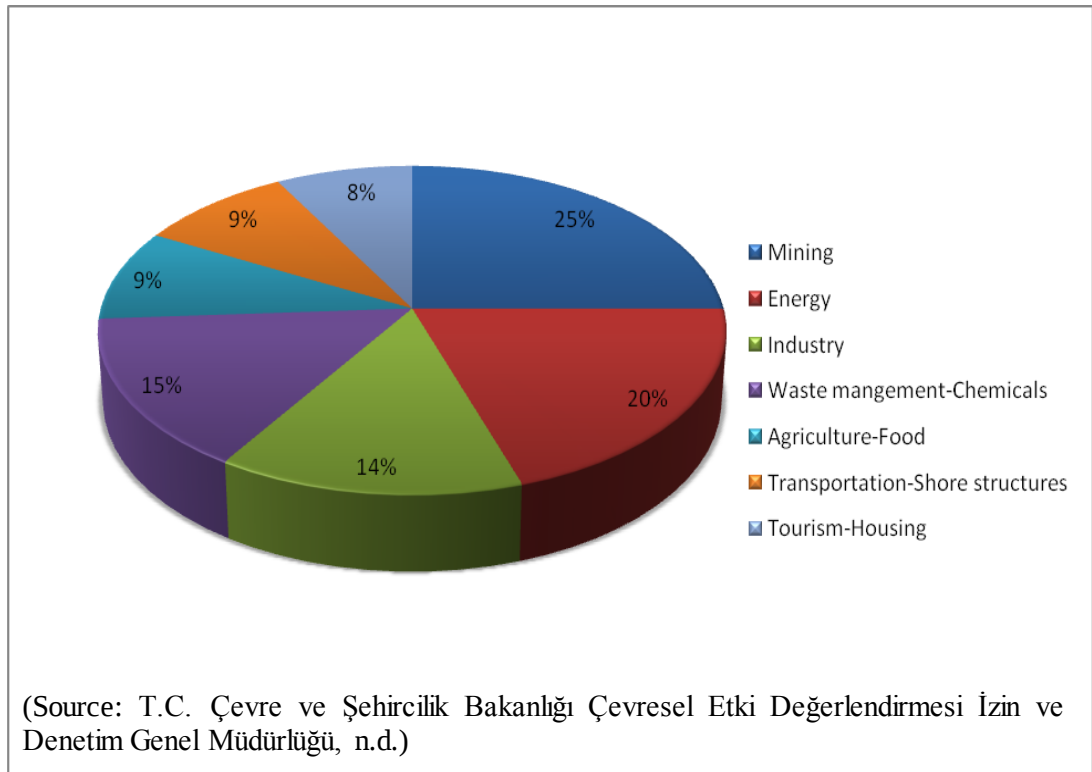


(Source: T.C. Çevre ve Şehircilik Bakanlığı Çevresel Etki Değerlendirmesi İzin ve Denetim Genel Müdürlüğü, n.d.)

