Environmental Accountability for the public sector, a comparative analysis in three countries: Australia, Mexico and USA.

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For my wife Jaqueline
and my sons: Enrique Uriahd, and Mariano Paolo.

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Contents

Abstract

The work defines environmental accountability as a new mechanism that humans have to ensure sustainable economic growth. Identifies the historic and theoretical development of environmental accountability and the empirical research try to answer two main questions: how is applied the environmental accountability of the public sector in three different national public management systems? And how can be improved?

In the first four chapters of the work is presented a set of explanations from several historic and theoretical perspectives that answer the questions: from where it comes from? what is? And what are the elements that constitute a system of environmental accountability? This part together with the introduction and a brief chapter focused to the relation of humans with their environment constitute the theoretical part of the research.

In the practical part of the work is exposed the results of the empirical research realized through academic articles, the juridical framework and the websites of institutions related with environmental and accountability issues. This part try to answer the question: What are Australia, Mexico and USA doing about environmental accountability for the public sector? Next to that three chapters where is exposed the main elements of the national systems of environmental accountability, there is a chapter that analyzes the convergences and divergences of each country, and finally in the conclusions are presented the answers to the main and secondary research questions and are proposed a set of strategies to improve the systems of environmental accountability for the public sector.

After the conclusions is presented an appendix that shows the specific mechanisms of environmental accountability of each nation that were considered in the research.

1. Introduction

1.1. Antecedents

The relation of humans with their environment is very complex and can be divided in several stages according with the predominant social point of view sustained by the majority of people in several historic periods.

At the beginning it can be mentioned that the ancient indigenous cultures which inhabited diverse parts of the world as Africa, America or Australia, didn't recognized any predominance of species and for them all the forms of life have the same value. For those societies the environment is part of a great holistic mega-system where absolutely all the elements as plants, animals, humans and some other immanent matters play an important role and are interconnected in a not rational way that affects and is affected continuously and mutually. Another age of the relation of humans with their environment can be identified in the works of Greek philosophers as Aristotle and the Christians writers of the Bible who manifested recommendations for utilize the natural resources in an "adequate" way in order to ensure the harmonic development of the human life. Thousands of years later, together with the invention of internal combustion machines a new relation of humans and environment emerged. This "modern" age saw the environment as an inexhaustible provider of natural resources for the humans intentions; and as can be imagined under this social point of view the environment suffer great and irremediable damages. But finally, just in the latest thirty to forty years it can be said that we are living in a postmodern age about the relation of humans with their environment. In this new age the technological advances, the increase of information sources and a global concern about climatic phenomena and pollution disasters have built a social point of view that changed the way of see natural resources. Under this new social point of view people and governments became aware about the necessity of establish policies to protect and conserve the environment.

Consequently, in 1972 the General Secretary of the United Nations organized the first world conference about environment in Stockholm, Sweden, where it was established a set of principles, policies and recommendations that derived in the creation of a broad number of laws and regulations at international, regional, national and local level about several environmental topics as the water management, air pollution, forestry exploitation, fisheries techniques, protection of animal species, urban development planning, economic development, pollutant activities, citizen participation, and etcetera. Twenty years later (1992), in Rio de Janeiro, Brazil was held a second world summit about environment called the "earth summit"; where some of the most important principles that were established claimed for the sustainability of economic activities and the right of citizens to have access to information and to participate in the decision making process about activities that affects the environment.

After this summit close of two hundred countries built a vast framework of legislation and regulations that deal with environmental issues as the control of pollution, the avoidance of damage to public health, the waste cleaning, the environmental reparation of disasters, the management of hazardous materials, and the generation of environmental evaluations and information. Nevertheless, at the same time that the regulations grew the problems to enforce and supervise this international, regional, national and local

environmental jurisdictional framework increased in a dramatic way. In this global scenario, environmental accountability appears as one activity related to the urgent necessity of protects the environment of dangers as: the global warming, the loss of species, the excessive consume of not renewable resources, and some other risks that can stop the existence of human life.

In short, environmental accountability refers to the mechanisms and processes established by the government for monitoring, reporting and ensuring the accomplishment of the regulatory framework that public and private organizations must follow about environmental issues. In this sense, there are at least three reasons why should be stimulated the participation of the governments about environmental accountability in order to ensure some equilibrium between sustainable economic development and adequate conservation and protection of the environment:
1.- Because government is in charge of goods and services provision in environmental sensible fields as the energy generation, transports, mining, fisheries or forestry;
2.- Because several environmental problems are related with goods or services which have public goods economic characteristics, where the market fails to provide those goods according with the public interest; and finally
3.- Because the government's institutions are the main responsible of enforcing the law and regulations.

As it is known the traditional government accountability mechanisms include, the political accountability, the executive and parliamentary control, procedures of governmental accounting and audits, internal evaluations, administrative reviews, accomplishment of transparency and information access dispositions, and the labour of jurisdictional organisms as Courts, Tribunals, or International Organisms. However, these mechanisms weren't created thinking to deal with environmental problems, for example the concept of political accountability is delimited to the geographic division of the nation states, and environmental problems as the sea or air contamination, or the nuclear risks don't recognize frontiers; citizens affected by the pollution in a country A, where the origin of the pollution is a country B, can not manifest their disagreement with that country B through elections and depend only on diplomatic procedures or the application of international jurisdictions to solve their environmental problems. Another major problem is that in general all the "traditional" accountability instruments are designed to review the policies in certain period of time, but the environmental problems can have effects for such long time that even damages caused in a single day can have repercussions for several generations of people. Consequently, this work will focus on the study of a new mechanism of government accountability: the environmental accountability of governmental organizations, the "environmental accountability for the public sector".

1.2. Research Objectives

The main research objectives are two: First, academically, generate a innovative research in the field of the public administration about environmental issues that develops a comparative study of how Australia, Mexico and USA are implementing systems of environmental accountability for their public sector's; and second, there is a practical objective that is provide a set of proposals for the improvement of the systems of environmental accountability. If the research succeeds in both aims will help the

establishment of new social instruments that helps to achieve a global sustainable development, will proportionate new insights for the establishment of government environmental policies, will increase the research about public administration and environmental issues and will allow the author to obtain a master degree in Social Sciences in Erasmus University Rotterdam,.

1.3. Main and secondary research questions

The main question of this research is: I) how the systems of environmental accountability for the public sector can be improved? Which might sound simple; but, as there is no concrete or consensual definition of what is environmental accountability and like each country have different legal and administrative traditions, and very particular economic, environmental and social characteristics is not so easy to answer, and even in order to give an adequate answer to this question is necessary to answer the next secondary questions:

1. What can be understood by environmental accountability?
2. What are the elements that conforms a system of environmental accountability for the public sector?
3. What can be learned from the systems of environmental accountability of Australia, Mexico and USA?
4. What mechanisms of environmental accountability are successful in the analyzed countries and can be applied by other countries?

It is considered that answering these secondary questions then can be formulated an adequate and complete answer to the main research question and in this way achieve the objectives of the research.

The decision of using a comparative study is considered very important for the work because it is assumed that environmental issues can not be solved with a single yardstick because each country have different and particular problems to solve: Australia for example, is a continent ecologically unique, characterized by a mega diversity of species; is a country highly developed, with big urban concentrations and large vacant territory spaces which economy relies in great part on the exploitation of natural resources. Mexico in the other hand, has the big challenge of generating a path of sustainable development that will ensure the increase of the level of life of their more of 100 millions of inhabitants; is a country with deep inequalities where the life in the cities and the rural areas and between rich and poor families is enormously different; in general it possesses great natural resources richness but the lack of an adequate management of them have caused a continuous degradation of the environment. Finally, USA has a vast territory and a great diversity of environmental resources, it was one of the first countries that developed a dense system of laws and institutions to protect the environment, but their intense economic activity keeps it between the main energy consumers and polluters of the world.

1.4. Methodology

The method of inquiry of the work is the documentary research in national laws and regulations of each country, the examination of websites of institutions involved in

governmental accountability and environmental issues, and the investigation in academic articles of magazines and electronic sources of information. To put it briefly, the work is a desk research that employs a comparative method focused on six organizational characteristics of the national public sector's, with a common evaluation of six indicators for the systems of environmental accountability for the public sector, where is also examined the role of three type of stakeholders that are directly interested in the public sector environmental issues. It is inferred that with this method the results of the research will show a clear picture of how each government maintain their public organizations accountable about the compliance, performance and impact over the environment and it will be clarified which are the characteristics surrounding each national system of environmental accountability.

As is known, the three countries have different political, legal and organizational contexts: Mexico is a country with a legal system derived form the Napoleonic system used in Spain and France, Australia has the British Common Law system and United States presents a mixture of both systems that Almond and Verba called a "Civic Culture". As a result, to realize an adequate comparative analysis that recognizes the cultural and national differences of each country, it is proposed to utilize:

Six points of comparison:

1, Characteristics of the organization(s) responsible for the accountability in the public sector of each country;
2, Characteristics of the organization(s) responsible for the enforcement of environmental laws and regulations of each country;
3, Definitions of environmental accountability in national or international regulations;
4, Processes and procedures of environmental accountability for the organizations of the public sector in each country;
5, Products of the environmental accountability of public sector organizations, as reports, information, studies, recommendations;
6, Kind and type of sanctions derived from application of environmental accountability to the public sector organizations.

Evaluated through the next indicators that were selected and adapted from the work of Paddok[1] (2004):

1.- Emissions reports
• Mandatory public reporting of emissions data
• Voluntary emissions data reporting
2.- Governmental support
• Government sponsored environmental leadership, voluntary emissions reduction and reporting programs
• Governmental policies that encourage environmental auditing, reporting to government agencies
3.- Utilization of International standards

[1]): Paddok (2004) proposes these and more elements as part of a system of social environmental accountability for the Commonwealth government, and the author of this work made a selection of some of that elements and utilize them as indicators.

• The International Standards Organization's voluntary environmental management system standard—ISO 14001—
4.- Degree of Public Access
• Public access to emissions data
• Public access to enforcement data
5.- Kind of Citizens participation
• Mandatory public involvement procedures that allow the citizens to participate in permitting and enforcement decisions, including public comment periods, public meetings and public hearings.
• Funding to provide citizens and citizen organizations with access to technical experts
• Government sponsored enhancements to public involvement procedures including early notice of permit applications, dispute resolution opportunities including mediation and community dialogues, and neighborhood meetings.
6.- Level of Corporate culture
• Voluntary corporate sponsored community involvement opportunities such as community advisory panels.
• Voluntary corporate responsibility standards

Finally, the points of comparison and the indicators are referred to three groups of stakeholders that are directly involved with the systems of environmental accountability for the public sector: public institutions which operation affects directly or indirectly the environment, institutions with power to influence the environmental public policies and regulations, and institutions with power to control and monitor the environmental actions of others. It is assumed that through the analysis of the structure, procedures and main organizational actors of each country it can be reflected the kind and type of system of environmental accountability for the public sector. Following to Farazmand (2001) it is considered that choosing the organization as the unity of analysis it is implicitly accepted the notion that the most significant administrative actions take place in the context of the formal institutions. But, as it has been mentioned, this investigation also recognizes the fundamental impact that cultural differences have in the public administration labour.

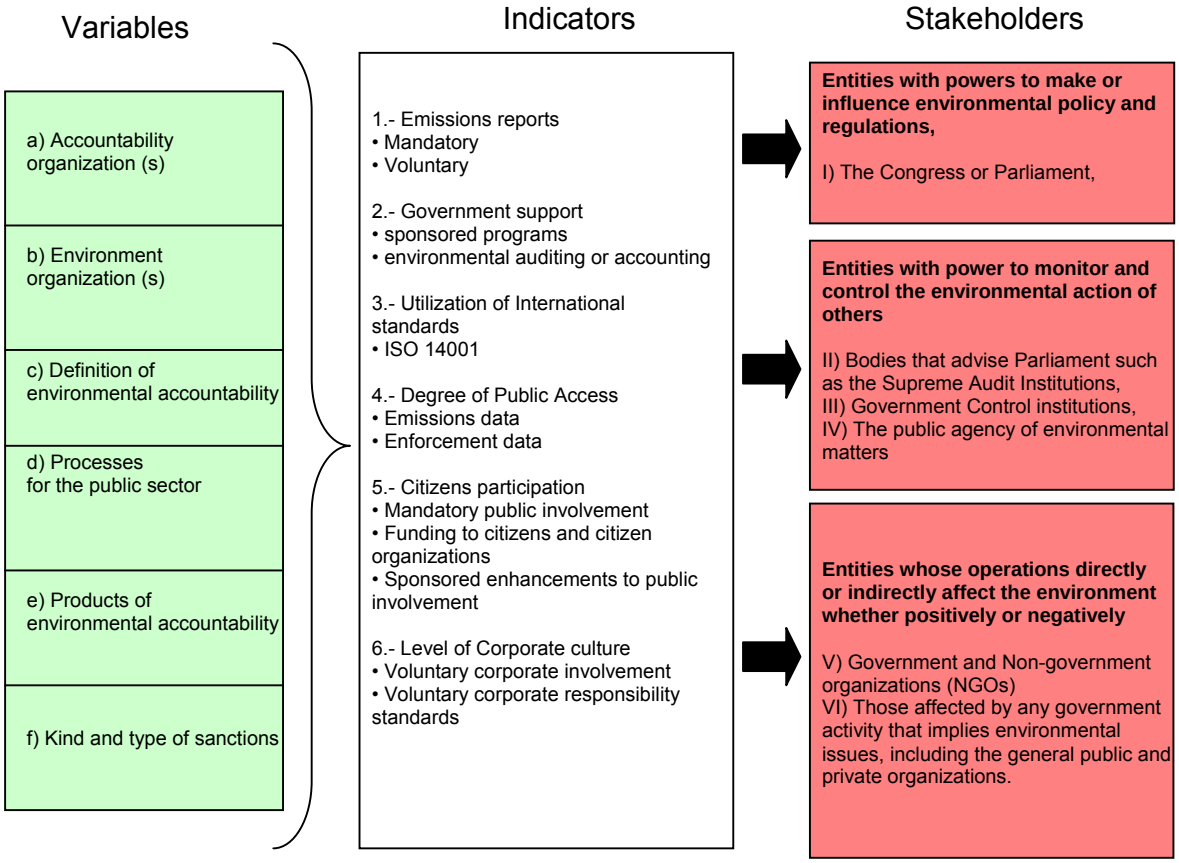
The data analysis of the research will be presented in a comparative form through tables, diagrams or brief descriptions that allows to observe in a quantitative and qualitative way how each national system of environmental accountability for the public sector is working. The type of investigation will be made mainly with the sources of information provided by the Erasmus University Rotterdam library: books, magazines, thesis, electronic databases, and websites of diverse public, private, local, regional, national and international institutions that are related with the environment and accountability issues. This type of investigation presents the advantage that allows the investigator to do all the work from a writing-desk. But also must be considered that this type of investigation provides limitations to the research because does not count with a dialogue exercise or interaction between the primary sources of information and the investigator. Nevertheless, this does not mean that the work don't count with academic validity, is only that it is necessary to clarify that the investigation is not the result of an exercise of interaction between the main actors of the national systems of environmental accountability and the investigator.

Continuing with the methodology, the main way to deal with the research pitfalls is the utilization of a broad range of qualified and legitimate information, as well as the strict

application of scientific methods for the design and development of the investigation, and the continue interaction with the professors in charge of the supervision of the project. So, it can be affirmed that the results of the investigation will provide new knowledge on the fields of public administration and environmental studies, will show the practical differences and convergences of the national systems of environmental accountability for the public sector in the three analyzed countries and will allow the author to propose a set of strategies to improve the systems of environmental accountability.

The general model of the comparative analysis is presented in the next figure.

Diagram of the comparative analysis



1.5. Research place in the body of knowledge of Public Administration

The body of knowledge of the public administration can be distinguished in four periods of development: 1.- A classic period where we can enclose the work of seminal authors as Plato, Aristotle or the famous Italian writer Machiavelli, who wrote about the moral social and political aspects of the human nature. 2.- A pre-modern period identified after the apparition of the nation state in the XVIII century, with authors as Lawrence Von Stein (1815-1890), and Max Weber (1864-1920) in Europe and Woodrow Wilson (1856-1924) in America, who developed several and interesting theories about the State and are considered the initiators of public administration studies. 3.- A modern period, where the public administration studies are consolidated as an independent field of knowledge

separated from the political science and the administrative studies. In this period the public administration body of knowledge increased their relevance and interconnections with other social sciences as the psychology, sociology and the economy. 4.- Finally there is a very recent development called the postmodern period where the public administration body of knowledge continue expanding to new fields as the technologies of information, the mass communications, the network theory or the environmental issues. According with this brief explanation it can be said that this work fits in this postmodern period of development of the public administration body of knowledge and explicitly deals with the government's responsibility to maintain, conserve and protect the environment as the only way to ensure the development of societies.

1.6. Work Structure

The work began with this introductory chapter, where is stated some antecedents of the relation of humans with their environment, is exposed the objectives, questions, and methodology of the research and is briefly explained how this work fits in the body of knowledge of public administration; in the chapter 2, it is presented a brief history of the development of the environmental issues in the society; the chapter 3, explains what is the concept, dimensions, types and challenges of the governmental accountability; the chapter 4, defines what is environmental accountability and explains diverse aspects related with this topic; the chapters 5, 6 and 7 presents the case-studies of Australia, Mexico and USA respectively; in the chapter 8 is presented the results of the comparative analysis that was applied to the three countries; after this chapter the conclusions and a set of proposals for the improvement of the national systems of environmental accountability for the public sector are presented; finally to end the work there is an appendix where is presented the specific mechanisms of environmental accountability applied by each country.

2. Humans and their Environment

In order to deal properly with the main subject of the research that is the systems of environmental accountability for the public sector, first is necessary to make sense about the two main elements that are embedded in this concept: the environment and the accountability. According with this premise, in this chapter are presented some considerations about the history of the relation of humans and their environment together with a brief summary about the involvement of the governments in environmental issues and at the end of the chapter is presented a diagram of the world influences over the environment. The aim of this chapter is to provide a base of knowledge necessary to figure out all the aspects and circumstances surrounding the systems of environmental accountability for the public sector.