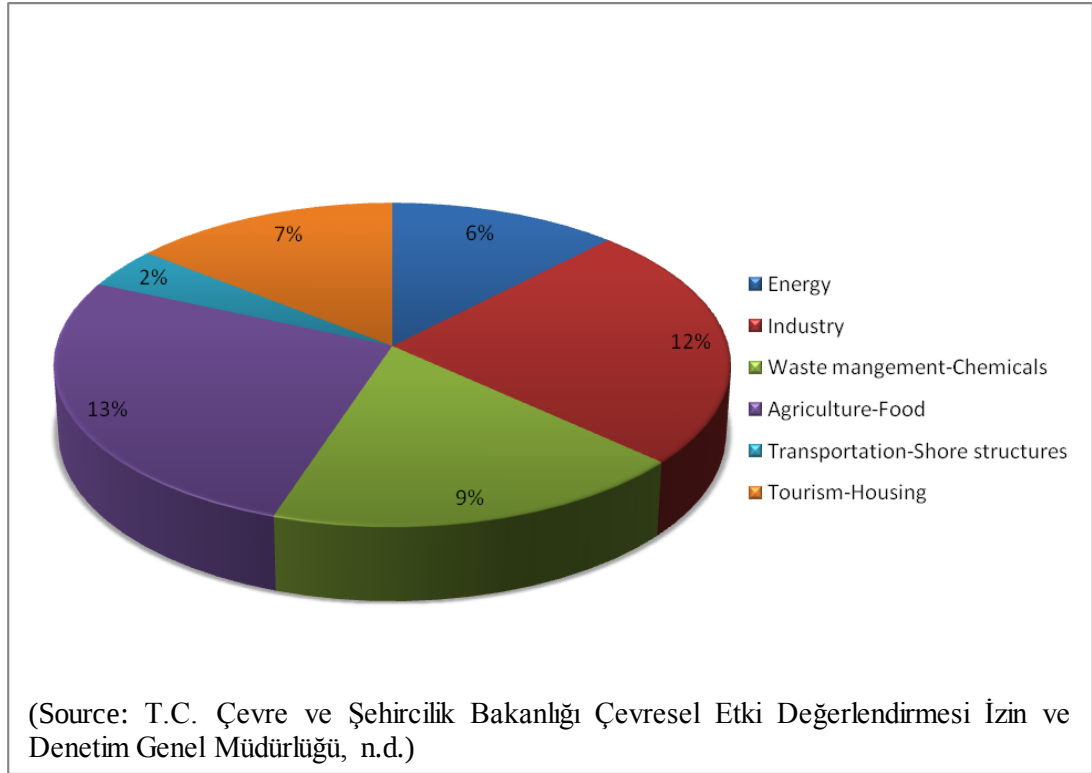
**Figure 1** Decisions made as a result of EIA applications between 1993 and 2011

As the figure 1 indicates, out of 38,706 EIA decisions made by the Ministry in total, 2336 EIA Positive decision has been made, meaning that the projects are applicable since their environmental impacts can be kept at acceptable levels. Only 32 EIA Negative decisions have been made to indicate that realization of these projects is unadvisable. 35,865 applications were resulted in “No Environmental Impact Assessment is Required” decision. This means that 35,865 projects were subject to selection and elimination criteria (under Annex 2 of the EIA By-law) and Ministry evaluated that these projects do not have significant adverse impacts and there is no need for preparation of an EIA Report. Remaining 473 applications were resulted in “Environmental Impact Assessment is Required” decision which makes the preparation of an EIA Report mandatory.

Following figures show the distribution of sectors with regards to “EIA Positive” and “No EIA is Required” decisions between 1993 and 2011. Mining and energy sector have a bigger share in total number of EIA Positive decisions compared to the share of tourism and agriculture sectors. With regard to “No EIA is Required” decisions, projects about mining sector constitute more than half of the total decisions made whereas transportation and energy have the smallest share.



**Figure 2** Sectoral distribution of “EIA Positive” decisions



**Figure 3** Sectoral distribution of “No EIA is required” decisions

Data and information made available by General Directorate of EIA, Permit and Inspection shows that 296 “EIA Positive” decisions have been made Turkey-wide in 2011.<sup>59</sup> Out of 296 decisions, projects located in Afyon, Ankara, Balıkesir, Gaziantep, İstanbul and İzmir have the highest number of EIA Positive decisions. With regards to “No EIA is Required” decisions, 4592 decisions were made Turkey-wide in 2011.<sup>60</sup> Investments and projects located in Ankara, Antalya, Balıkesir, Bursa, İstanbul and Kayseri have the highest number of “No EIA is Required” decisions.

<sup>59</sup> T.C. Çevre ve Şehircilik Bakanlığı Çevresel Etki Değerlendirmesi İzin ve Denetim Müdürlüğü, ÇED İstatistikleri (1993-2011), n.d. Retrieved from <http://csb.gov.tr/db/ced/webicerik/webicerik503.doc> (Accessed on January 2, 2013).

<sup>60</sup> Ibid.

#### **4.4.1 Issues in Turkey's EIA Process**

Similar to the EU case, Turkish EIA process has its shortcomings in full transposition and practical implementation. With regard to transposition of EU's EIA legislation, apart from provisions on transboundary EIA, the EIA Directive has been fully transposed into Turkish national law. In other words, Turkey's EIA By-law is not fully in line with the provisions of EIA Directive in cases where a project in Turkey is likely to have significant effects on the environment in a Member State. In such a case, Turkey has to send to the affected state a description of the project with its transboundary impacts and give other affected state a reasonable time to decide whether it wishes to participate in EIA process. Moreover, in such a case, Turkey has to ensure the availability of information on project, its potential impacts on the affected state, nature of decisions which may be taken to the public and related authorities in affected Member State. In addition to this, Turkey has to enable effective public participation process in which the affected public and public authorities can contribute to decision making process. However, currently there is no change in the compliance status of the provisions related to transboundary EIA. This lack of compliance also prevents Turkey from participating in a transboundary EIA process in cases where the adverse environmental impacts of a proposed project in another Party will likely to affect Turkey. Lack of compliance with transboundary provisions also causes deficiencies in access to information, public participation in decision making and access to justice in environmental matters.

Aside from the shortcomings in full transposition of the EIA Directive into national legislation, Turkish EIA system suffers from problems related to effective practical application of the EIA process. Similar to the EU case, in Turkey, there is a local and national governments tend to neglect environmental protection by giving primacy to economic development and growth. It should be noted that, in the last 20 years, the consideration given to environmental preservation has risen. The gradual change of mentality also influenced the number of projects and policies introduced by governments to stop environmental degradation and promote sustainable

development. However, despite these efforts, for many local and national governments, the environmental concerns remains to be secondary when compared to economic concerns. As the Figure 1 shows above, there is an enormous gap between the number of “No EIA is Required” and “EIA is Required” decisions. There is a similar relation between “EIA Positive” and “EIA Negative” decisions. Hence, as long as the mindset that gives primacy to economic growth and development over environmental preservation persists, it is less likely that Turkey will enable effective and quality practical application of EIA.

Similar to aforementioned problem, another issue in Turkish EIA is lack of development of a substantial environmental culture (Turgut, 2003, p. 169). In other words, majority of society and public authorities do not have a learned behavior, practice and knowledge about environmental protection, ecosystem and all other natural resources that is interrelated with human life. As explained before, this is a problem persistent in candidate and newly acceded states to the EU. This lack of environmental culture also affects the quality of the decisions made regarding EIA applications. The higher number of “EIA Positive” and “EIA is Not Required” decisions reflects the low level of development of environmental culture.

Besides above mentioned problems, there are significant shortcomings with regard to the EIA process itself. Firstly, there is a lack of substantial and adequate technical guidance for EIA implementation (Ahmad and Wood, 2002, p.226). This shortcoming resulted in incorrect and poor implementation especially during the early years of the introduction of EIA in Turkey. In the absence of well-established technical guidelines, environmental authorities, agencies and inexperienced developers conduct a weak EIA process. Poorly prepared EIA reports can be given as an example to this issue. Without proper guidelines, it is not possible to prepare a complete and adequate report that is necessary for a proper assessment process. Secondly, there are problems regarding access to and availability of environmental data (Coşkun and Türker, 2010, p. 223). There is a lack of up-to-date online environmental database that includes procedures, programmes and recent