2.1. History of the human concern about environmental issues

As it was mentioned in the introduction, the first groups of humans had a strong and respectful relation with their environment, "Australian Aboriginals perceive the earth as a place to hold in awe… Native Americans have a very deep concern for the earth, its peoples and all life" (Galhofer et all, 2000, p389); however this conscience and interconnection of men and nature was lost by the majority of societies that substituted this eco-equalitarian assumption with the predominant point of view of the west culture which has an anthropocentric perspective where the nature only has instrumental value for the ends of the human. Many years' needed to pass until the majority of societies switched their eyes to another kind of relation with nature. The track of this new human relation can only be done in very specific sources like some regulations and taxes of the XV century; in the work of important scientist and adventurers like Alexander Von Humboldt (1769-1859) --who is considered the father of the botanic sciences--; in the famous book "The origin of Species" (1850) of Charles Darwin; In the work of an Austrian geologist Eduard Suess that in 1875 proposed the term Biosphere; or in the book "*Generelle Morphologie"* (1886) of the German biologist Ernst Haeckel who defined the word "ecology" as the science covering the interrelationships of all species and matter (Maunders and Burrit, 1991). Nevertheless, is evident that these works had had very small repercussion in the society, and probably was not until the 19th century with the flourish of the industrial revolution that environmental issues became really notorious to the society and not only for some particular and highly educated groups.

Since the appearance of the industrial revolution, the environment has incrementally become a critical concern for many people and groups of society, assuming real social dimensions ten or twenty years after the end of the Second World War when the ecology jumped from the field of the natural sciences to social fields as the philosophy, sociology, psychology, the political discourses and the popular movements. A couple of paradigmatic books are recognized by several experts as the seminal works that influenced to individuals and the international community for this revival of the environment conscience: the classic "Silent Spring" of Rachel Carson (1962) and Garrett Hardin's 'The Tragedy of the Commons' (1968). Both works helped determinately putting the seed for this new environmental or "green movement". But, of course this social revolution was not only caused by the labor of scientists and the advance in the knowledge of environmental matters, it was necessary that happened a series of ecological disasters that affected thousands of human lives for make possible the

expansion of the environmental movement into a major social issue, source of several ideologies and motto of different civil organizations at local, regional, national and international level. Experiences as the congenital deformations in babies caused by chemical wastes, the Torrey Canyon oil spill along France's northern coast, the death of fish and organisms in lakes and rivers of Nordic European countries caused by water and air pollution, or the most famous catastrophes of the nuclear bombs in Hiroshima and Nagasaki, and the disasters of Bophal, Chernobyl and the famous oil spill of the tank-ship Exxon Valdes in the coast of Alaska were undoubtedly the fire that started the flame of the green movement. So, as a conclusion it can be affirmed that these two factors: the development of particular studies about environmental issues together with the lamentable situations of pollution disasters were the main reasons of why the majority of the societies started to shift their point of view to recognize that human life have a symbiotic relation with the environment and can't exist without the protection and conservation of the environment where exists, as Hull (2003) stated "we benefit ourselves and enrich our own lives when we conserve wild nature, particularly through the moral lessons we learn from experiencing nature. We must cultivate the bedrock belief that both human and nonhuman life is good and this belief must be evident in our own responses to the natural world" (p4).

2.2. Public institutions and environmental issues

One of the first groups that influenced in a global scale the government involvement in environmental issues was the Club of Rome that was a group of some 50 self-appointed 'wise men' (and women) who met regularly in Rome to try to point solutions for world problems. The Club of Rome in the earliest 70s developed a model that simulated the development of five variables: technology, population, nutrition, natural resources and environment; the main conclusion of this model was that if the current trends at that time continued, the global system would overshoot' and collapse by the year 2000. The conclusions of this model were heard by some organizations, especially international institutions like the Organization for Economic Cooperation and Development (OECD) which was the first public institution who recognized that environmental issues are very important for the human development and in 1971 established the Environment Committee (now the Environment Policy Committee) and the Environment Directorate inside their organization, which elaborates every two years the "OECD Environment Program". The attention of this program is mainly focused on the biophysical environment, in issues like wildlife management, soil conservation, water pollution, land degradation and desertification; and due to the characteristics of this international organization basically all the tools that had proposed for treat these problems were economic instruments like the famous Polluters Pay Principle[2]. Following the OECD and mainly because of the influence of the Nordic Europeans countries, the United Nations (UN) organized an international conference about environment in Stockholm, in 1972. This conference was at the eyes of many experts the event that turned the environment in a major issue at international level especially for developed countries, because the former Soviet Union and most of it ally's countries did not attend the meeting and the developing countries looked the environmental concerns --and probably still does-- like a luxury. "The Stockholm Conference produced a Declaration of 26 Principles and an

[2] The Polluter Pays Principle (PPP) says simply that those who pollute the environment must pay for the damage they have caused, OECD, 1972.

Action Plan of 109 recommendations. A few specific targets were set like — a 10-year moratorium on commercial whaling, the prevention of deliberate oil discharges at sea, and the elaboration of a world report on energy uses. In this sense can be affirmed that the Stockholm Declaration on the Human Environment and their principles constituted the first body of international 'soft law' in environmental affairs" (UNEP, 2002).

Another result of the conference was the establishment of the United Nations Environment Programme (UNEP) and the creation of a small secretariat in the UN as a focal point for environmental action and coordination within the UN system. In addition, since that international conference a kind of international path seem to be established because in successive years the preferred way of government institutions for try to give solutions to problems as ocean pollution, biodiversity loss, climate change and ozone depletion was the establishment of multinational treaties, "treaties have proved to be an important mechanism by which states make promises to each other to administer natural resources and manage the global environment" (Timmons et all, 2004, p22). In their work Timmons et all (2004) count 22 multinational treaties since 1946 to 1999, but they don't considered bilateral and regional agreements, which are more than 150 involving 192 countries. With this huge quantity of treaties, protocols, agreements, and international, regional and bi-national accords it is reasonable to think that the level of pollution and harm to the environment has decreased since their establishment. However, the impact of these instruments for the global environment is not the expected mainly because of two factors: the free rider behavior of some nations in the fulfilling of the agreements, or the notorious division of rich and poor countries that has promoted that "low-income countries have not committed themselves to action, arguing that rich nations are responsible for most of the problems and should thus take the lead" (Wijen, et all, 2005, p596).

Although, international regulations seem to be the preferred way to deal with environment problems, the reality is that only the national governments could fulfill a central role about environmental governance mainly for two reasons: First, they are the highest authorities developing national policies and implementing them through lower governmental bodies such as provinces and municipalities; and second, because the public sector has different goals and roles than private organizations, "business invests money in anticipation of future cash returns…nationals governments undertakes investments because it anticipates future social returns" (OECD, 2001). This importance of nation states was reinforced when the UN organized a second conference on environment and development celebrated in Rio de Janeiro in 1992, where was established that nation-states are the main actors that need to take care about the protection and conservation of the environment. In the twenty years that passed between the first and the second world conferences about environment, environmental issues and programs have become more complex, government agencies, non-governmental organizations and corporations themselves need to develop a wide range of mechanisms to increase awareness about environmental activities and to stimulate the improvement of ecological performance. The most recent of those new attempts were created from a global perspective but resting on the work of nation states, they are the Kyoto Protocol of 1997 developed with the auspice of the UN that established a set of actions to reduce the dioxide carbon emissions and of other six greenhouse gases. This instrument has been ratified by 163 countries, but the main producer of greenhouse gases - the USA - has not accepted it, and the monitoring and fulfillment of the protocol

are continuously questioned by many countries, institutions and people. And the second and more ambitious is the establishment during the 55th session of general assembly of the UN in September of 2000 of the Millennium Development Goals, which goal number seventh proposes “To ensure environmental sustainability” through “integrate the principles of sustainable development into country policies and programs; and reverse the loss of environmental resources”.

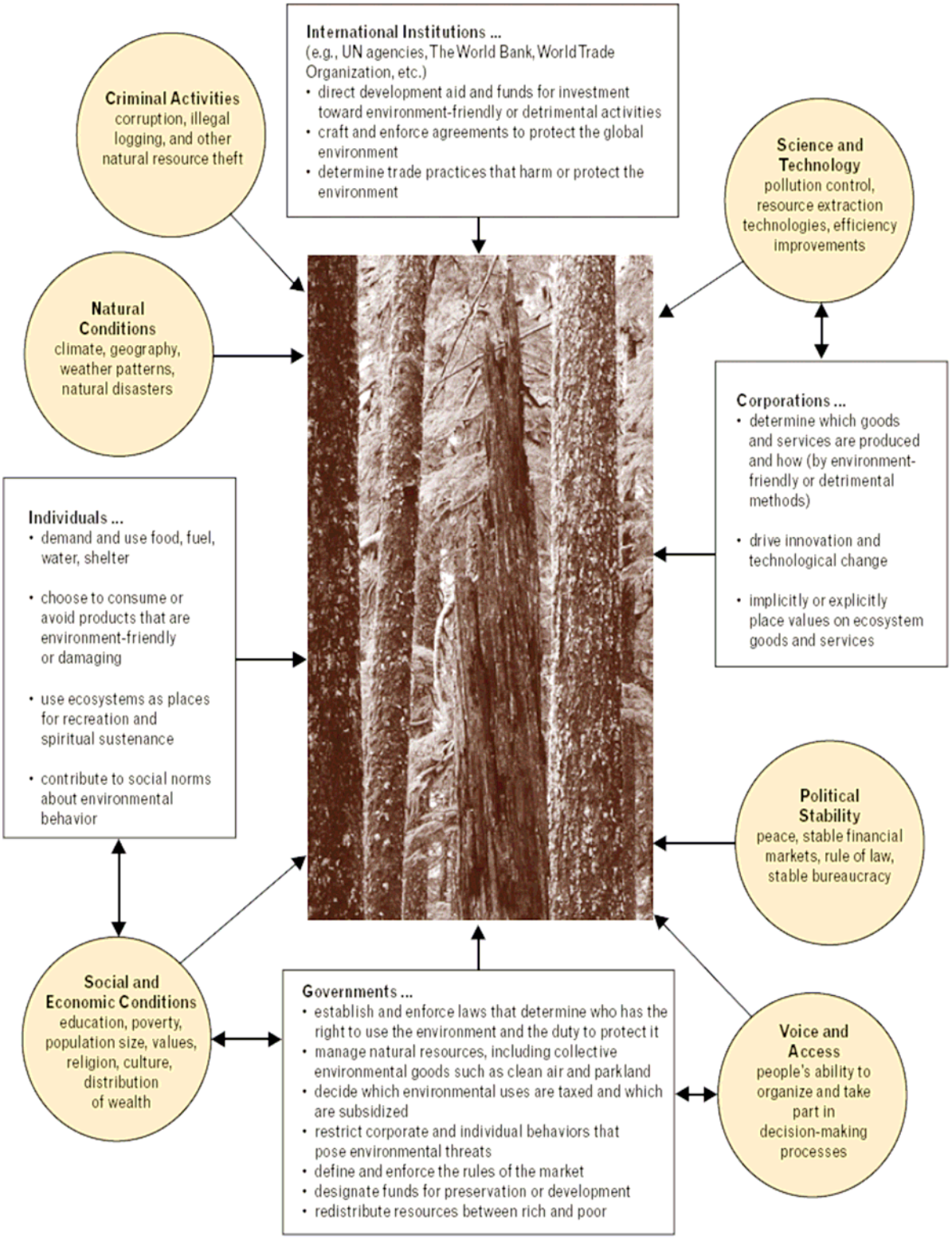
For some people with all these quantity and diversity of agreements, accords, protocols, treaties and international regulations, now all must depend only on set out these rules in national legislations, but in this work is assumed that a best answer to the environmental challenges should differ depending on the economic situation of a given area and on the cultural factors surrounding the society where the regulation is imposed. Different experiences have shown that three factors: government regulations, non-regulatory pressure sources, and managers attitudes toward the environment, are each necessary but not sufficient condition for response to environmental problems, that’s why the necessity of build an effective system of environmental accountability is one of the major challenges of all the countries in the world.

2.3. Diagram of world influences on the environment

Finally, to conclude this chapter is necessary to present a figure that proportionate a complete vision of the world influences on the environment. It was recently elaborated by the World Resources Institute, which is “an environmental think tank that goes beyond research to create practical ways to protect the Earth and improve people’s (http://about.wri.org/). And it is considered important to present this figure in this work because provides a very actual and detailed vision of all the aspects related with the environment and the role of diverse actors as the government, the science and technology and the economic, political and social systems.

Figure 1.1 A World of Influences on the Environment

Today's environmental conditions result from the interplay of a variety of physical, economic, and social forces and are affected by many different actors, from individuals to governments.



Source: http://about.wri.org/

3.- Accountability

As it was mentioned in the beginning of the previous chapter to properly deal with the topic of environmental accountability for the public sector first is necessary to make sense about two main elements that are embedded in this concept; the previous chapter introduced some aspects about the relationship of humans with their environment, now is time to make some considerations about the accountability concept. The aim of this chapter is to make a review of governmental accountability theoretical framework. So, first are presented several definitions of accountability, in second term is offered a brief explanation about a recent theoretical and practical movement called New Public Management (NPM) which have introduced some changes and additions to the traditional government accountability definitions, later is explained the divisions of horizontal-vertical, political, legal, managerial and parliamentary accountability. Then there are two sections that present some innovative forms of governmental accountability and finally a couple of tables summarize all the elements regarded in this chapter.

3.1. The concept

Accountability is a complex term not used across all the languages and countries, that for many regions it was recently imported from the English. For example in Spanish language there is no exact translation for the word accountability, depending on the country and context used it is translated as *responsabilidad,* (responsibility), *confiabilidad*, (reliability) or *rendición de cuentas* that means “accounts surrender” all translations that deform or limit the conceptual meaning that accountability have in English language. “For many people the concept of accountability is limited to an accounting system or is thought of as a reporting obligation. Other cultures use accountability to mean broader concepts, for example Ananta Giri (2000) regards that accountability has multiple meanings; and thinks that the concept is not merely a question of procedural validation. She believes that the concept refers not only to being accountable for what one is expected to do or perform but “to one’s responsibility beyond legal minimalism, for the growth of oneself and the other, and thus contributing to the creation of dignified relationships in society” (Giri, 2000, p174). Under a more western vision the term also has been used as synonym of the words answerability, responsibility, and traceability. But as Frederickson (2005) points out the word accountability most commonly holds the promise of bringing someone to justice, of generating desired performance through control and oversight, of promoting democracy through Institutional forms, and facilitating ethical behavior. Simply stated, “accountability is the duty to provide an account of the actions for which one is held responsible” (Gray *et al.*, 1997, p333).

The action of taking someone to account usually means to utilize a driving force for generating pressure in order to make responsible and ensure good and ethical performance of some person or organization. But, for make clear what is meant by accountability next are listed some elements that by themselves are not accountability but that together may comprise what is refers to:

- An accounting method
- An ethics code
- A moral obligation

- Procedures of evaluation and sanction
- Reports of information
- The accomplishment of law and regulations.

Two things that the majority of the authors agree about accountability are that is a "principle used as the basis of financial and other forms of accounting, auditing and reporting" (Becket & Jonker, 2002, p36), and that at the center of any system of accountability is the information, this mean that the amount and quality of information determines how good or bad, effective or ineffective an accountability system is. As Martin (1997) stated "the Information that provides the true costs of publicly-produced goods and services is essential if optimal allocation of resources is to be achieved and if -private or public- organizations are going to be managed efficiently and effectively" (Martin, 1997,p3).

About the governmental accountability this is conceived as an elemental condition of democracy because it assures the rights to information that a participatory democratic society needs, and generally involves the participation of the parliament that is the body where the interests and groups of the society are represented; Dawn Oliver describes it as "creating a framework for the exercise of state power in a liberal-democratic system, within which public bodies are forced to seek to promote the public interest and compelled to justify their actions in those terms or in other constitutionally acceptable terms as justice, humanity and equity" (Harlow, 2002, p6). For the OECD government accountability is a contract between the public and the government: the public gives government responsibility to govern and manage public resources, and the government is accountable to the public through the parliament for its performance; "it is a concept fundamental to our democratic system; it clearly establishes the people right to know what government intends to do, and how well it has met its goals" (OECD, 2002, p128). In a very similar definition Harlow (2002) mentioned that accountability is "an essential element of the relationship between governors and governed, and that parliaments play some part in the relationship, normally through a process in which an explanation is offered by the government to a representative assembly" (p15).

Therefore, is evident from all these concepts that there is no consensual or unique form to define accountability, however there are some elements that are common in almost all the definitions reviewed: the notion of responsibility for the actions executed, the necessity of report or inform to a representative or social accepted institutions, and that actions are evaluated through some parameters or conceptual notions as justice, ethics, democracy, or public interest. In short governmental accountability can be defined as the capacity of holding public organizations liable for their actions and includes: executive and parliamentary scrutiny; accounting and audit procedures; internal evaluations; administrative reviews; accomplishment of transparency and information access regulations, and finally include the labor of scrutinizers like the press or international qualifiers organizations.

3.2. New Public Management (NPM) and Accountability

All the previous definitions of governmental accountability form a theoretical framework that can be considered as classic or traditional; nonetheless, in the last 20 years there is

a new approach to the government organizations called the "New Public Management[3]" (NPM) that proposes several changes in the way the governmental agencies are managed and as part of the innovations of this perspective, the governmental accountability had needed to expand their dimensions because now the government is required to clearly specify their outputs and link their results to the demands and satisfaction of the citizens.

Under the NPM vision, accountability searches more ethical behavior, a deeper democracy and better performance. Another notorious difference is that in the NPM philosophy accountability is conceived more in terms of stakeholders[4] and not with the classic notion of checks and balances, or the vertical control of the political accountability. Internal stakeholders comprise staff and management; external stakeholders comprise sections of the public, such as taxpayers or customers; "One way, of achieving accountability to external stakeholders is through complaints procedures, ombudsmen, and the ubiquitous citizens charter, which tend to replace, in NPM thinking, formal dispute resolution by courts" (Harlow, 2002, p21**).** In the traditional conceptualization the emphasis was on hierarchical accountability structures capped by the minister's political obligations to the legislature; but in the past two decades, it has been added the demands for external accountability to customers (citizens or clients) and to improve the performance in delivering publicly-funded goods and services. According with Sheldom (1996) there are at least four new major dimensions that had been added to the management processes of the public sector: "*economy* in obtaining resources at least cost; *efficiency*, in finding the best use of resources; *effectiveness* in maximizing the attainment of objectives, and *comprehensive reporting* in communicating to the public, the utilization of resources, and the meeting of policy goals". (p32) With this increase of accountability dimensions there are two quite distinctive accountability processes that can be identified: a complex mix of traditional compliance-based forms of accountability and a new emphasis on performance-based criteria. "Performance-based processes generally rely on periodic, scheduled reports, are ongoing and, in the best cases, adaptive and more concerned with establishing measures of desirable outcomes and use these tools to measure performance. Compliance-based processes are generally case-based and episodic, rely on established rules and procedures and focus on whether administrators have complied with expectations" (Jos, Tompkins, 2004, p256).

These new dimensions and processes added to the traditional accountability are responses to major social changes like the advance of the information and communication technologies, the social deterioration of trust in institutions, the reduction

[3] NPM is a management philosophy used by Governments since the 1980s to modernize their Public Sector. The main hypothesis is that more market orientation in the public sector will lead to more cost-efficiency and the control the government has over it. For more information see Pollitt and Bouckhaert, Pulic Management Reform, Oxford 2004.

[4] A stakeholder is any human agency that can be influenced by, or can itself influence, the activities of the organization in question. An organization is likely, therefore, to have many stakeholders. These will include the groups of employees, communities, society, the State, customers, and can be extended beyond to include, for example, suppliers, competitors, local government, stock markets, industry bodies, foreign governments, future generations, non-human life, etc. (Gray et al, 1996, p45) The *stakeholders* are those with rights to the information and it is for them that the accountability is achieved.

of power state with the globalization process or the increase of popular demands for cheaper, faster and better public services. And, all have in common that search's a more efficient and effective public sector performance instead of ensuring an effective democracy or a major responsible government action.

3.3. Horizontal-vertical, political, legal and managerial accountability

The governmental accountability is a complex process that have been divided in several forms. The importance of reviewing this divisions is because the environmental accountability that is our main subject of research involves almost all the ways and forms of governmental accountability; consequently in order to have a clearer vision of what enclose the processes of governmental accountability next is presented different opinions of what is meant by each kind or type of accountability.

For Guillermo O'Donnell, governmental accountability has two dimensions: horizontal and vertical. The former is mainly made by the same government organizations and the last one is basically executed by the citizens in the elections or through the mechanisms established in their legal system to control and sanction politics and bureaucrats. The horizontal dimension is largely concerned with the effective operation of the system of checks and balances and with the process in governmental decision making (Smulovitz, Peruzzoti, 2000, p148), and the vertical dimension is a matter of interactions between rulers and ruled, about the satisfaction of their expectative and the perception of the government performance.

Other authors made a distinction between political, legal and managerial accountability, Harlow (2002) for example explains that political accountability is premised on representation, exposes that the public censure through elected institutions the subjects of politically control and that the press and media play a central role for assuring the political accountability due to the labor of providing access to information. In other opinion Ryan and Walsh (2004) says that political accountability involves a justification of decisions and actions, and that the justification is usually couched in terms of the values which are currently supposed to characterize stewardship of the citizen's interests. About legal accountability, for Christopher Lord, it possesses two main elements: "the rules must be enforceable by an independent judicial authority and the legal system must allow any citizen on a basis of equality to access a court with a complaint when power holders are seeking to evade or distort the rules by which they are themselves brought to account" (Harlow, 2002, p145). And for Richard Mulgan the legal accountability mechanism is confined to that part of the law which lays down in enforcement procedures. Finally managerial accountability refers to make those with delegated authority answerable for carrying out agreed tasks according to agreed criteria of performance, it is referred directly to bureaucrats who are not accountable to citizens because they are not elected, but that are controlled by indirect forms of accountability as eject elected politicians via electoral or non-electoral processes, "The threat of being ejected is the only force that motivates politicians to monitor and control the behavior of bureaucrats" (Mookherje, 2004, P7); or by the establishment of administrative controls to the procedures and behavior of bureaucrats; "who is accountable has expanded beyond the political realm to include bureaucrats" (Ryan and Walsh, 2004, p622).

In summary, the major difference between the dimensions of horizontal and vertical accountability is that the former are implemented by state institutions and the later implies the participation of citizens. Inside the horizontal dimension it can be placed the legal and managerial accountability; and in the vertical accountability can be placed the political and also the legal accountability. Nevertheless, in order to conclude with this section and make understandable the distinctions between the two dimensions next is presented a table that expose several elements according with the answers of the questions: by who is made the accountability?, to whom?, about what?, through what instruments?, with which standards? And with what effects? This way of presenting the dimensions is adapted from the work of Mashaw (2005) who utilize these questions to define the types of accountability regimes.

Table of Accountability Dimensions

Dimensions	Who?	To whom?	About what?	Through What?	Standards	Effects
Horizontal	-Parliament Members -Bureaucrats	-Executive and Parliamentary control institutions	-Legal accomplishment -Performance Results	-Internal evaluation, Controls, -Audits	Established in law and regulations	-Adminis-trative and legal sanctions, -Removals
Vertical	Citizens	Elected politicians	-Legal accomplishment -Performance results	-Elections, -Legal procedures	-Constitutionals -Morals	-Substitu-tion, Removals, -Legal sanctions

Adapted from Mashaw (2005)

3.4. Parliamentary Accountability

Another category of governmental accountability that must be mentioned apart is parliamentary accountability, this accountability type is mostly referred to the governments with parliamentary regime of government and it can be considered as the principal instrument of horizontal accountability but also as one of the main tools of managerial accountability, “a historical perspective suggests that control of the bureaucracy is an important traditional legislative function… legislative control can serve as a positive and constructive force toward betterment of performance” (Crane, Praeger, 1977, p3). The parliamentary accountability can be executed in three moments: one previous to the realization of policies, other in the time that the government agencies are developing their actions and the last one when the execution of the policies is already finished. The first is realized through the allocation of resources in the budget, the second with the parliamentary exercise of keep ministers accountable, and the last one through the labor developed by the institutions that help the Parliament to control the public institutions which are normally referred as Supreme Audit Institutions[5] (SAI). Next are presented more details of each one of the moments of the parliamentary accountability.

[5] By Supreme Audit Institution is meant such public body of a state or supranational organization which, however designated, constituted or organized, exercises, by virtue of law, or other formal action of the state or the supranational organization, the highest public auditing function of that state or supranational organization in an independent manner, with or without jurisdictional competence. (INTOSAI Statutes, 1968).

1.- As is known budgets are indispensable to government, and given that the approval of them is one of the main task of any legislative body, the budget is by itself the first mechanism of parliamentary accountability because the parliament members can sanction or reward ministers and their programs, increasing or decreasing financial amounts in the budget. Two statements can be utilized to support this point of view, first, "actually an important research question centers around the degree to which the inclusion of performance indicators in the budget can be seen as enhancing the quality of accountability discharged as a result of the publication of budget papers" (OECD, 2002, p130). Second, in Australia the needs of accountability have been particularly served by the establishment of procedures which ensure that parliament has the necessary information to make judgments. The main way in which this information is presented is through explanatory notes for each program. These are presented together with the annual budget for consideration by parliament and provide details of the specific objectives for each program along with financial information, and wherever is possible, quantitative information concerning performance (Harlow, 2002).

2.- The second mechanism of parliamentary accountability is employed during the time that public policies are executed and derives from the fundamental principle of parliamentary regimes that government is accountable through its ministers to parliament; For Woodhouse (1994) who analyzes the parliamentary accountability in the British government there are five levels of ministerial responsibility derived from the execution of the parliamentary accountability: "re-directory responsibility" is the starting point; the requirement in this level is that minister(s) only needs to redirect questions from members of parliament as appropriate; the second level requires the minister simply to report to parliament what has happened in one of the areas of his responsibility; the third level requires the minister to explain or account for his own and his department's actions; at the fourth level the minister is required to make amends for his own or his department's shortcomings; and the highest level of responsibility is "sacrificial responsibility", because requires the minister to resign. "Under this conception of parliamentary accountability the traditional departmental model requires ministers to have tight control of their departments; this is achieved through a detailed control of expenditure and by the minimal concession of discretion" (Woodhouse, 1994, p218).

3.- Finally the last mechanism of the parliamentary accountability but very important is the labor developed by the Supreme Audit Institutions (SAI), that in the majority of the countries are semi-independent or semi-autonomous organism linked to the congress, the parliament or to some parliamentary committee or commission, which main labor is the evaluation of government agencies performance and the control and audit of their budget expenditure. "A Supreme Audit Institution (SAI) is the highest national audit institution in a country. SAI´s are responsible for auditing the regularity of governmental expenditures and receipts. They can also audit the economy, efficiency, and effectiveness of the policies and programs financed by public money" (Van Leuwen, 2004, p93).

In the presidential regimes the parliamentary accountability is also applied but slightly in a different way. The government agencies of the executive branch are accountable to the Congress mainly by the first and third mechanism previously exposed, and the ministers are not accountable as in the parliamentary regimes, for Crane and Praeger

(1977) some of the objectives that the congressmen have to maintain accountable the executive are:

- "Testing and attempting to secure compliance with legislative policy, holding accountable to legislative intentions;
- Evaluating and assessing legislative policy, exposing gaps between expected and actual performance and providing legislative policy makers with cues to needed changes in law or informal agreements;
- Proposing that the executive reconsider and reformulate policies and practices;
- Providing relationships between legislators and administrators that facilitate reciprocal and sustaining support for public policy" (Crane, Praeger, 1977, P10).

For long time the discussion and analysis of the governmental accountability have been mostly totally related to parliamentary accountability, but as is going to be described forward in the last three decades the technological changes and several theoretical trends have brought new forms of understanding and practicing accountability. However is important to remind that the parliamentary accountability in both kinds of political regimes: parliamentary and presidential are the most important and critical form of control and evaluation of government agencies.

3.5. Codes of Accountability

A new tool that can be included as an important element of the new compliance-based processes introduced to governmental accountability systems as part of the changes promoted by the NPM movement is the application of internal and external codes of accountability. These instruments had been used in the private sector for long years especially in professions like accountancy, law or medicine, and only recently have been incorporated in the systems of accountability for the public sector. A code of accountability, "is a system of signals, means and customs which binds the principal and the steward in the establishment, execution and adjudication of their relationship" (Gray, Jenkins, 1993, p55); there are different codes that affect different patterns, therefore is necessary to understand their nature and variety to analyze their effects in the development of accountability, especially because the establishment of codes is one of the preferred ways that government has been using to deal with environmental issues.

There is a distinction between internal and external codes. "The former are formulated to deal with an specific relationship while external codes have already been established for general categories of relationship (as in professional ethics) and are imported into specific relationship as some specific standards of outcomes or impacts or others elaborate standards for the process of execution itself" (Gray and Jenkins, 1993, p56).The codes also can be divided according to the rationality that underlies in their content:

- Legal, that specifies processes, regulations and sanctions for commission or omission of duties.
- Economic, which mainly embodies criteria and standards for economizing activities.
- Social, that promotes conducts to advance in the integration of social actors that ensure the stewardship.

- Ethics, that encloses moral obligations and specific behaviors that should be avoided or developed.
- Political, which generally ensures the democratic participation in the decision process.
- Managerial, that establishes procedures or structures, usually developed specifically to govern the administrative activities.

The financial codes of accountability are perhaps the most notable of the accountability codes and should be mentioned apart because these codes usually combine economic, managerial and legal rationalities and are one of the most utilized in all type of organizations. Another important kind of codes that also must be mentioned apart from the division made by rationalities are the "professional codes" which contrast with the financial codes because they draw on a lateral rather than vertical authority; "professional codes are subject to the judgment of peers rather than organizational rules and structures" (Gray and Jenkins, 1993, p58). This last type of codes seems to be the more generally accepted in the public sector, especially due to the labor of promotion and creation of codes realized by the International Organization of Supreme Audit Institutions (INTOSAI).

3.6. Social Accountability

Social accountability is definitively the major innovation in performance-based processes of governmental accountability; it refers to non-electoral mechanism of control that rests on the actions of a multiple array of citizens, associations, social movements and the media. The social accountability can be defined as the result of the evaluation, monitoring, and reporting labor made by a dense network of stakeholders acting to enforce the "sustainable development[6]" of organizations. To be effective, social accountability requires an organized network of governmental, private and cultural institutions able to exert influence on the political and economic system, and especially on public bureaucracies. Social accountability is derived from social accounting which according to Gray et al (1997, p328) "is conceived as the universe of all possible accountings" and is intimately linked with the notion of Corporate Social Reporting (CSR) "which, more than anything else, is an experimental zone for aligning social and environmental accountability to fundamental business interests and traditional forms of financial accountability" (Agenda 21, 2005, p19). But to make clear what is meant by social accountability? Next is a brief description about their history.

By the beginning of the 70´s some few businesses began to calculate their performance along a 'triple bottom line' of economic, social and environmental indicators; "Working in three key areas – ecosystem thinking, organizational learning, and accountability to multiple stakeholders –" (Agenda 21, 2005, p31), this evaluation effort was made mainly in the private sector by large enterprises. After this, some ten or twenty years later, the transmutation from social accounting to social accountability was done when the way to achieve information and some control mechanisms of the triple bottom line included the

[6] As defined by the Brundtland Commission (1987) is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Sustainable can be defined broadly as the triple bottom line proposed by Elkington: Social-ethical accepted behavior; environmental responsible performance; economic and financial accountability for all the stakeholders.

collaboration of networks of different social actors, which gave a unique distinctive characteristic that simultaneously provided news centers of power and new fragilities to the organizations immersed in this development. The first organizations involved in this new development were the multinational corporations which traditionally have "being obliged to comply with the laws of the countries in which they operate, and they were legally accountable only to their shareholders" (Agenda 21, 2005, p18); these businesses started to suffer a major scrutiny in their ethic, social and environmental performance which obligated them to reform their accountability systems incorporating the concept of social accountability. From the multinational corporations was later derived to national industries, that also began to suffer social pressure for information about their achievements not only in financial terms, and just in the last decade it started to be used in the government organizations and in medium, small and micro business.

Between the examples that can be mentioned as promoters of this new development of the social accountability are:

- The OECD Guidelines for Multinational Enterprises and Principles of Corporate Governance settled in the 80s, where was established that in "the 21st century society will expect business to behave with environmental responsibility, to maintain high social standards, and to contribute to economic equity" (Lake, 1999, p2).
- The papers of the Institute of Social and Ethical Accountability that launched the "Accountability 1000 (AA1000) standard in 1999 which offer a methodological framework to link new demands for accountability and transparency by stakeholders and link these through consultation and measurement in order to build new understanding of sustainability in organization performance" (Becket and Jonker, 2002, p39).
- The work of the Global Resources Institute that according with the Millennium Development Goals established by the UN in 2005 "has sought to become the hub for 'sustainability reporting'. Companies use its guidelines to publish reports not only on their financial performance, but also on how their business affected their workers, customers and the communities and environments in which they operate, thus making some account to the rest of us" (Agenda 21, 2005, p21).

Despite, the benefits and convenience of this kind of accountability, exercise it or implement it in different societies or countries it has been something not easy to do because is necessary to have several conditions as: first, have a dense social background of people enough educated and participative for monitor, expose and denounce wrongdoings of organizations or people; Second, there should be an institutional framework with the necessary tools to hold responsible to private and public organizations. Third, there must be a series of mechanisms available and effectives to enforce positive or negative stimulus for stop, prevent or promote certain behaviors.

The social accountability is the broader form of accountability that has been developed, its methods and techniques are still in the beginning of its development, but actually is the best way to achieve global social goals as the ones established by the Earth Declaration of Rio de Janeiro (1992), the Aarhus Convention on access to information, public participation in decision-making and access to justice in environmental matters (1998), or the UN millennium goals (2000). The importance of the social accountability is

determinant for this work because from the social accountability was derived the environmental accountability that is the main topic of this research and that is going to be explained in a detailed way in the next chapter.

3.7. Accountability regimes

In order to summarize all the elements reviewed in this chapter next it will be presented a table formulated with the six questions that according with Mashaw (2005) must be specified in any accountability relationship in order to define what kind of accountability regime we are talking about. The questions are: "*Who* is liable or accountable *to whom? What* are they liable to be called to account for?; *through what processes* accountability is to be assured?; *by what standards* the putatively accountable behavior is to be judged?; and, what the potential *effects* are of finding that those standards have been breached?. "These basic features: *who?*, *to whom?*, *about what?*, *through what processes?*, *by what standards?* and *with what effects?*, describe what I will call an "accountability regime" (Mashaw, 2005, p17) and here are used for make a big summary of all the divisions, types, kinds and forms of accountability that have been treated in this chapter.

Table of accountability regimes in the public sector*

Regime	Who?	To whom?	About what?	Through What?	Standards	Effects
Legal	State jurisdicti-onal institutions	-Elected politicians -Public functionaries	-Legal accomplishment	Legal Denounces	Established in law and procedures	Legal sanctions
Political	Citizens	Elected politicians	Legal accomplishment Performance Results	Elections	Society ideologies, Values	Approval, Substitution Removals
Managerial	Superiors, State control institution	Public functionaries	Legal accomplishment Performance Results	Internal evaluation, Control, monitoring, and Audit	Established in law and procedures	Adminis-trative and legal Sanctions, Removals
Parliamentary	Parliament Supreme Audit Institution	Ministers, public functionaries	Legal accomplishment Performance Results	Parliament ary evaluation, Control, and Audit	Political, Established in law and procedures	Adminis-trative and legal sanctions, Removals
Social	Stake-holders, society	Public and private organizations	Legal accomplishment, Social Results	External evaluation, control, monitoring, Audit	Ideologies, and values, international measures	Political, Legal, Adminis-tratives, social.

*The table it was done taking the questions presented by Mashaw (2005) and the answers were inferred from the information contained in this chapter.

As can be observed, the accountability relationships are important because allows to regard in a more comprehensive way, what is involved in every regime of accountability, it also makes clear what is meant by each one of the regimes, unpacking the vagueness of the concepts and giving an account of the accountability types and kinds to evaluate the capacity of each regime and to create possible hybrids that help us to satisfy the demands or aspirations from a particular necessity of public accountability.