developments regarding environmental matters. There is inadequate environmental information and database on official website of the Ministry of Environment and Urbanization on environmental matters in general, EIA in particular. In addition to this, majority of the published and online documents are in Turkish. This is a significant limitation for many international organizations, agencies and institutions which aims to get more information about environmental matters in Turkey. Thirdly, public participation meetings are not carried out effectively. Especially in smaller areas where public is not aware of the negative impacts of development project on environment, there is a tendency to carry out public meetings just to prove that developer complies with the EIA procedure. In such cases, a public meeting is held without a substantial contribution of affected public. Hence, this affects the quality of the assessment process and may result in a case where several significant negative impacts of a project are ignored or unrecognized. Another issue related with public participation is about poor representation of public's opinions, recommendations and concerns in decision-making process. Relevant authorities and project developer should take public's opinions and concerns seriously and make a decision accordingly. Carrying out effective and comprehensive public participation process does not serve to any purpose unless the opinions of the public are reflected in decision making process. Fourthly, there is insufficient practice of post-decision monitoring and control in Turkish EIA process (Çevlik and Budak, 2007, p.157). Post-decision monitoring and control are essential components of best practice and they are significant for the quality of EIA Process in Turkey. Due to insufficient and loose practice of monitoring and control, overall quality of EIA process deteriorates.

#### **4.4.2 How to Improve Effectiveness of Turkish EIA System**

Twenty years have passed since the introduction of EIA system in Turkey. Today, EIA started to become an important tool for planning as well as environmental preservation since environmental awareness is on the rise. However, similar to EIA in EU, Turkish EIA process has its weaknesses that need to be improved.

Full transposition of EIA Directive into national legislation is an important step since effective implementation requires the incorporation of legislative procedures fully. By introducing provisions that covers transboundary EIA, Turkey will make a step towards fulfilling its objective to fully align its environmental legislation with EU's environmental law. In addition to this, introducing transboundary provisions will assist Turkey to apply more integrated approach to protection of the environment.

To improve the effectivity of practical application, Turkey needs to take several measures. Firstly, there is a need for strengthening public participation in the EIA process. This could be achieved through strengthening provisions for consultation and public participation as well as training and informing public about their rights to access environmental information. Environmental authorities and agencies can held workshops and meetings for public and inform them about the importance and benefits of public involvement in environmental decision-making process. Secondly, there is a need for introducing mechanisms to ease the availability of and access to up-to-date environmental information and data. In 2008, former Ministry of Environment and Forestry launched a project co-funded by EU and Turkey, called Turkish Environmental Information Exchange Network (TEIEN). TEIEN is an electronic network which aims to ease the access and sharing of environmental data between institutions which are dealing with environmental matters. It aims to provide up-to-date environmental information as well as increase the exchange of environmental data between different institutions. Successful implementation of TEIEN project will increase availability, transparency and accuracy of environmental information and data. Thus, it will play significant role in effective implementation of EIA process as well as other environmental procedures.<sup>61</sup> Thirdly, widening the scope of capacity-building efforts is recommended (Innanen, 2004, p.149). In 2006, former Ministry of Environment and Forestry established the "EIA Training and Information Centre" to provide services in three areas: training,

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<sup>61</sup> For more information on TEIEN see the official website <http://teienportal.cob.gov.tr/> (Accessed on February 6, 2013).

research, information and communication. Centre aims to support the improvement of implementation of EIA in Turkey. However, since its establishment, this centre stayed as a branch inside the General Directorate of EIA, Permits and Inspection. It does not provide a location where a regular citizen can have an access to published up-to-date environmental information. The information they have been providing stayed limited with what is available at the official website of the General Directorate. Hence, there is a need for improving the functioning of EIA Training and Information Centre. It could be done through opening libraries, sending monthly newsletters to subscribers and increasing the quality and accessibility of the environmental information available to public. In addition to this, increasing the number and quality of trainings that EIA Training and Information Centre provides is recommended since training of EIA practitioners, specialists and other relevant personnel plays a significant role in effective implementation of EIA process.

Overall, Turkey's EIA process has several important shortcomings and weaknesses that should be addressed in order to increase Turkey's compliance with EU's EIA norms. Moreover, by introducing measures to overcome these weaknesses, Turkey will be able to improve the quality of EIA system in short term. In long term, improving the effectivity of EIA will contribute to the improvement of sustainable development conditions and environmental quality.

## **CHAPTER 5**

### **CONCLUSION**

As it has been concluded in Chapter 3, environmental impact assessment has now become an important instrument of planning, environmental management and decision making across the Europe Union. While NEPA provided the initial basis for assessment of possible impacts that a proposed developmental action may have on the environment, EIA process became widespread across Europe with the introduction of the EIA Directive in 1985.