3.8. Accountability Challenges

Finally to conclude, this chapter about governmental accountability is necessary to remind a set of questions and challenges that the public sector accountability faces in the actuality. First is necessary to mention that the new reforms employed by several countries sometimes had eroded accountability because sheer institutional complexity obscures who is accountable to whom and for what, “the government confuses consumer responsiveness with political accountability” (Rhodes, 1997, p101). As Harlow (2002) mentions, the relationship between these new conceptions of managerial accountability and the more traditional doctrines of accountability may in practice prove uneasy. Or like Sheldom (1996) stated new forms of accountability have become

“necessarily ambiguous”, “elusive”, and “subjectively construed”, moving from external to internal accountabilities, focusing on accountability to the “customer” as opposed to Parliament and the public (p622). Ironically, the shift to performance-based processes, often intended as the means for encouraging a social benefit or a closest link to the general interest, can increase responsiveness to external standards but it can also, “reduce risk taking, making decision-makers cautious about change and about risking mistakes that might become public, and dispose them to persistence in courses of action that appear to have failed” (Jos and Tompkins, 2004, p274).

Second, better accountability, it is often suggested as an end in itself – representing democratic values -- and the means towards the development of more efficient and effective organizations. However there must be clarity in what is search and proposed to improve accountability. “A purely *instrumental* view of accountability mechanisms – one that focuses on results -- will influence their design in particular dimensions paying close attention to the purpose of the organization. And, a *normative* position that ascribes high intrinsic value to a relationship of trust between citizens and governments may lead to quite different systems of accountability” (Sheldom, 1996, p1). Just as direct public or interest group participation in agency decision making alters traditional patterns of accountability, a customer orientation changes the administrative context of accountability relationships. That is, “although performance measurement, benchmarking, organizational report cards, and surveys of customer satisfaction may be used by politicians in traditional oversight, they also operate in more subtle ways used by the public, interested parties, and independent organizations” (Jos and Tompkins, 2004, p259).

4. Environmental accountability

Despite the fact that most of the countries have built a massive environmental regulatory system over the last thirty years, the 1990s can be characterized as the decade of the environment. In this decade society's concerns over pollution, resource depletion, and other environmental issues have become globally widespread and the involvement of people shifted from a primary stage where only reduced groups of people with very technical or special knowledge discussed them to an actual scenario where even little kids of elementary school manifest their rights to live in a healthy and free of pollution environment. Therefore, to deal with this new complex challenges and pressures between society and its environment, there have been several organizational developments that tries to establish adequate mechanisms to transform organizations into more socially responsible, and environmentally sustainable entities; amongst the most important that should be mentioned are the environmental accounting, the environmental audit, and the development of a set of tools to make organizations accountable under the term Corporate Environmental Governance (CEG).

Environmental accountability is a tool that emerged in private organizations under the trend of CEG and that later was adapted to public sector organizations; it is a concept recently developed that involves several and complex elements, and that until now, doesn't have a unique definition and there is no agreement about the best way to practice it. Consequently, the aim of this chapter is to present a brief summary of the history, definitions and main theoretical elements that can be part of a system of environmental accountability, particularly for the public sector. To achieve this objective, the structure of this chapter is divided in six sections: 1) Corporate Environmental Governance (CEG), that is the direct precedent of environmental accountability; 2) Why should a system of environmental accountability be developed for the public sector?, what explains the reasons to promote this development; 3) Definition of environmental accountability; presentation of the theoretical conceptualization of this activity; 4) Elements of a system of environmental accountability for the public sector that explains a proposal of methods and components that must embrace an adequate and efficient system that can be applied by any government. In this section I will also presente a brief summary of what environmental accounting and environmental audit are; the two main elements that any system of environmental accountability should have.

4.1. Corporate Environmental Governance (CEG)

After environmental concerns spread from the scientific arena to the private organizations arena, the notion of Corporate Environmental Governance (CEG) emerged to provide a connection with the new philosophy of "sustainability" which rests on three pillars: economic growth, environmental protection and social responsibility. CEG has been defined as "setting out the responsibilities of directors and establishing the accountability of the board to all the company's stakeholders [such that it] includes the systems and tools used to achieve the company's environmental objectives and their effectiveness in meeting desired outcomes. Some of the Tools that CEG can include are:

- the introduction of environmental accounting and reporting
- adoption of in-house environmental management and auditing systems

- certification under the ISO14000[7] series of standards
- environmental supply chain management, and
- product stewardship" (Maentysaari, 2005, p18).

As part of the tools included in CEG, Gray and colleagues (1987) championed the accountability perspective on Social Environmental Accounting (SEA) and Social Environmental Reporting (SER), that are organizational developments focused on the relationships between individuals, groups and organizations and the rights to information implicit and explicit in such relationships, essentially it reflects the incorporation of social responsibility into a corporate planning framework attempting to meet the approval of an organization's key stakeholder groups. SEA and SER, provides potential explanation in terms of corporate responsiveness to stakeholder demands, corporate strategic orientation towards its social and environmental responsibilities, and the trade-off between corporate economic and social/environmental objectives. For many academics SEA and SER can be regarded as vehicles for moving towards a more sustainable future, "both instruments have the potential to change power relationships and create conditions for different dialogues and accompanying changes in practice" (Parker, 2005, p850). But for some others their origin related with institutions as the World Trade Organization, the World Bank, and various arms of the United Nations, has created doubts about the legitimacy and validity of their methods. For example Gray et al (1993) talks about the capture of SEA and SER by "dominant groups". They observe the pressing of SEA and SER dimensions to fit into the existing financially and operationally focused accounting systems and structures. So, the main criticism pointed to SEA and SER are its bourgeois proclivity for disclosure driven by corporate strategic reasons rather than through a commitment to corporate responsibility and accountability.

About the implementation of SEA and SER in the public sector it must be mentioned that both tools have not been adopted in a big scale inside public agencies and consequently, the research of these organizational tools in government institutions is not yet extensive. There are just a few studies of SER in the public sector that have so far oscillated between an accountability focus and a sustainability focus. For example Burritt and Welch (1997) made a study about Australia where SER is regarded as a "tool to understand the actions of public sector organizations and consequences of those actions for ecological systems; and to place stakeholders in a position to promote change when performance is not acceptable" (p532). But, in general can be said that SEA and SER still are seen as developments that were created basically thinking in organizations of the private sector under the pressure to transform their organizations into open and responsible institutions. And because of this perception, their application in most of the public organizations is still treated either as an addendum that augments conventional accounting and its reports, and only in very few cases they are being treated as a new development that could change and improve the organizations environmental performance and responsiveness.

[7] The underlying objective of the ISO in developing its 14000 series has been to create a framework for systematic, standardized environmental management practices that can encourage a trend towards continuous improvement in environmental performance by enterprises.

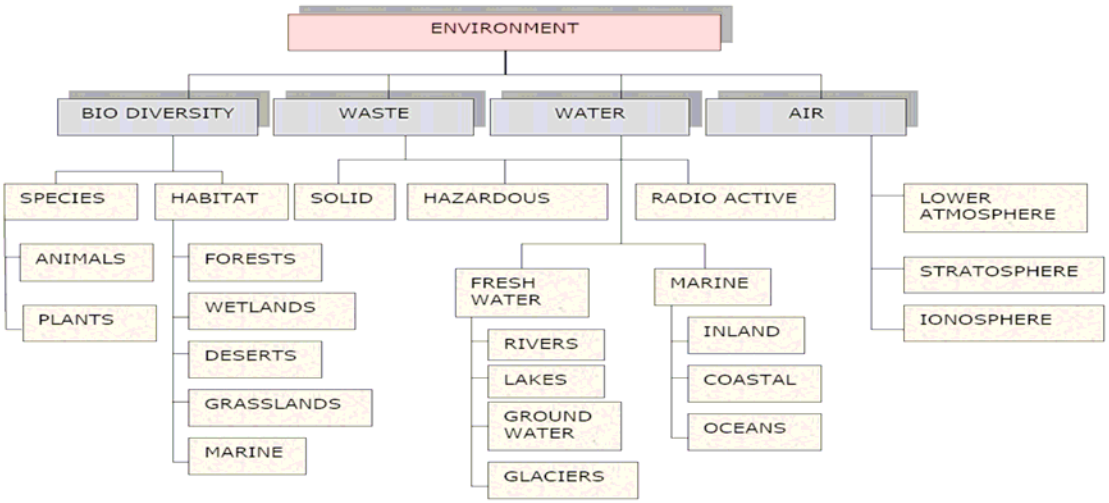
4.2. Why develop a system of environmental accountability for the public sector?

In the past two decades, new forms of public sector management, privatization and new technologies have changed the way the public sector operates, but have also created a need for new ways of making governments accountable for what they do (OECD, 2005, p1). The shift of governmental organizations towards private sector models of management systems has given public managers greater freedom but one inevitable result has been a corresponding weakening of control and accountability. As mentioned earlier, accountability means the capacity to hold organizations liable for their actions and performance. And, to be effective, an accountability system needs three components: valuable information, because without information it is impossible to make anybody accountable; responsibility, because accountability is an empty concept unless clear lines of responsibility are firmly established and consistently maintained; and consequences, because without a predictable and meaningful set of good and bad consequences with regards to the line of responsibility, the actions and performance desired cannot be reached.

Accountability mechanisms applied to the public sector include: executive and parliamentary scrutiny; accounting and audit procedures; trade practices and competition regulation; price regulation; fiduciary duties of public sector corporate directors; international obligations; administrative review; market discipline imposed through corporation's law and the labor of international and peers scrutinizers. But, none of these instruments was designed specifically to deal with environmental issues. Therefore, a reform of governmental accountability system needs to be developed to re-examine and extend their scope to adopt new forms that can manage this new frame of environmental accountability in an adequate and efficient form. For Burritt and Welch (1997), who are amongst the few academics directly involved with this topic of the inclusion of environmental issues in the governmental accountability activities, the necessity of this kind of accountability is due to the need to avoid the ecological crisis and produce a sustainable ecological future; they think that environmental accountability needs not only to focus on environmental performance of public sector organizations (that is, monitoring, reporting and enforcing good environmental performance); it also requires promoting dialogue and debate about the paths towards an ideal set of environmental policies.

In the view of Gray *et* al, *(*1993), another notorious group of academics occupied in the topics that links the governmental accountability with the environment, the essence of environmental accountability and transparency is that environmental matters are too complex and crucial. There are simply too many activities engaged by too many people that have an effect on many levels, and, in order to regulate them and hold them accountable it is necessary to build a holistic system of accountability commanded by the government. To have an idea of all the issues related with environmental problems, and support this perspective of complexity, the next figure shows the great diversity of areas that comprehends the environmental issues that need to be considered by governments:

Diagram of Environmental Issues



Source: INTOSAI, Working Group on Environmental Accountability (2003)

Hence, these two situations: the complexity of the environmental issues and the necessity of avoid an ecological crisis are the main reasons to develop a system of environmental accountability for the public sector. But, a system that not only relies in annual reports, voluntary developments of accounting systems, the adoption of private sector models, or the strength of regulation. Far beyond that it is required a system with major conscience about the environment, that contemplate a process that start's whith childrens' education, that continues with policies that expand the environment dimension to most groups in society, and that finally develops what Gibson and Guthrie (1995) call a complete green system of accountability where organizational centrality[8] and time horizon (past-present and future) can be considered.

The challenge then is about building a complete and broad system of environmental accountability and not only a set of policies that enforce addendums of information, reports and restrictions to organizations. But, this is not an easy job because as it will be exposed in the following section "there is no universal definition of environmental accountability" (Aitken and McCrae, 1992, p11), and even though, there are a lot of elements that can be considered to be utilized in the system, none has proven to be good enough to recommend their inclusion in all the systems under any circumstances.

[8] Gibson and Guthrie suggest three elements of organizational centrality. First, is whether an environmental impact deals with an organization's core internal processes; second, whether the impact relates to other internal operations; finally, does it have an impact on external activities? If organizations do not comment about any one of these activities then their system of environmental management (including reporting of performance) is said to be deficient (Gibson and Guthrie, 1995, p. 75)

4.3. Concept of environmental accountability

Environmental accountability is a development advocated to ensure the environmental responsibility of organizations. The environmental accountability is strongly supported by three tools: a) environmental accounting, b) environmental reporting and c) environmental auditing. These instruments are still evolving and inside their theoretical and practical developments there are several debates between academics and practitioners. Nowadays the three instruments have received attention from international organizations as the major accountants companies and organisms as the UN, OECD, World Bank, INTOSAI, etc. which have built a type of minimum theoretical framework that is usually accepted by organizations, managers and public servants. However, as already mentioned, until now there is no unique conception of environmental accountability and the ways and forms of application of this concept varies in each country according with their institutional framework, the environmental and economical conditions and the degree of involvement of civil society in environmental issues.

The concepts on environmental accountability vary from a very simple view as the one presented by Burritt and Welch, (1997, p534). “Environmental accountability relates to one specific area of accountability – the actions made on behalf of organizations and the impacts of resulting activities on ecological systems” to a very specific as the one presented by Rezaee and Elam, (2000, p60) that affirms that “currently, there are two significant types of environmental accountability: mandatory requirements and voluntary initiatives. Mandatory requirements involve corporations' compliance with applicable governmental laws and regulations governing the ongoing environmental conduct of corporations. Voluntary initiatives are an integral part of corporate social responsibilities which demonstrate corporations' commitment to environmental consciousness and obligations”. However, despite the fact of the big difference between the different perspectives, it can be said that there is a coincidence between various authors as Burritt, Welch, Gray, Paddock, Parker and organizations as WRI or UNEP about that environmental accountability must not be constrained to the field of financial or economical accountability that is the predominant perspective in governmental accountability.

“Environmental accountability… depends on the environmental sensitivities of their major shareholders, major customers, and major creditors” (O´connor, 2000, p161), and “one of the newest and most progressive approaches to environmental accountability is the direct intervention of consumers, investors, and civil society groups” (World Resources Initiative, 2004, p123). Following all these contributions the author of this work can propose a definition of environmental accountability as the obligation to report, inform and justify the accomplishment to environmental laws and regulations, the commitment to be responsible of their environmental performance and the promise to be reliable to answer questions and proportionate information about the impact and affectation realized to the environment in a intended or unintended way.

4.4. Elements of a system of environmental accountability for the public sector

At the same level of importance of the definition of environmental accountability are the elements that can conform a system of environmental accountability. On this matter the WRI (2004) has developed a work that proposed some elements that a system of

environmental accountability must contain, they state that this system must consist mainly of two tools: 1- traditional accountability mechanisms, and 2 -new disclosure-based mechanisms. The give priority to the latter as can immediately be observed:

"Traditional Accountability Mechanism
- Government-mandated environmental regulations and permits

New Disclosure-Based Mechanisms
- Government-mandated disclosure of environmental performance
  - Pollution registers
  - Mandated corporate environmental reports
- Voluntary corporate initiatives
  - Corporate codes of conduct
  - Voluntary corporate environmental reports
  - Environmental management systems
  - Eco-labels
  - Voluntary industry-government agreements
- Public action and advocacy
  - Socially responsible investing
  - Eco-labels/green consumption" (WRI, 2004, p109)

In this work it can be affirmed that to build a system of environmental accountability for the public sector there are three important elements: first, explain and define the role that mechanisms as environmental accounting, reporting and environmental audits will play in the system. According to Gray *et al.* (1987) these three mechanisms are: "the process of communicating the environmental effects of organizations' economic actions to particular interest groups within society and to society at large". (p. IX) And in words of Mathews and Perera (1995) they are "an extension of disclosure into non-traditional areas such as providing information about employees, products, community service and the prevention or reduction of pollution" (p364). This concrete system of environmental accounting, reporting and auditing should be assessed against three characteristics:

- "criticality of natural capital[9];
- informational uncertainty about environmental issues; and,
- the enforcement systems used by public sector organizations" (Burrit, Welch, 1997, p547).

In this way, independently of the methods and techniques established for each system and that can vary a lot, if the three characteristics are considered then the probability of success of the system increases drastically because the importance of natural capital deals with the specificities of the environmental assets that each country or nation have, and the other two aspects are related with the particular situation of the tools and means that exist to achieve environmental information together with the capability to enforce regulations.

[9] Gray distinguishes between critical natural capital and sustainable natural capital: critical natural capital is irreplaceable. Sustainable natural capital is a renewable part of the biosphere (Jones, 2003, p767)

The second element that must be considered follows the views of Bronner (1994) who suggests that accountability must mobilize "to a rendering of potentially anonymous institutions and their sub-systems" (p335), in recognition of the positive roles that several institutions can play outside bureaucracy in furthering democracy". Therefore, it is necessary to appoint stakeholders, because it is necessary to clarify what are the interests of the stakeholder in order to build a system that satisfies the different necessities and expectations; "Hence, whether and how environmental responsibilities are seen to have been fulfilled depends in part on the nature of a stakeholder's relationship with the public sector organization (Burrit, Welch, 1997, p533)". And for this goal it can be used the six key stakeholder that according with the INTOSAI (2001), appear to have a particular interest in environmental accountability of public sector organizations: 1) The regulators, that means the Congress or Parliament, 2) Bodies that advise Parliament such as the Supreme Audit Institutions, 3) The intra-government Control institutions, 4) The public sector agency in charge of ecological matters, 5) Non-government organizations (NGOs) and other specific community interest groups and consulting organizations, and 6) Those affected by any government activity that implies environmental issues – local, national, and international communities, including the general public and private organizations.

And a third element is to use all or some of the elements that WRI suggests that must be included in any system of environmental accountability. For this purpose the proposals of Paddok (2004) can be used, who sees public participation in environmental decision-making as a critical element of any strategic system of environmental accountability.; "Effective public participation can bring more facts to the table, ensure more thoughtful decision-making and, through well designed permits, increase the amount of data available to monitor compliance and reduce demands on enforcement" (Paddok, 2004, p807). This element is also considered in the principles of United Nation's Agenda 21 resulting from the Conference on Environment and Development (referred as "Earth Summit") held in 1992 in Rio de Janeiro where was stated that: "environmental issues are best handled with the participation of all concerned citizens, at relevant level" (http://www.unep.org/Documents.multilingual/).

Of course it is obvious that this last element, is the one that must play a major role in any system of environmental accountability for the public sector because each day programs and policies have become more complex, and government agencies, non-governmental organizations, corporations and society themselves need to develop a wide range of mechanisms to increase awareness about environmental activities and stimulate the global improvement of performance.

Using these three elements can help to form an adequate and efficient system of environmental accountability for the public sector that could significantly improve the effectiveness of environmental programs and policies; that advance in environmental results and that ensure real achievements in the path to build a new sustainable model of society. Now, to make a more comprehensible of two of the main elements of any system of environmental accountability, the following section is a review of the concepts and a few considerations about the environmental accounting and the environmental audit.

4.4.1. Environmental accounting

The emergence of environmental accounting in the late 1980s and early 1990s can be conceived as part of the new social concerns developed mostly in the seventies; when managers, the media, politicians and the public have addressed, identified, measured and valued the interactions between organizations and the environment. Environmental accounting was developed as part of the corporate literature which explored the relationship between accounting, organizations and society. This literature reflected widespread social concern about the consequences of economic growth for the environment (Jones, 2003, p762). Since that time, one of the major growth areas within accounting in the last years has been "accounting for the environment", which has generated interest well beyond the confines of accounting academics and professional accountants (Mathews, 1997, p481).

According with INTOSAI, the aim of natural resource accounting is to provide information on the state of natural resources and the changes affecting them; "Natural resource accounting is the compilation of data on natural resources within an accounting framework. The term also covers the interpretation of data and reporting" (INTOSAI, 1998); For Kirk and Hamilton (1996), natural resource accounting is one of the tools which may be used to support environmental policy, alongside instruments such as environmental impact assessments at a project level, integrated environmental and economic analysis for national policies and macro-economic levels, and public investment/expenditure reviews. All these authors recognize that environmental accounting can play a pivotal role in the way organizations construct themselves and their environment, economically, politically and socially (Parker, 2005, p847); and all propose that an attempt should be made to incorporate these accounts in main organizational decisions.

However, for authors such as Maunders and Burritt, environmental accounting has promoted more damage than solutions to environmental issues because:

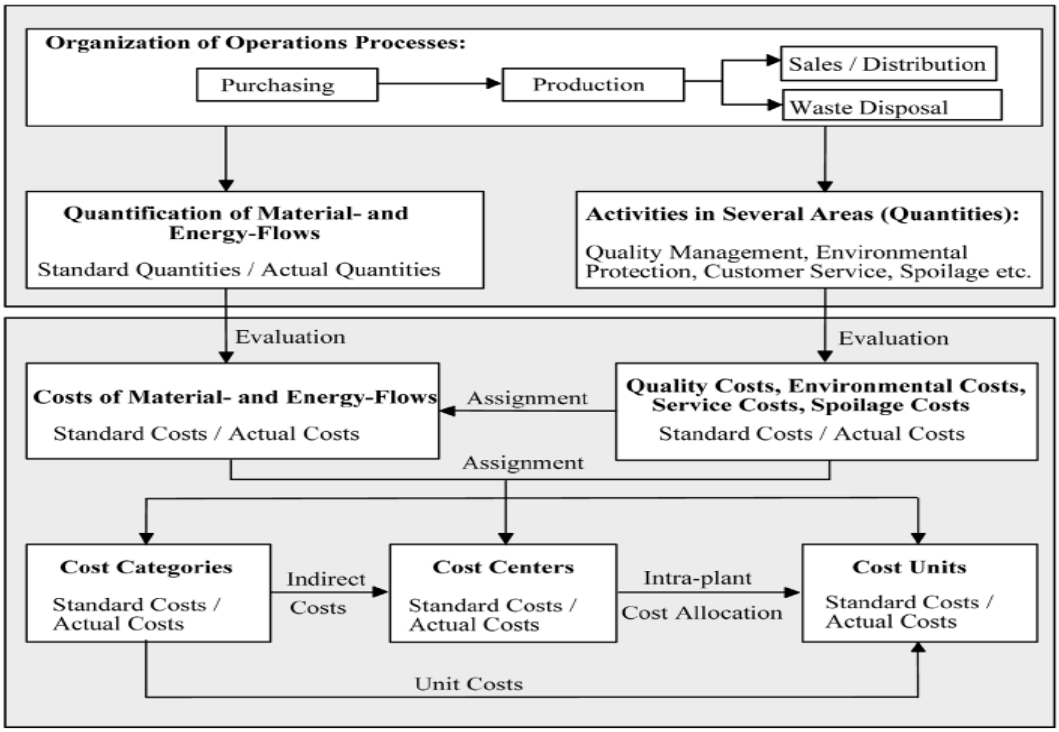
1. accounting information is used in decision making and performance evaluation in relation to entity activities which have ecological impacts,
2. The kind of accounting information often used conforms to the conventions of external financial reporting,
3. Accounting information conforming to these conventions has significant defects in terms of ecological use, and
4. Adverse ecological impacts arise directly as a result of the use of accounting information (Maunders and Burritt, 1991, p12).

Although the importance of the need to report the impact of corporate activities on the physical environment has long been recognized in the social accounting literature, very little research has appeared to date on extending internal information systems to incorporate the wider range of social costs and benefits associated with corporate activities. (Milne, 1991, p82).

The next diagram presents a basic structure of an environmental accounting system proposed by Letmathe and Doost (2000); This diagram pretends to: 1) identify environmental impacts of the organization, 2) figure out which flows of material and energy are causing the significant environmental impacts, 3) calculate environmental

costs, through the quantification of material and energy, 4) evaluate the real cost of the flow of material and energy, 5) and finally, estimate the total environmental costs to their causing objects, like input, process products. (Letmathe and Doost, 2000)

Diagram of an environmental cost accounting system



Extracted from Letmathe and Doost, (2000, p426)

But, even recognizing that there have been some relevant developments of models of environmental costs accounting, a survey of the environmental literature will reveal a lot different notions of how to value environmental resources (Milne, 1991). In particular the environmental accounting literature contains a range of views which may be categorized from light green to dark green, with the former suggesting that environmental problems are not potentially disastrous for the planet, and the dark green tending towards the radical ecologists' position that disastrous consequences are imminent (Mathews, 1997, p493). According with Milne, (1991) the most conventional approach to environmental resource is one which gives preeminence to economic value and in particular economic efficiency; in second place he mentions Cost-Benefit Analysis (CBA) procedures that have been extended to incorporate a much wider range of benefits associated with environmental resources, including such non-market benefits as recreational use, options for future use, and preservation; in third position, it places an extended CBA procedure that is modified with the additional concept of constant natural assets, this view constrain sets of minimum levels of sustainable resources within which all decisions regarding resource use must be made. Finally he regards that a more radical approach is based on the notion of intrinsic value of resources, which is claimed by deep

ecologists, and resides in the value of the resource itself completely independent of human existence.

The existence of these variety of philosophical position serve to remind us the impossibility that "a readily determinable economic life for land, flora and fauna may be fully measurable in economic or social terms" (Jones, 2003, p765). At present, there is no generally agreed-upon and uniform way of meeting the growing demand for environmental accounting information, either qualitative or quantitative (Wilis and Goodfellow, 1991, p49). And, in this sense, the environment is still an opportunity for the accounting profession to demonstrate that it is on top of contemporary issues and that the profession can grasp new opportunities and run with modern issues; "The environment is a challenge where accountants have a key role to play in the environmental debate" (Medley, 1997, p600). Impact on the physical environment is a significant concern. However, the specific form of environmental impact[10] varies from case to case. Therefore the accounting system itself may become vested in values in a way not previously understood, which may in the future offer a dynamic opportunity to render a service to the demos –to whom accounts are owed- and around which a wide agreement might be reached (Beckett and Jonker, 2002, p37). Finally, environmental accounting and especially about the practitioners is that they confront the challenge of using new resources available in different fields beyond accounting, such as new developments in Information and Communication Technologies (ICT), or even the developments in fields as the quantic physics.

4.4.2. Environmental Audit

The term audit symbolizes a cluster of values: as independent validation, efficiency, rationality, visibility of the mechanics of practice and in the final analysis, the promise of control (Harlow, 2002, p19). In general, any audit consists of a set of phases: inquiries, tests, and reporting. Inquiries made by interview, observation, and examination of substantive evidence in order to obtain an understanding of the organization or actions that are audited. Tests are performed to confirm or deny the understandings and assumptions which were made in the first phase. And the last phase, reporting provides information to interested parties on the results of the audit. (Sheldom, 1996, p36) According to Harlow (2002) in the public sector, the specific objectives of auditing are the proper and effective use of public funds, the development of sound financial management, the orderly execution of administrative activities, and the communication of information to public authorities through the publication of objective reports. She also mentions that there are two main moments or audit stages to public institutions: Ex-ante control, that is applied to verify in advance each item of revenue or expenditure and provide the management authority with an assurance that measure's the safeguarding of the assets, and that the regularity of the accounting is adequate. And ex-post; when accounts are drawn up and a certification audit conducted. And this is essentially confined to the accuracy of the income and expenditure account, and the lawfulness and procedural correctness of the expenditure. Continuing with the view of this author, about

[10] Environmental impact added is the sum of all environmental interventions (e.g. CO2 emissions) assessed according to their relative harmfulness. To improve a company's eco-efficiency, its management has to be fully informed of any environmentally induced economic impacts on the company and of any corporate environmental impacts.

techniques she identifies three: first, a total audit of every item of income and expenditure; second, a sampling, whereby a small percentage of transactions is thoroughly scrutinized and the results extrapolated to cover the accounts as a whole; and third, that refers to a systems audit, by which is setting in place a system of management which permit the auditor to be confident that every stages of transaction or series of transactions is properly monitored and that the actors can be called to account by a supervisory body.

Strathern (2000) called these techniques regimes of audit and for him every one accompany a specific epoch in Western international affairs. Following this notion of temporality and development of type of audits, it can be said that the appearance of environmental audits is a very recent development, originated in the last twenty or thirty years when awareness of the responsibilities of industries to address environmental issues increased. According with Awasthi (1996) environmental auditing began in the corporate sector in the US in the early seventies, as a compliance response to strict legal requirements when disclosure of environmental matters increasingly emerged as an important dimension of corporate and organizational reporting. This trend was disseminated to other countries especially where there were subsidiaries of US based multinational companies. However is not until the 80's, that the International Chamber of Commerce has defined environmental audit as "a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing with the aim of helping to safeguard the environment by: facilitating management control of environmental protection; assessing compliance with company policies which would include meeting regulatory requirements" (Sheldom, 1996, p42).

Since the apparition of this definition there have been many efforts made by academics and institutions to create different models, methodologies and techniques to understand or perform environmental audits. But undoubtedly the most influent developments over environmental audits are the models proposed by the big accounting firms as Ernst & Joung, KPMG, PricewaterhouseCoopers or Deloitte and the developments proposed by the INTOSAI in particular the various proposals done by the Working Group on Environmental Audits, which was established in 1992 with the participation of 14 countries and now has evolved to the major working group in the INTOSAI with almost 50 countries participating. This Working Group on Environmental Auditing of INTOSAI identified three types of audits where environmental issues can be addressed. These are audits of financial statements, compliance audits, and performance audits.

Audits of financial statements of environmental issues may include the following:

- Initiatives to prevent, abate or remedy damage to the environment
- The conservation of renewable and not renewable resources
- The consequences of violating laws and regulations, and
- The consequences of vicarious liability imposed by the state.

Compliance audits with regard to environmental issues may relate to providing assurance that governmental activities are conducted in accordance with relevant environmental laws, standards and policies both at national and international levels; the subject-matter is normally management's assertion that it has complied with all relevant

rules. And a performance audit with an environmental focus can often be classified as one of five specific types:

i) audits of Government monitoring of compliance with environmental laws;
ii) audits of the performance of Government environmental programmes;
iii) audits of the environmental impact of other Government programmes;
iv) audits of environmental management systems; and
v) evaluations of proposed environmental policies and programmes (INTOSAI, 2001, p2-23).

In other document the Working Group on Environmental Audit of the INTOSAI added that Performance auditing of environmental activities may include ensuring that:

- Indicators of environmental-related performance (where contained in accountability reports) fairly reflect the performance of the audited entity, and
- Environmental programs are conducted in an economical, efficient and effective manner. (INTOSAI, 2004, p3)

But, just as happens with environmental accounting, environmental audit is dependent upon accounting-based standards of performance, then it may tend to give undue prominence to values that can be calculated and not necessarily to be the most significant (Power, 1991, p36). It is often stated that environmental audit should be best if they are left to environmentalists, and auditors (especially from government) must keep away from a discipline which is not only far removed from traditional accounting concerns, but which is still in an evolutionary stage. Accordingly, with this it is important to understand that environmental auditing and reporting has been changing over the years. Environmental auditing originally focused on technical issues and legal compliance, and was generally undertaken by external professionals outside both the accounting arena and the organization itself (Medley, 1997, p595). After the apparition of ISO 14001 there was a shift in the strategy to institutionalize a systematic management of environmental performance. However even now days to obtain the certification does not mean that the organizations have good environmental performance. More recently Strathern (2000) identifies that environmental liability has been made an issue of global concern, and environmental reports have been used as a method for companies to communicate their environmental performance and impact to their stakeholders and can be seen as a new and important aspect of corporate governance; “Such reports could include an environmental policy statement, details of targets and achievements, and details of performance and compliance” (INTOSAI, 2004, p20). In addition, Organizations are increasingly including narrative analysis in the audit report to supplement the footnote financial disclosures on contingencies related to environmental costs.

In opinion of Vinten (1996) the advantages of sound environmental audits and reports are several, including: demonstrate organization commitment to environmental protection to employees, public and authorities; provide an environmental database for planning, plant modification and emergency planning; help safeguard the environment; verify compliance with local and national laws, and international regulations; indicate current or potential future environmental problems that need to be addressed; reduce exposure to litigation, incidents and adverse publicity; increase employee awareness of environmental matters; assess training programs and provide data to assist in training; enable organizations to build on good environmental performance, give credit where

appropriate and highlight deficiencies; assist the exchange and comparison of information between different plants or subsidiary agencies; and identify potential cost savings, such as from waste minimization.

In this sense Sheldom (1996) argues that environment auditors may search for evidence by asking management about conditions such as:

1. "Compliance with state, local and federal environmental laws
2. Ownership of subsidiaries which are environmentally at risk
3. Production of inventories which are environmentally at risk
4. Land use, land acquisitions, and land transactions (particularly bargaining purchases of land which may be indicative of land which has environmental hazards)
5. Acquisition, use or production of chemicals
6. Inspection policies and records
7. Maintenance of a record of applicable environmental laws
8. Procedures for becoming aware of relevant new environmental laws
9. Certifications from authorities for environmental compliance". (Sheldom, 1996, p42)

With regards to the public sector, the leading environmental agency is in charge of ensuring that environmental laws are properly implemented by public and/or private entities. In particular, these agencies are the ones who need to develop an adequate set of environmental accounting, audits and reports that enables them an effective performance in activities such as:

- issuing permits that limit the quantity or concentration of pollutants discharged;
- monitoring dischargers' compliance with such permits;
- monitoring environmental conditions to help identify other potential breaches of regulations;
- helping in the interpretation of regulations, and providing other assistance to regulated entities to assist in their compliance efforts; and
- taking enforcement actions when violations occur (INTOSAI, 2001, p24).

To conclude, this chapter presented the history, the concept, and the main elements that conform a system of environmental accountability for the public sector in order to make clear what is meant by environmental accountability and which will be the elements that were searched and that are going to be presented in the next three chapters about the environmental accountability practiced in Australia, Mexico, and USA.

4.5. Case-studies format

In the next three chapters is going to be developed the case-studies of Australia, Mexico and USA. According with the proposed methodology explained in the introduction, and in order to start to analyze the point of focus of the comparative analysis the case-studies format that the next chapters have is:

1.- A brief explanation about the government system of each nation.
2.- The functions, main activities and organizational structure of the national public institutions involved with environmental issues.

3.- In the cases of Mexico and USA a brief description of the labor realized by the executive branch internal control organism about environmental topics.
4.- A brief explanation of the role, jurisdiction, and organizational structure of the national in charge of the parliamentary accountability of each nation.
5.- Some general remarks of the content of each chapter.

5. AUSTRALIA

The next three chapters will present information about the systems of environmental accountability of the governments of Australia, Mexico and the USA. This chapter is focused on Australia. A brief introduction of the government structure in Australia is presented first, in second term the most important facts about the two major institutions involved with environmental accountability of the public sector in Australia are reviewed: the Department of Environment and Heritage and the Australian National Audit Office; in third place is presented a summary with the remarks of the mechanisms and tools that the Commonwealth government has established in matter of environmental issues and that can be considered as part of the Australian system of environmental accountability for the public sector.

5.1. The Australian Government

The Australian Constitution defined the Commonwealth government, its structure, powers and procedures, and the rights and obligations of the states; the Commonwealth is a system of governments derived from the British, Westminster system where the legislative power is vested in the Parliament, which consists of the monarch (Queen Elizabeth II), the Senate and the House of Representatives. There are three levels of Government in Australia: Commonwealth (also know as 'Australian Government' or 'Federal Government'), State and Local. And, there are three ‘arms’ of the Commonwealth Government: the legislature (or parliament) responsible for debating and voting new laws (Certain members of the legislature, -called ministers- are also members of the executive, with special responsibilities for certain areas of the law); the executive is responsible for enacting and upholding the laws established by the legislature; and the judiciary, that is independent of the other two arms and is responsible for enforcing the laws and deciding whether the other two arms are acting within their powers. The legislature, is made up of democratically-elected representatives from around Australia, comprises two separate chambers: the House of Representatives (or 'the lower house') and the Senate (or 'the upper house'). The House of Representatives has 150 members, each representing a different area of the country ('electorate'); and the Senate is composed of 76 members. Each state has 12 senators, and the Northern Territory and the Australian Capital Territory have 2 senators each.

The executive is the administrative arm of government, and is made up of government employees (the public service) working in a number of departments and agencies. A Minister is a member of the legislature who has been chosen to also work as part of the executive. The Prime Minister serves as Australia's Head of Government. The party or coalition of parties commanding a majority in the House of Representatives becomes the government and provides the ministers, all of whom must be members of the Parliament. If the Government ceases to command a House of Representatives majority, it is obliged to go to an election or resign. The Cabinet is formed by The Prime Minister and more of 30 ministers. Under the Minister is the head of a department, usually referred to as the Secretary, who is responsible to the relevant minister for the efficient, effective and ethical use of resources. The minister, in turn, takes political responsibility for the actions of the department.

The executive government is accountable to the parliament, which in turn is accountable to the people, and the Australian Public Service (APS) is accountable to the Australian community through a variety of mechanisms including parliamentary committees, administrative law, the Ombudsman and the Auditor-General. At June 2004, there were 131,522 Australian Public Service (APS) employees working under the Public Service Act. All APS employees have a responsibility to comply with all applicable Australian laws and are held accountable for their work practices under various Acts. The APS Agencies are divided into Departments, Statutory Agencies, Executive Agencies and Independent Bodies; there are 18 Departments, 63 Statutory Agencies, 5 Executive Agencies, 23 Independent Bodies and 237 public companies. From this universe of organizations the labor of two institutions are the most relevant for the development of environmental accountability in Australia, they are the Department of Environment and Heritage and the Australian National Audit Office, which will be reviewed next in a detailed form.