Having reviewed the EIA law and practice of the EU, there is no doubt that EIA Directive has significantly contributed to fostering of an environmental culture as well as improvement of environmental quality in all Member States. Furthermore, introduction of the EIA Directive has resulted in improved project design, more effective public participation in environmental decision making process, better co-operation between Member States and well-founded planning. As stated before, in large number of cases, the costs of performing an EIA are mostly around 1% of overall costs of the project. By taking all these advantages into account, it can safely be concluded that benefits of carrying out an EIA outweighs the costs (COM (2009) 378). All these benefits have contributed the general acceptance of the value of EIA by all Member States.

Today, despite nearly thirty years of experience, EU continues to experience problems with regard to effective implementation of EIA Directive that decrease the benefits of carrying out an EIA. As discussed in Chapter 3, it is possible to talk about an effective implementation when formal transposition and practical application of EIA Directive comply with the objectives specified in the EU law. At present, most of transposition problems are solved despite the slow progress that various Member States showed with regard to incorporating amendments. However, issues with regard to effective practical application of the EIA still persist. Main issues have

been outlined in Chapter 3 with their reasons and several recommendations were proposed to overcome the issues that EU is experiencing with regard to effective implementation. Apart from earlier mentioned measures and mechanisms, it is possible to suggest additional actions that can be taken to increase EIA capacity and effectiveness.

Firstly, the EIA Directive provides restricted opportunity to address cumulative impacts. Cumulative effects can be defined as “the changes to the environment caused by an activity in combination with other past, present, and reasonably foreseeable human activities” (Eccleston, 2011, p.3). Since the Directive focuses on EIA of public and private projects and does not include programmes and policies, it covers and addresses cumulative impacts in a limited context. Hence, there is a growing need for broadening the scope of EIA and apply it at a more strategic level to promote more effective assessment of cumulative impacts at an earlier stage (Eccleston, 2011, p.225). Secondly, it is recommended that EU introduces measures to establish an adequate coordination and synergy between the EIA Directive and other related EU Directives. In most of the cases, projects covered by the EIA Directive are also subject to the provisions of related environmental Directives.<sup>62</sup> Thus, there is a growing need to establish and improve coordination between the EIA Directive and related Directives such as the SEA Directive, Directive 2008/1/EC concerning integrated pollution prevention and control, the Habitats Directive and the Birds Directive since there is an overlap in some of the assessment requirements. Thirdly, there is a need for widening the scope of EIA to include socio-economic impacts. In other words, much EIA work focuses on biophysical environment and seldom takes socio economic issues into account (Abaza, 2000, p.272). In developed Member States, developers are less concerned with the socio-economic situation of the affected people and they give more importance to how environment will be affected as a result of their project. However, in developing Member States, the socio-economic impacts of a project gain more importance

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<sup>62</sup> Ibid., p.7.

alongside with environmental impacts. In such Member States, even a small-scale project is likely to have considerable social and economic impacts on the affected community. In addition to this, in cases where the socio-economic impacts are given importance and included in the assessment process, the focus is more on economic impacts (e.g. direct employment impact) than social impacts (Glasson et al., 2005, p.329). As a result, social impacts such as alienation, health, social polarization and alienation are not taken into consideration while making an assessment. Overall, since biophysical and socio-economic impacts are interrelated, there is a need for better integrating social-economic impacts into the EIA process in Member States. Including socio-economic impacts into EIA will help to minimize adverse effects and maximize positive impacts.