5.2. The Department of the Environment and Heritage (DEH)

The DEH (also known as Environment Australia) is the Commonwealth government's major environmental agency, and is responsible for achieving the government's environmental objectives, domestically and internationally; although, throughout Australia environment and heritage issues are also managed by the other two levels of government, specially the state government who also have environmental and heritage departments. One of the main aims of the DEH is to improve the environmental performance of Australian Government departments and agencies. They work with all agencies across the Australian Government to provide advice, communication networks, and access to best practice environmental management techniques from around the world.

The DEH has a key role in activities like:

- Advising the Australian Government on its policies for protecting the environment and heritage
- Administering environment and heritage laws, including the Environment Protection and Biodiversity Conservation Act 1999
- Managing the Australian Government's main environment and heritage programmes including the $3 billion Natural Heritage Trust
- Implementing an effective response to climate change
- Representing the Australian Government in international environmental agreements related to the environment and Antarctica
- Assisting Government agencies to develop and introduce environmental management systems (EMS);
- Encouraging the consideration of relevant environmental policies, programmes, costs and benefits in Australian Government purchasing by the provision of voluntary environmental purchasing tools;
- Promoting public reporting on performance. (http://www.deh.gov.au/, 2006)

Some of the key functions of DEH include: Ensure an Ecologically Sustainable Development (ESD) in all Australia, enforce the Environment Protection and Biodiversity Conservation Act 1999 (EPBC), cooperate to expand the environmental education,

formulate a environmental resources information network, coordinate the activities for conservation of the great barrier reef, design policies related with greenhouse issues, attend issues of the indigenous communities and the environment, represent the government of Australia in international activities and commitments related with environment and heritage issues, formulate the National Action Plan for Salinity and Water Quality, establish and maintain the National Pollutant Inventory, design policies for the natural heritage, the natural resource management, the use of oceans parks and reserves, supervise the labor of scientists, reporting the state of the environment, and manage some grants and funds for environment and heritage issues.

The legislation administered by the DEH related with environment issues is long as there are Acts related with the conservation of Antarctic Ocean, the Great Barrier Reef, special territories, the protection of environment, dispositions about fuels, waste, energy, ozone, islands shipwrecks, inland water and wet tropics, etc. just to mention some. To attend all these regulations the DEH is organized into the following divisional groupings:

1. Australian Antarctic Division
2. Approvals and Wildlife Division
3. Australian Greenhouse Office
4. Industry, Communities and Energy Division

-International, Land and Analysis Division

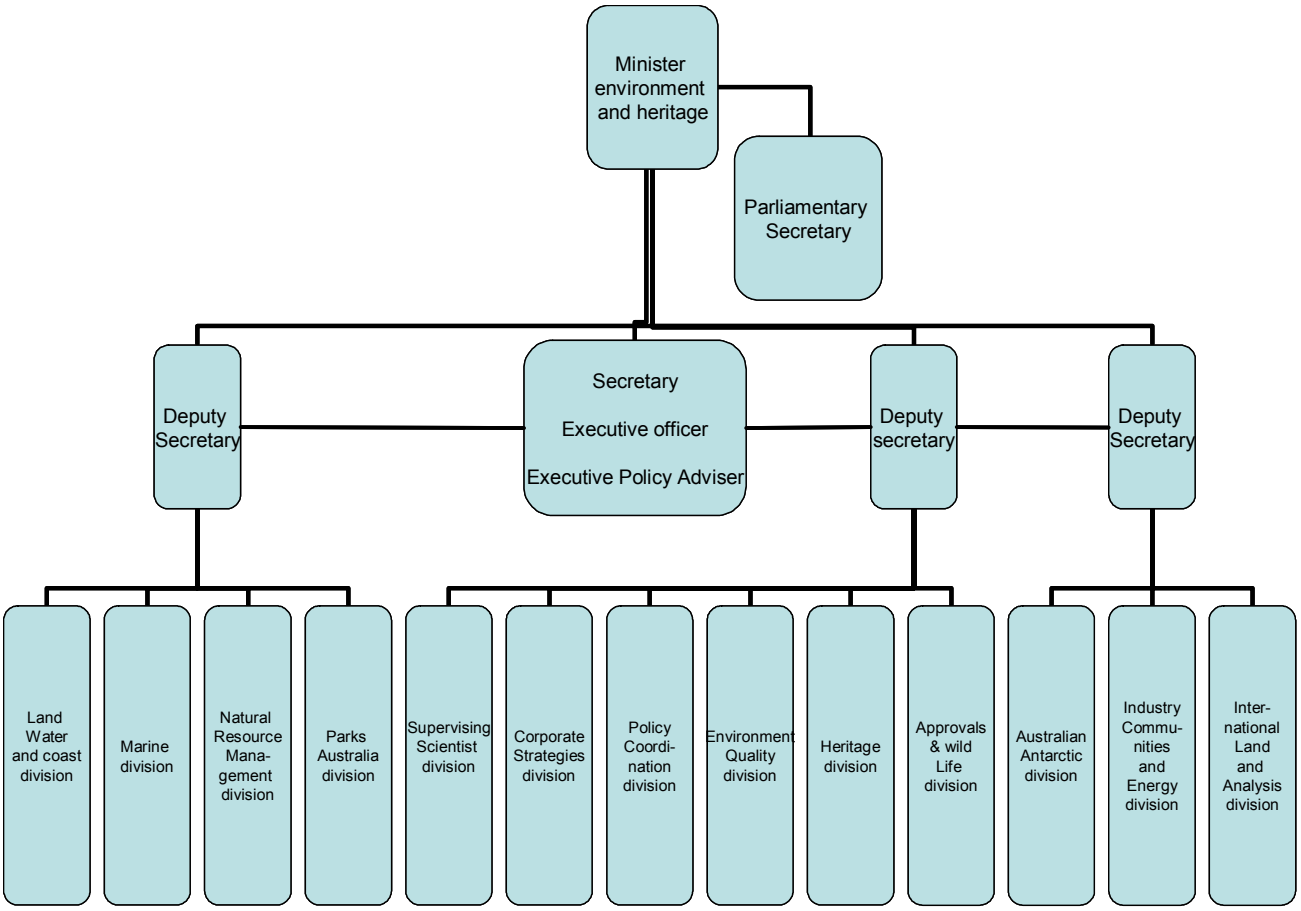
5. Corporate Strategies Division
6. Environment Quality Division
7. Heritage Division
8. Land, Water and Coasts Division
9. Marine Division

-National Oceans Office

10. Natural Resource Management Programmes Division
11. Parks Australia Division
12. Policy Coordination Division
13. Supervising Scientist Division, (http://www.deh.gov.au/, 2006)

As can be inferred from the structure and the environmental regulations, the DEH has to develop many activities in several fields in connection and cooperation with other authorities at international, state and local level. From the vast number of actions and policies that they perform about environmental issues for the matter of this work is important to mention three: first, the participation in Councils and Committees which are basically bodies of consultation and cooperation between governments, to develop policy jointly, and take joint action to resolve issues which arise between government levels; Second, the job of managing policies to ensure the compliance and enforcement of the laws and regulations that include a number of different statutory regimes containing a range of criminal, civil and administrative penalty provisions; and third, the job of guidance and consultancy that the DEH provides to the rest of government institutions to accomplish the environmental law and regulations. The following is the organizational chart of the DEH.

DEH Structure



Source: (http://www.deh.gov.au/, 2006)

Doubtlessly the DEH is the institution of the Australian government that has more influences in the system of environmental accountability for the public sector, however it is not the unique public institution that deals with it, so next is going to be presented some information about the Australian National Audit Office (ANAO) which is the organization that helps congress make the parliamentary accountability in Australia.

5.3 Australian National Audit Office

The Australian National Audit Office (ANAO) was established by the Auditor-General Act (1997), that sets out the main responsibilities and information gathering powers of the Auditor-General, the Act establishes the Auditor-General as an independent officer of the Parliament, with an auditing mandate extending to all Commonwealth departments, agencies, authorities, companies and subsidiaries. Through the ANAO, the Auditor-General provides an independent review of the performance and accountability of the Commonwealth public sector in its use of public resources. The Auditor-General and the ANAO play a key role in monitoring and reporting on the performance and

accountability of the Commonwealth public sector; that role extends to providing guidance and leadership in relation to some elements of good government.

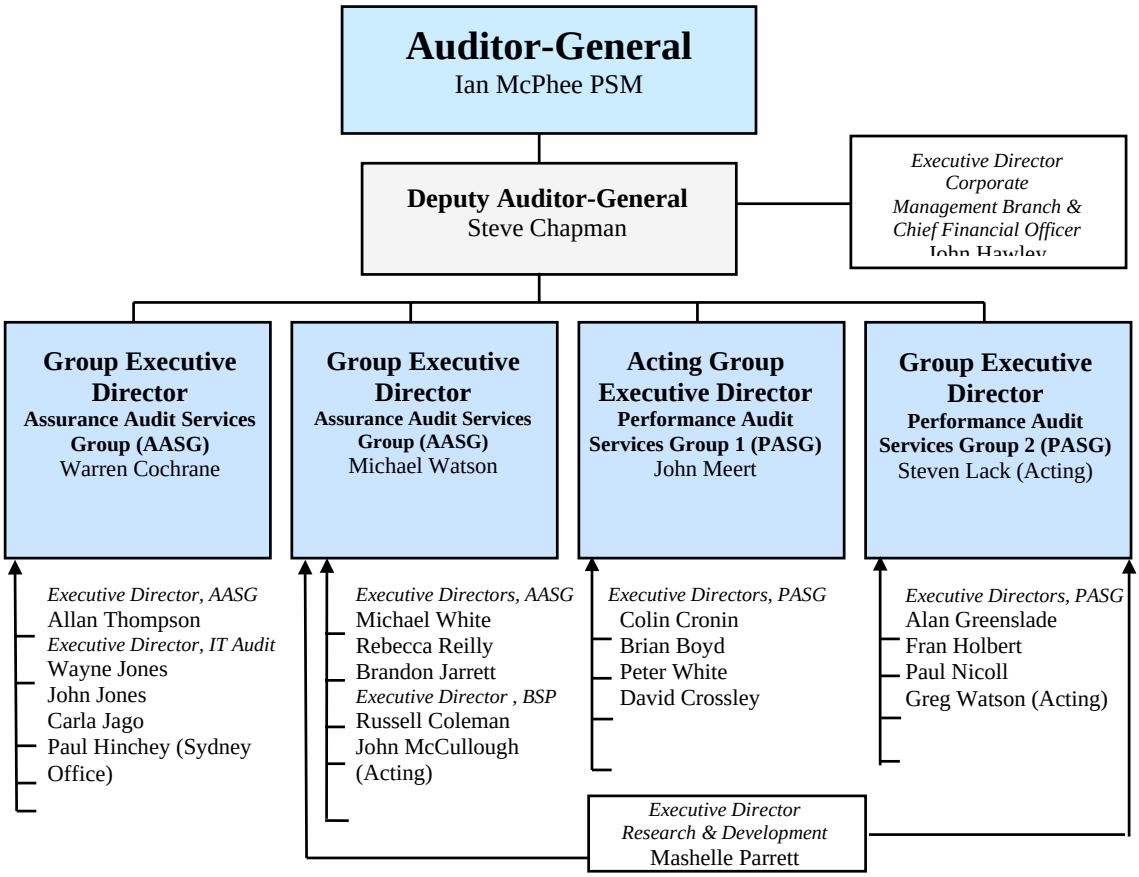
As an independent officer of the Parliament, the Auditor-General, appointed for a term of 10 years, is not subject to control or direction by any individual Minister or other Member or Senator of Parliament, and has the ultimate responsibility for setting the scope of his or her activities. The ANAO falls within the Department of Prime Minister and Cabinet and provides a range of audit services to the Parliament and Australian Government public sector agencies. As in the majority of the democracies the ANAO is pivotal to the system of checks and balances that support government. The ANAO has a dual role in terms of reporting on the financial management and overall performance of the public sector. The first aim is to provide independent assurance and the second role is to suggest improvements to public administration. Increasingly, "it is this second, advisory role that is most important for a public sector which, in the proper pursuit of greater efficiency and effectiveness, is challenged by diverse governance issues which are growing in complexity". (Barret, 2001, p10) The Auditor-General's mandate extends to all Commonwealth agencies, authorities, companies and subsidiaries with the exception of performance audits of Government Business Enterprises (GBEs) which are audited by the institutions determined in their executive board and are subject to the corporate laws applicable to a private enterprise. Performance audits of wholly owned GBEs may only be undertaken at the request of the responsible Minister, the Finance Minister or the Joint Committee of Public Accounts and Audit (JCPAA)[11].

There are at least two actions that the ANAO performs in a very particular way, first, the ANAO is engaged in identifying areas of risk, and opportunities for improvement, in setting a strategic agenda. "Managing public sector businesses effectively in the international marketplace of the future will undoubtedly be challenging, with the increased emphasis on monitoring and reporting on intangible performance elements such as values, ethics, social and environmental responsibility" (Barret, 2001, p12); and the second is that in 1999 the Commonwealth government moved from reporting performance on its programs to an accruals-based outcomes and outputs reporting framework. Reporting on outcomes identifies what results have been achieved by delivering those services. Outcomes are the key results the government-of-the-day seeks to achieve, and define for each agency the purpose of their business. Agencies are now required to specify and cost their outputs against planned outcomes and identify performance indicators and targets. "Unlike outcomes, the formal and detailed specification of agency outputs is not part of the legislative requirements for Parliament's

[11] The JCPAA has a statutory base in the Public Accounts and Audit Committee Act of1951, which gives the Committee the capacity to initiate its own references and, to a large extent, to determine its own work priorities. This power is unique among parliamentary committees and gives it a significant degree of independence from the executive arm of government. In broad terms, the Committee's charter is to scrutinize, usually by means of public inquiry, the performance of all Commonwealth agencies. In this way it is the Parliament's watchdog, helping ensure that Commonwealth agencies are held to account for their use of public money. The Committee has another big responsibility that is sets the guidelines for agency annual reporting. The Public Service Act requires each agency to report to its Minister at the end of each financial year on the agency's activities during the preceding year. Those reports must be prepared in accordance with guidelines approved, on behalf of the Parliament, by the JCPAA. Outside its responsibilities in relation to monitoring expenditure of public moneys, the Committee conducts inquiries which assess the Australian Public Service resource management frameworks, standards and practices, and reviews relevant bills are referred by the Parliament.

Appropriation Bills. However, their inclusion for Commonwealth budgeting purposes enables closer links to be established between portfolio Budget documentation and agency annual reports. This enables Parliament, Ministers and external stakeholders to scrutinize (ex ante) how appropriated monies will be spent, and to judge (ex post) how expenditure was used". (http://www.anao.gov.au/)

ANAO Structure



Source: (http://www.anao.gov.au/)

As can be observed in the ANAO charter, the organization is mainly focused in two fields: financial statement audits and performance audits. While reviewing the Auditor-General Act (1997) it is found that no reference is established or any duty with respect to environmental issues, however it is established the power of the Auditor General to audit the compliance of the public organizations to the distinct laws applicable as the Environment Protection and Biodiversity Conservation Act (EPBC), and the rest of regulations. In the reports that are published in their web page inside the directory of audit reports by theme it was not found any report of environmental audits made to public organizations, however there are some reports of audits made to different public organizations in charge of environmental issues and specifically there is a report of an audit made in 2003 to 45 Commonwealth departments and other public bodies about the way they are accomplishing the mandatory obligation established in the EPBC of disclosure annual reports on ecologically and sustainable development.

As it was mentioned early in this work the parliamentary accountability is the major instrument of horizontal accountability, which is the accountability realized by different branches of the same government, and that is especially powerful inside governments with parliamentary regime as Australia. The ANAO was created 10 years ago through an Act that tried to emulate the developments achieved in USA and UK in the matter of Supreme Audit Institutions, however at that time the Australian Parliament Members didn't established a particular set of responsibilities for the ANAO about environmental issues. Although the ANAO as part of their jurisdiction about performance audits deals with environmental issues and that's why is important to review their labor.

5.4. Remarks

In the revision of the Australian regulations about environmental issues, there is no definition of environmental accountability, however, it can be affirmed that Australia has a very good set of mechanisms to conform a system of environmental accountability for the public sector, for example inside the main Environmental Law, the EPBC the section 516 establishes as a mandatory procedure to all the federal public institutions elaborate a annual report with a special section advocated to environmental performance. Australia also has a good set of reports and databases with environmental information derived from their participation in international accords and treaties and also derived from their self interest to count with information about this delicate topic; inside this theme it can be mentioned the National Pollutants Inventory, the State of Environment Reports, or the voluntary information displayed by some organizations through the triple bottom line reports, or the initiative of corporate sustainability report. Australia, also has some interesting projects that deals with the particular environmental issues of the country, as the establishment of the National Environmental Protection Council, that is a governmental group that coordinates the policies and measures to protect and conserve the Australian environment, or the National Environment Protection Measures, that are specific policies advocated to tackle problems that are causing concern or that demand particular actions far beyond what the general environmental regulations establishes, or the National Natural Resource Management Monitoring and Evaluation Framework that together with the effort of the development of Environmental Economic Units constitute the big challenge of Australia to develop timely information over their natural resources and their economic costs and implications. About the enforcement of environmental laws, Australia as a highly developed country counts with a very solid and formal jurisdictional system, that solve the environmental violations to law by administrative, civil or criminal actions.

Despite the progress that Australia presents in their system of environmental accountability for the public sector in activities as reporting the state of the environment, environmental monitoring and environmental data of public institutions, different analysis as the one formulated by the OECD (1996) mentions that still there are scope to improve Australian environmental policies. Even the same audit realized by the ANAO to the reports of Environment and Sustainable Development manifest still is necessary to continue and strengthen efforts to create a synergic relation between environment and government.

6. MEXICO

This chapter is focused on Mexico. first a brief introduction of the government structure in Mexico is presented; ,second the most important facts about the three major institutions involved with the system of environmental accountability for the public sector are reviewed, mainly: The Secretariat of Environment and Natural Resources (Secretaría del Medio Ambiente y Recursos Naturales, SEMARNAT), the Secretariat of the Public Function (Secretaría de la Función Pública, SFP) and the Office of the Supreme Audit of the Federation (Auditoria Superior de la Federación, ASF); in third place a summary with remarks on the mechanisms and tools that the Mexican government has established in matter of environmental issues and that can be considered as part of the Mexican system of environmental accountability for the public sector is presented.

6.1. The Mexican Government

The Political Constitution of Mexico defined the Mexican government, as a federal representative and democratic system, it is a broad document that establish the public sector structure, powers and procedures, and the rights and obligations of citizens, states and municipalities; the Constitution determines a presidential system of government derived from the American system where the President of the Republic is in charge of the executive power, a legislative power is vested in the Congress, which consists of the Senate and the Chamber of Deputies, and the judiciary power, that is independent of the other two arms is responsible for enforcing the laws and deciding whether the other two arms are acting within their powers. There are three levels of Government: Federal, State and Municipal. The President, the Governors and the Municipal Presidents are democratically elected in a direct majority system. The Chamber of Deputies contains 500 members, 300 elected by majority vote system in different areas of the country (districts) and 200 by proportional representation selected from 6 regional lists (circumscriptions) presented by the national parties, the Senate is composed of 128 members, each state has 4 senators, and the Federal District (DF) also has 4 senators.

The executive is the administrative arm of government, and is made up of government employees (the public service) working in a number of secretariats, departments and agencies. The heads of the Secretariats are determined by the President and some of them need the approval of the 51% of members of the Senate. The President is the Chief of State, the Chief of Government and the Commander of the military forces. The Cabinet is formed by the President, almost 20 Secretaries and more of 30 heads of Agencies, Commissions and Departments. Under the head of the Secretariats usually there are three or four Deputy Secretaries, who are responsible for the efficient, effective and ethical use of resources. All these public functionaries of the executive government are accountable only by horizontal accountability made basically by the labor of the Control Internal Organisms (OIC´s) and the labor of the ASF that is the organism in charge of the parliamentary accountability. The President, Governors, Municipal Presidents and the Congress in turn are accountable to the people in a vertical type of accountability through democratic elections that are celebrated for Deputies and Municipal Presidents every three years and for Senators, Governors and President of the Republic every six years. The members of the Congress, Municipal Presidents and

Governors can not been re elected for the next period, and the president of the republic can never be reelected.

The Mexican Public Service (APS) also is accountable only through horizontal accountability mechanisms including the parliamentary accountability realized by the ASF, administrative law, the Ombudsman and the labor of the OIC´s that are coordinated by the SFP. At 2005, there were close to 220,000 Mexican Public Servants (APS) working for the Federal Government in directive positions, that is from the H level that corresponds to a Chief of administrative department who control from 2 or 3 people in some Secretariats or 40 to 50 in some others, to the A level that corresponds to the President of the Republic[12]. All the employees have the responsibility to comply with all applicable norms and are held accountable for their work practices under various Laws, regulations and organizational procedures. The public organizations are divided into Secretaries, Commissions, Federal Departments, Financial Agencies, Independent organizations and Pro-State entities; there are 18 Secretariats, 1 Federal Department, 5 Financial Agencies, 6 Commissions, 13 Independent organizations and 209 pro-state entities. From this universe of organizations the labor of three institutions are the most relevant for the development of a system of environmental accountability for the public sector in Mexico; they are the SEMARNAT, the SFP, and the ASF, which are going to be reviewed next.

6.2. The Secretariat of Environment and Natural Resources (SEMARNAT)

The SEMARNAT is the federal government agency whose main purpose is to create a State environmental protection policy establishing the bases for a sustainable development in the country. Their labour is supported by environmental agencies from the State level and in some cases also from Municipal environmental offices. The mission of the secretariat according to their web page is “to strive for including in all levels of society and public duty, criteria and instruments assuring the optimal protection, conservation and exploitation of our natural resources thereby creating a comprehensive and inclusive environmental policy within the sustainable development framework” (http://portal.semarnat.gob.mx/semarnat/portal).

Some of their main objectives are:

- Protect and conserve ecosystems, species and genes and promote the sustainable use of natural resources;
- Stop and reverse pollution of water, air and soil;
- Guarantee the inclusion of the environmental variable as a State policy within the national life activities (government, companies, society);
- Promote a comprehensive and decentralized environmental management;
- Increase and strengthen social participation and access to information on environmental and conservation policies and programs;

[12] The level A correspond to the President, the level B is for the Secretaries, the level C for the Deputies Secretaries, the level D is assigned to General Directors, the level E is for Adjunct Directors, the level F correspond to Area Directors, the level G to Deputies Directors, and level H is assigned to Chiefs of Administrative Departments.

- Promote processes of education, research, training and communication to preserve the ecological balance, environmental protection and sustainable exploitation of natural resources;

The SEMARNAT has a key role in activities like:

- Prepare, conduct and assess the national policy on environment and natural resources;
- Promote and encourage the environmental responsibility of productive sectors;
- Oversee compliance with legislation on environment and natural resources and promote voluntary mechanisms for compliance therewith;
- Promote and encourage the culture, education, training and social participation on environmental and natural resources matters;
- Create mechanisms and instruments to timely inform the society about environmental matters and natural resources;
- Guarantee integrity and operability for the components of the environmental policy within a framework of institutional improvement.

At the end of the year 2000, the Federal Public Administration Law was amended giving rise to the SEMARNAT; the purpose was to create a functional agency that encourages a national policy of environmental protection that respond the increasing national expectation for protection of natural resources; the SEMARNAT adopted a new institutional design, a new structure, and was in charge of formulate, the National Program of Environment and Natural Resources 2001-2006 which included a diagnosis concerning the conditions in place when the SEMARNAT was created, and outlined a set of proposals for a change in environmental policy. For the first time, the National Program of Environment and Natural Resources included the operational environmental programs of decentralized agencies as: the National Water Commission (Comisión Nacional del Agua), the National Forestry Commission (Comisión Nacional Forestal) and the National Commission of Natural Protected Areas (Comisión Nacional de Áreas Naturales Protegidas) which were dependent of other Secretariats in the past. Probably the main innovation of this environmental policy is that the Federal Government Secretariats and institutions that conforms the cabinet for first time in the Mexican history included sustainability in their corresponding sectorial programs. Accordingly with this, instead of SEMARNAT unilaterally establishes criteria to determine how to progress sustainable development, each secretariat or institution liaised with SEMARNAT to set their own objectives, strategies and sustainability goals. The six mainstays of the New Environmental Policy are: 1) “Integrality: joint and coordinated management of natural resources; 2) Commitment with the sectors by several Federal Governmental Agencies; 3) New environmental management, to stop and restore the ecosystems deterioration; 4) Social and economic assessment of natural resources; 5) Fight against environmental impunity; 6) Social participation and explanation of accounts”. (http://portal.semarnat.gob.mx/semarnat/portal).

The legislation administered by the SEMARNAT is extensive and it is divided in general laws, regulations and Mexican Official Norms (NOM´s), Legislation covers topics such as ocean and inland waters, forestry, wild life, solid, liquid and air wastes, genetic biology, protected natural areas, noise pollution, cars pollution, chemical soil substances, territorial order and plans, mines exploitation, health and environmental

conditions in the workplace, nuclear energy and arms, fisheries, urban development, and etc. To manage and ensure the enforcement of this legal framework the SEMARNAT is organized as follows:

Three deputies' secretariats of:

- Environmental Planning and Policies.
- Environmental Protection.
- Environmental Foment and Normative

Six semi independent organisms:

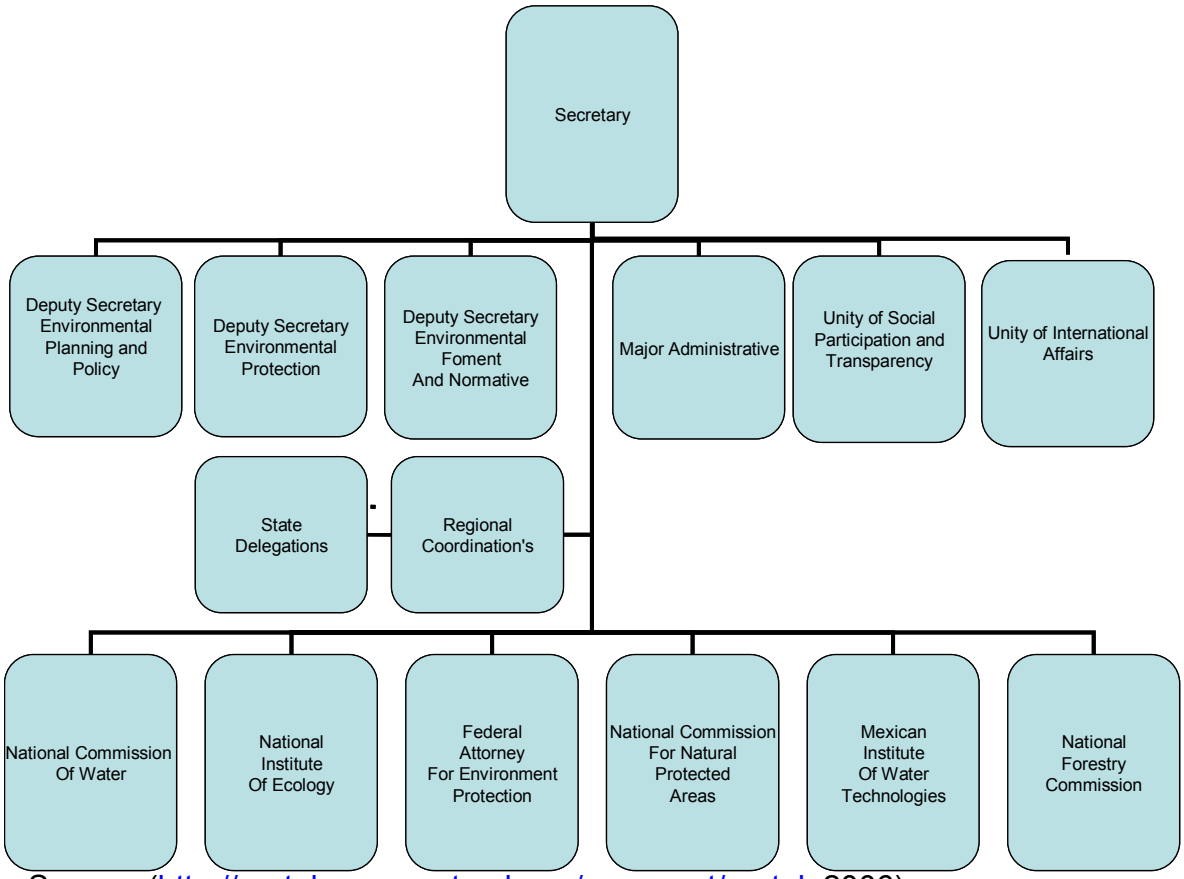
- National Water Commission (CNA)
- National Institute of Ecology (INE)
- Federal Attorney of Environmental Protection (PROFEPA)
- National Commission of Protected Natural Zones (CONANP)
- Mexican Institute of Water Technologies (IMTA)
- National Commission of Forestry (CONAFOR)

And 32 delegations one in each State of the Republic,
(http://portal.semarnat.gob.mx/semarnat/portal, 2006)

As can be inferred from the structure and the environmental regulations the SEMARNAT has to develop a lot of activities in several fields in connection and cooperation with other authorities at international, state and local level. From the vast number of actions and policies that they perform about environmental issues, for the matter of this work is important to mention three: first, the participation in the three coordinating commissions of the Federal Executive Power that handles national priorities; Since year 2000, the environment stopped being a sectorial matter, restricted to social policy and became an important issue in the work programs of the commissions of Growth with Quality, Social and Human Development and, Order and Respect; Second, the labor realized by the PROFEPA for ensure the compliance and enforcement of the environmental laws and regulations which can include a number of different sanctions in criminal, civil and administrative procedures; and third, the labor of guidance, consultancy and promotion of the education and research that the SEMARNAT provides to the rest of government institutions to accomplish the environmental law and regulations.

Next is presented the organizational chart of the SEMARNAT.

SEMARNAT Structure



Source: (http://portal.semarnat.gob.mx/semarnat/portal, 2006)

As can be observed the SEMARNAT is the main governmental institution that constitutes the Mexican system of environmental accountability for the public sector, however is not the unique public institution that deals with it, there is also the labour of the Internal Control Organisms (OIC´s) that each public federal organization have and are coordinated by the Public Function Secretariat (SFP)and there are also the labor of the organism in charge of the parliamentary accountability the Supreme Audit of the Federation (ASF), so next is going to be presented some information about both institutions.

6.3. Secretariat of the Public Function (SFP)

The SFP is in charge of fight the corruption, ensure the transparency and promote the improvement of the performance of the executive power federal public organizations; it counts with several units in charge of the realization of audits, evaluations, and assessments, and in addition coordinates the role of the OIC´s of all the Secretariats, Financial Agencies, Commissions, Independent bodies and pro-state companies. Between the main activities that realize according with their organization manual, the SFP:

1. Promote the citizens participation in the control and vigilance of the governmental activities.

2. Design and implement systems of governmental control and evaluation to all the federal institutions.
3. Support the improvement of the performance of the federal institutions through reengineering processes, the instauration of the professional civil service, the electronic government and different capacitating programs.
4. Designates the functionaries in charge of the OIC´s of each federal institution.

All these attributions can have a positive effect in the development of the system of environmental accountability for Mexican public sector, however until now in the information of the web site of the secretariat there is no single reference to any kind of policy, evaluation, audit, or directive related with environmental issues; despite that the law gives the SFP power to make recommendations for the general improvement of the performance of the federal institutions, it seems that now the SFP is more concentrated in fight the corruption, than in environmental issues; therefore this is a possible point where the Mexican system of environmental accountability for the public sector can be improved, especially because the SFP can realize controls and evaluations during the time that the policies are been implemented and not when they are already finished as in the case of the ASF.

6.4. The Supreme Audit of the Federation (ASF)

The Supreme Audit of the Federation (ASF) was established by a reform of the Federal Constitution in July of 1999; the Law of Supreme Fiscalization of the Federation (Ley de Fiscalización Superior de la Federación, LFSF) was approved by the Chamber of Deputies in December of 2000 and there are established the main responsibilities and information gathering powers of the Auditor-General; the Law establishes the Auditor-General as an independent officer of the Parliament, with an auditing mandate extending to all governmental institutions of federal, state or municipal level that utilizes public resources with exception of some Trusts. Through the ASF, the Auditor-General provides an independent review of the performance and financial accountability of the Mexican public sector. It was not until the approval of the LFSF in the year 2000 that the Auditor-General and the ASF started to play an important role in the system of check and balances that is common in the majority of the democracies, monitoring and reporting the performance and of the public sector; because the older law was very limited in scope and attributions that gave to the former institution “the Office of the Chief Accountant of the Treasury”.

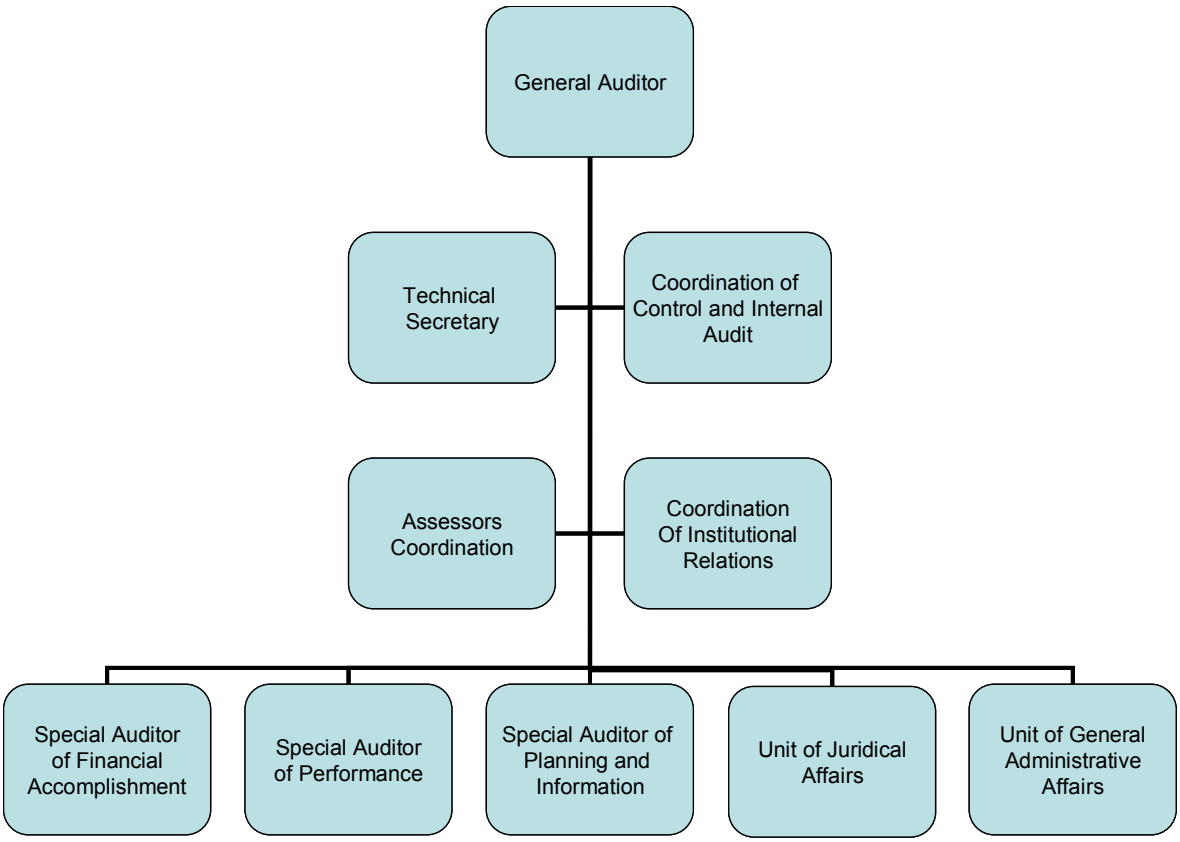
As an independent officer of the Parliament, the Auditor-General is appointed for a term of 8 years, elected by the 66% of the Chamber of Deputies, is not subject to control or direction by any individual Secretariat or Members of the Congress, and it counts with technical, operative and financial autonomy. The main activities of the ASF are: 1) “supervise the public accounts and elaborate thematic analysis with the results; 2) realize audits, visits and inspections to the public organizations according with the annual plan of fiscalization; 3) formulate observations recommendations to improve the financial management and performance of the public organizations; 4) promote with the different authorities the imposition of sanctions and legal procedures when is detected a violation of the laws or regulations”. (http://www.asf.gob.mx/asf) The Auditor-General’s in coordination with the Deputies integrants of the Congress Vigilance Committee

determine the annual program of fiscalization that is the document where is established which institutions, programs, policies or projects are audited each year.