Another important measure that would lead to better implementation of EIA is creating a better synergy between environmental management systems (EMS) and EIA. EMS can be described as “a tool which helps organizations to take more responsibility for their actions, by determining their aims, putting them into practice and monitoring whether they are being achieved” (Glasson et al., 2005, p.334). A typical EMS process has five stages: environmental policy, planning, implementation, monitoring and review. First step includes the preparation of an environmental policy. Upon the establishment of the environmental policy, a detailed plan that includes environmental objectives and a program to achieve these objectives are laid down. Next stage involves integration and implementation of plan into organization’s functioning. Fourth step deals with monitoring the compliance, making an internal audit and taking necessary corrective or preventive action. Last step involves periodical review of the EMS to assess the effectivity of the system and make improvements if necessary. EMS is an important systematic tool for environmental protection and betterment. Creating a strong cooperation and synergy between EIA and EMS will strengthen implementation of EIA since EMS is likely to increase the level of environmental monitoring and availability of environmental data. The environmental information generated through EMS of private and public

sector organizations will be useful while carrying out an EIA (Glasson et al., 2005, p.336).

Currently, EU has a voluntary environmental management instrument for companies and organizations called Eco-Management and Audit Scheme (EMAS). The European Commission introduced the scheme in 1993 with a regulation. EMAS made available for participation by companies in industrial sector since 1995. Since 2001, EMAS has been open to public and private organizations from all sectors. At present, more than 4,500 organizations and 7,800 sites are EMAS registered (EMAS website, December 2012). As stated above, EMAS is a voluntary framework for eco-auditing which aims to enhance performance, compliance, energy efficiency and transparency of organizations. Although participation is voluntary, an organization that wants to join to EMAS must comply with the requirements of the scheme.<sup>63</sup> Compliance with EMAS demands certain amount of time, personnel and money to complete the procedures. However, long-term benefits of applying the scheme are often greater than the costs. Taking the similarities in environmental concerns and objectives into account, creating a close cooperation between EIA and EMAS will result in increased environmental performance of public and private organizations across the EU. This cooperation will increase the availability and quality of environmental data as well as the efficient use of natural resources. In addition to establishing close cooperation between EIA and EMAS, application and scale of registration of EMAS must be widened throughout the Union. It can safely be concluded that each Member State can benefit in various ways by increasing the cooperation and synergy between EIA and EMAS. Close cooperation of two processes will greatly contribute environmental protection and sustainable development.

Having reviewed several measures that will significantly contribute to strengthening and better implementation of EIA across the EU, it is necessary to address some

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<sup>63</sup> For further information on EMAS registration, implementation and requirements see [http://ec.europa.eu/environment/emas/about/work\\_en.htm](http://ec.europa.eu/environment/emas/about/work_en.htm) (Accessed on February 16, 2013).

standing problems in Turkish EIA practice and law in relation to its compliance with EU's EIA law and practice and discuss additional measures that need to be taken. These shortcomings are also pointed out by the EU in its progress reports. Each year the European Commission prepares a report on progress made by Turkey in preparing for EU membership. This report mainly gives an assessment on three subjects: situation in Turkey in terms of political criteria for membership, situation in Turkey in terms of economic criteria for membership, Turkey's ability to take on the obligations of membership. Turkey's compliance with EU's environmental acquis is assessed under 'Turkey's ability to take on the obligations of membership' section.

In October 2012, the Commission published Turkey 2012 Progress Report which covered period from October 2011 to September 2012. In terms of environmental matters, Report covers many subjects including EIA and SEA. With regard to Turkey's compliance with the EIA Directive, Report stated that:

Procedures for transboundary consultations have not been aligned and Turkey has not yet sent to the relevant Member States the draft for general bilateral agreements on cooperation for EIA in a transboundary context (SWD (2012) 336).

With respect to the SEA Directive, Report underlines the fact that the transposition of SEA Directive has not yet been completed. Report also adds that "no strategic environmental assessments or proper environmental impacts assessment have been carried out for the plans to build a large number of hydro-power plants." (SWD (2012) 336). Overall, as the Report points out, full transposition and implementation of the SEA Directive has not been achieved yet. In 2003, as a candidate country, Turkey launched a project to adopt and implement the SEA Directive. Supported by Netherlands, this project helped Turkey to increase its institutional capacity and gain knowledge and experience on SEA. Within the scope of the project, Turkey prepared a draft By-law on SEA. Following the preparation of the draft, Turkey has

initiated several capacity improvement projects that will help the draft by-law on SEA enter into force until 2011. However, this has not been realized yet. Hence, there is a growing need to take necessary steps to increase capacity, expertise and practice on SEA that will lead to full transposition and effective implementation.

Another important issue that is addressed in the Progress Report is lack of overall progress in administrative capacity. Issues that the Report has pinpointed about administrative functioning and capacity have implications on effective implementation of the EIA. Report stated that:

At the newly created Ministry of Environment and Urbanization, a balance between the environment and development agendas has still to be found and there are in particular concerns over the lack of attention paid to environmental considerations in the implementation of major infrastructure projects, as well as the willingness and ability to ensure a meaningful public consultation process, including with environmental NGOs. There are some concerns related to the loss of provincial competences in the field of environmental management, in particular as regards inspection, monitoring and permitting (SWD (2012) 336).

Having reviewed relevant sections of Turkey 2012 Progress Report, it can be concluded that, there are persistent problems with regard to full transposition of EU's EIA legislation. In addition to this, Report shows that it is not sufficient for Turkey to harmonize its environmental legislation with *acquis*, but it also needs to strengthen its institutional and administrative capacity to enable full transposition and effective practical application of EIA process.

Strengthening of institutional capacity of Turkey for effective implementation of EIA could be achieved through providing educational and professional training to individuals who perform EIA. This will also strengthen the organizations and institutions that conduct EIA. Moreover, conducting comparative case studies would constitute an important capacity-building opportunity and would help increasing

knowledge and experience on implementation of EIA. In addition to this, Turkish EIA practitioners, General Directorate of Environmental Impact Assessment, Permits and Control and relevant agencies have still much to learn about EIA. Carrying out long-term empirical and theoretical research on EIA would help Turkish EIA practitioners to overcome some of the methodological problems and can result in innovative solutions for persistent problems.

In conclusion, as it has been underlined in Chapter 4, despite many shortcomings in transposition of the EIA Directive and practical application of the EIA system, EIA started to become an important tool for planning as well as environmental preservation due to growing environmental awareness in Turkey. By introducing certain measures, Turkey would be able to strengthen its EIA law and practice and ensure environmentally-friendly planning, environmental preservation and sustainable development.

Overall, developed in 1970s, EIA has evolved in last forty years in a remarkable manner. After NEPA, EIA norms have spread horizontally to other states and vertically to international and supranational bodies (Craik, 2008, p.23). It has become a widely used information-driven tool for environmental management and planning worldwide. In addition to this, it has become an instrument for sustainable development. As a vigorous supporter of environmental protection and sustainable development, EU has introduced its own EIA legislation with the EIA Directive. Upon becoming a candidate country for the EU membership, Turkey has started to align its national EIA law with the EU's EIA legislation. Despite several persistent shortcomings and issues with regard to effective implementation, EIA law has resulted in a more effective and efficient environmental protection and planning throughout the Turkey and the European Union. By taking necessary actions, both Turkey and the EU can establish well-functioning, effective EIA systems that foster environmentally-friendly development.

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## APPENDIX

### TEZ FOTOKOPİSİ İZİN FORMU

#### ENSTİTÜ

Fen Bilimleri Enstitüsü

☐

Sosyal Bilimler Enstitüsü

☒

Uygulamalı Matematik Enstitüsü

☐

Enformatik Enstitüsü

☐

Deniz Bilimleri Enstitüsü

☐

#### YAZARIN

Soyadı : Tekayak

Adı : Deniz

Bölümü : Avrupa Çalışmaları

**TEZİN ADI** : Environmental Impact Assessment Law and Practice: The EU and Turkey

**TEZİN TÜRÜ** : Yüksek Lisans

☒

Doktora

☐

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir.

☐

2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir.

☐

3. Tezinden bir (1) yıl süreyle fotokopi alınamaz.

☒

**TEZİN KÜTÜPHANEYE TESLİM TARİHİ**: 12.06.2013