The governmental audits practiced by the ASF correspond a kind of audits that only involves supervise if the use of public resources was made according with the law and if the public resources were used in an efficient way; “the audits practiced since the expedition of the new law represents a big qualitative change in the revision of financial statements, because transcends the simple revision of resources and allow the ASF to make what is called as performance audits, which can measure the form and degree of accomplishment of the social objectives of the institutions, as well as the performance of functionaries and public servants”. (http://www.asf.gob.mx/asf). However, for consider that the ASF is collaborating with the development of the system of environmental accountability for the public sector in Mexico is necessary that their audits covers environmental and sustainability issues of the use of public resources, and not only the legality and performance.

Next is presented the organizational chart of the ASF.

ASF Structure



Source: (http://www.asf.gob.mx /)

As can be observed in the ASF charter, as the ANAO in Australia the Mexican organization is also mainly focused in two fields financial accomplishment audits and performance audits, reviewing the LFSF it is found that is not established any reference

or duty respect environmental issues, however it is established the power of the Auditor General to audit the compliance of the public organizations to the distinct laws applicable, as the General Law of Ecological Balance and Environmental Protection (LEEGEPA) , and the rest of applicable regulations. In the information that are published in the web page of the ASF it was not found any report of environmental audits made to public organizations, or reports of audits made to different public organizations in charge of environmental issues, the only reference that can be found it was from the sixth general assembly of the National Association of Supreme Organisms of Fiscalization and Governmental Control (ASOFIS[13]), held in Mérida, Yucatán in 2002 where was established a discussion table about environmental audits, that arrived to some conclusions as: "the government environmental audits are part of the performance audit… It is important to explore the possibility of incorporate the concept of sustainable development in the principles of any audit… is necessary to quantify the value of the environment together with their impact in the public treasure and that can be established a way of make it accountable (ASOFIS, 2000, point 3, table 3).

Summarizing, the accountability made by the ASF is one of the two mains element of horizontal accountability in Mexico together with the duty of the OIC´s and the SFP, nevertheless because of the recent creation of the LFSF (2000) and the consequent transformation of the Office of General Accounts of the Treasure into the Supreme Audit of the Federation, still the job of environmental accountability developed by these institutions is very scarce or even inexistent, however as part of their jurisdiction about performance audits and their power to audit to almost all the public organizations, in the next years for sure will be a field that receive a lot of attention and that will improve the Mexican system of environmental accountability for the public sector.

6.5. Remarks

Despite the little progress that Mexico has achieved about the establishment of a system of environmental accountability for the public sector, it can be observed that with the LEEGEPA there were some advances in this way as the establishment of the obligation of reporting activities as the State of the Environment Reports, or the Environmental Performance Reports, and the National System of Environment and Natural Resources Information (SNIARN), Another very good policy established by the environmental Mexican law is the establishment of the PROFEPA in order to deal in a particular way with the enforcement and violations of the environmental law, and even knowing that the actual compliance of regulation is not major to 50% at least the consideration that there is a institute completely advocated to the labors of enforcement can give some hope that in the next years that compliance will increase for the benefit of all the Mexicans and their environment. Also can be mentioned that the active participation of Mexico in several international treaties, accords and protocols and their strong diplomatic policy can help to improve the situation of environmental accountability in the country as in the Program of Integral Clean Beaches or like in the Environmental Program of the Border with USA.

[13] ASOFIS, is the association of organizations in charge of the parliamentary accountability in Mexico, is formed by the 31 organisms from the state level and the organisms of the Federal District and the National Congress.

However it must be stated very clear that the country still needs to run a very long way to achieve a real state of enforcement of the environmental regulations. Even though that there are the administrative, civil and penal sanctions for environmental crimes, the kind, degree, amount of the penalties, and in general the ineffective system of enforcement of the environmental laws make the country a real heaven for polluters and destroyers of natural resources. The 2001-2006 National Program of Environment and Natural Resources, and the set of mechanisms established to compliance with the requirements imposed at international level definitively represents the vow of the Mexican government for a sustainable development. Nevertheless, situations as the fact that there is no mandatory obligation to develop environmental reports and environmental audits for the private and public organizations or the extreme lack of resources of public institutions as the "PROFEPA that only have 321 inspectors with an average monthly wage of 3,500 pesos (350 US dollars) for cover a 141.7 millions of forestry hectares" (http://portal.semarnat.gob.mx/semarnat/portal) shows that although environmental standards in Mexico are comparable with the ones from USA, "environmental enforcement is less strict in Mexico than in the United States" (Gamper, 2006, p605) and that still is necessary a major and stronger governmental and social commitment for reach a real sustainable development of the country.

7. UNITED STATES OF AMERICA

This chapter is focused on the USA, and as in the previous two chapters, first a brief introduction of the government structure is presented, in second term the most important facts about the major institutions involved with the system of environmental accountability for the public sector are reviewed: The Environment Protection Agency (EPA), the General Accountability Office (GAO) and the Inspector General Offices (IGO´s); and in third place a summary of the mechanisms and tools that American government has established in matter of environmental issues and that can be considered as part of their system of environmental accountability for the public sector is presented.

7.1. The American Government

The American Constitution defined the structure and way to conform the US government and the rights and obligations of their citizens; the Constitution determines a presidential system of government where the executive branch of the government is responsible for enforcing the laws. The president, vice president, department heads (cabinet members), and heads of independent agencies carry out this mission. The legislative power is vested in the Congress, which consists of the Senate and the House of representatives, and the judiciary power is held by the Courts that decide arguments about the meaning of laws and how they are applied. They also decide if laws violate the Constitution. There are three levels of Government: Federal, State and Municipal.

The President is the Head of the Executive Branch and generally viewed as the head of the U.S. Government. While he does have significant power, his power is also limited by the Constitution itself. As Head of State, the President has the power to conduct the foreign policy; is also the official head of the U.S. military forces; he appoints the heads of each Executive Branch department with the approval of 51 Senators. The President and the Vice-President are the only officials elected by the entire country. The Cabinet traditionally includes the Vice President and the heads of 15 executive departments. Members of Congress are elected by a direct vote of the people of the state they represent. There are a total of 435 members in the House of Representatives. Each member represents an area of a state, known as a congressional district. There are a total of 100 members in the Senate. The Constitution states that the vice president has formal control over the Senate and is known as the president of the Senate. In actuality, the vice president is only present for important ceremonies and to cast a tie-breaking vote. (http://www.firstgov.gov/, 2006)

The American Public Service (APS) is accountable only through horizontal accountability mechanisms including the parliamentary accountability realized by the GAO, and the executive accountability made by the IGO´s, the administrative law, the Ombudsman and the labor of specialized agencies that control special duties and the compliance of the law by the government institutions. At 2005, there were close to 23 millions of public employees in all the governmental units of USA. All the employees have the responsibility to comply with all applicable norms and are accountable for their work practices under various Laws, regulations and organizational procedures. The public organizations are divided into Boards, Commissions and Committees, Executive agencies, Independent bodies and Quasi-official institutions. From this dense (more than

1,000) universe of organizations the labor of three institutions are the most relevant for the development of environmental accountability in USA, they are the GAO, the IGO´s, and the EPA, which are going to be reviewed next.

7.2. The Environment Protection Agency (EPA)

The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment. EPA employs 18,000 people across the country, including a headquarters offices in Washington, DC, 10 regional offices, and more than a dozen labs. EPA is led by the Administrator, who is appointed by the President of the United States. The Administrator is assisted by the Deputy Administrator and staff offices. The Office of the Administrator supports the leadership of EPA 's programs and activities to protect human health and safeguard the air, water, and land upon which life depends. EPA works to develop and enforce environmental regulations. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. EPA also support through grants, to State environmental programs, and to non-profits and educational institutions with research on national environmental issues. The Agency has established five long-term strategic goals that describe the results it is striving to achieve: (1) Clean Air and Global Climate Change, (2) Clean and Safe Water, (3) Land Preservation and Restoration, (4) Healthy Communities and Ecosystems, and (5) Compliance and Environmental Stewardship. (http://www.epa.gov/, 2006)

Some of their main activities and offices that are in charge of the EPA labour are:

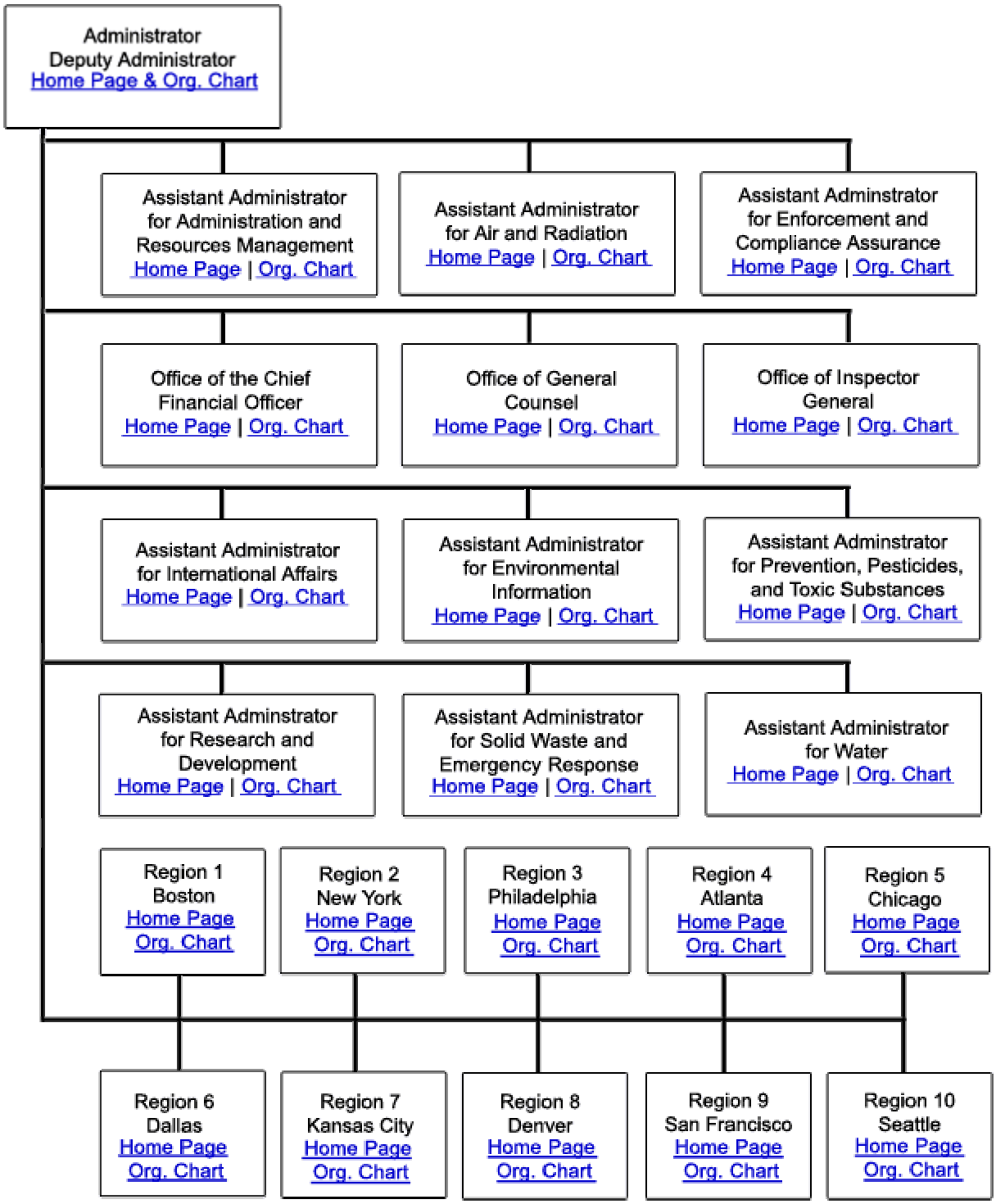
1. Office of Air and Radiation - oversees the air and radiation protection activities of the Agency including national programs, technical policies, and regulations.
2. American Indian Environmental Office - coordinates the Agency-wide effort to strengthen public health and environmental protection in Indian Country, with a special emphasis on building Tribal capacity to administer their own environmental programs.
3. Office of Enforcement & Compliance Assurance - delivers compliance with U.S. environmental laws while inspiring the regulated community to employ methods that focus on pollution prevention.
4. Office of Environmental Justice - serves as a focal point for ensuring that communities comprised predominately of people of color or low income populations receive protection under environmental laws.
5. Office of Environmental Information - responsible for establishing an innovative center of excellence that advances the creation, management and use of information as a strategic resource at EPA.
6. Office of General Counsel - provides legal service to all organizational elements of the Agency with respect to Agency programs and activities. The Office of General Counsel provides legal opinions, legal counsel, and litigation support. In addition, the Office assists in the formulation and administration of the Agency's policies and programs as legal advisor.
7. Office of International Affairs - manages Agency involvement in international policies and programs that cut across Agency offices and regions. Provides

leadership and coordination on behalf of the Agency and acts as the focal point on international environmental matters.

8. Office of Prevention, Pesticides and Toxic Substances - develops national strategies for toxic substance control and promotes pollution prevention and the public's right to know about chemical risks.
9. Office of Research and Development - is responsible for the research and development needs of the Agency's operating programs and the conduct of an integrated research and development program for the Agency.
10. Science Policy Council - is responsible within the Agency to address and resolve cross-media, cross-program, and cross-disciplinary science policy issues. The Council is chaired by the Deputy Administrator.
11. Office of Solid Waste and Emergency Response - provides policy, guidance, and direction for the land disposal of hazardous wastes, underground storage tanks, solid waste management, encouragement of innovative technologies, source reduction of wastes and the Superfund Program.
12. Office of Water - is responsible for the Agency's water quality activities including development of national programs, technical policies, and regulations relating to drinking water, water quality, ground water, pollution source standards, and the protection of wetlands, marine, and estuarine areas. (http://www.epa.gov/, 2006)

The EPA is in charge of enforce more of a dozen of laws and regulations, between the more relevant are: National Environmental Policy Act of 1969 (NEPA); Chemical Safety Information, Site Security and Fuels Regulatory Relief Act; The Clean Air Act (CAA); The Clean Water Act (CWA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund); The Endangered Species Act (ESA); Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); The Oil Pollution Act of 1990 (OPA); The Pollution Prevention Act (PPA); or The Toxic Substances Control Act (TSCA). For manage and enforce the compliance of all these regulations the EPA counts with the next organizational chart:

EPA Structure



Source: (http://www.epa.gov/, 2006)

As can be observed in the structure and the environmental regulations, the EPA is a very complex organization that develops a lot of activities in several fields in connection and cooperation with other authorities at international, state, local and tribal level. Is the

main American institution that can strength the system of environmental accountability in US and from the vast number of actions and policies that they perform about environmental issues, for the matter of this work is important to mention some as: auditing, which provides major incentives for regulated entities that voluntarily discover, promptly disclose, and expeditiously correct non compliance, rendering formal EPA investigation and enforcement action unnecessary; Environmental Management Systems, that can be an effective tool for organizations to improve their overall environmental performance, improve compliance, and prevent pollution; Report on the Environment (ROE), that involves the use of available indicators and data to answer questions pertaining to national environmental and human health conditions; the Integrated Data for Enforcement Analysis (IDEA), that is a system source of environmental performance data on EPA-regulated facilities; "Greening the Government Through Waste Prevention, Recycling and Federal Acquisition", that encourages Federal agencies to identify and purchase environmentally preferable products and services and, in particular, encourages Federal agencies to use third party, non-governmental standards-setting organizations to identify environmentally preferable products and services.

Some other institutions that also produce environmental accountability inside the American federal government are the Inspector General Offices (IGO´s) that are present in each public federal organization and the organism in charge of the parliamentary accountability: the General Accountability Office (GAO), consequently next is going to be presented some information about both organizations.

7.3. The Inspector General Offices (IGO´s)

In 1978 Congress approved the Inspector General Act (IGA). The IGA addressed inefficiency in government operations and created independent audit units within specified departments and agencies. Inspectors general conduct or supervise audits and investigations of programs and operations of their departments or agencies. The offices of inspector general are organized through two councils that meet almost monthly. The President's Council on Integrity and Efficiency (PCIE) comprised by the 27 presidential appointed inspectors general. And, another council that was established to connect the 30 smaller, so-called designated inspectors general; The Executive Council on Integrity and Efficiency (ECIE) which provides a similar forum for discussion of common concerns for the smaller Inspector General Offices.

Congress determines the IGO´s budgets as part of annual agency appropriations, agency heads recommend budgetary figures for the office charged with oversight over their agency. The IGO´s have actually been picking up more responsibilities, such as financial auditing connected with the Chief Financial Officer's Act of 1990 and informal assistance in performance measurement associated with Government Performance and Results Act. Inside this last Act it is established the possibility that IGO´s develops environmental audits or that can establish some kind of environmental measures or evaluations of environmental issues in the organizations they control, however because of the changes and budget cuts promoted by the National Performance Review implemented in the Clinton period, the IGO´s have claimed that they front an scenario where the duties increased and the budget decreased, so a little bit like their Mexican counterparts the (OIC´s) they still struggling to finish to accomplish their new labour in

performance matters and probably after done that in some time they will start to apply some mechanisms to control the environmental issues over their corresponding organizations.

7.4. The General Accountability Office (GAO)

The US Government Accountability Office (GAO) is an independent agency in the legislative branch of the US government. GAO's mission is to help improve the performance and ensure the accountability of the federal government for the benefit of the American people. To that end, GAO examines how public budget is spent and advises lawmakers and agency heads on ways to make the federal government work better. GAO also makes recommendations to improve government programs and policies. GAO is headed by the Comptroller General of the United States, who is appointed to a 15-year term by the U.S. President from candidates proposed by Congress. He can be removed only by a joint resolution of the Congress (meaning both houses must vote for it). He may be removed only if he is found to be incapacitated, or is found guilty of neglect of duty and/or malfeasance in office, or is found guilty of committing a felony, or is found guilty of conduct involving moral turpitude.

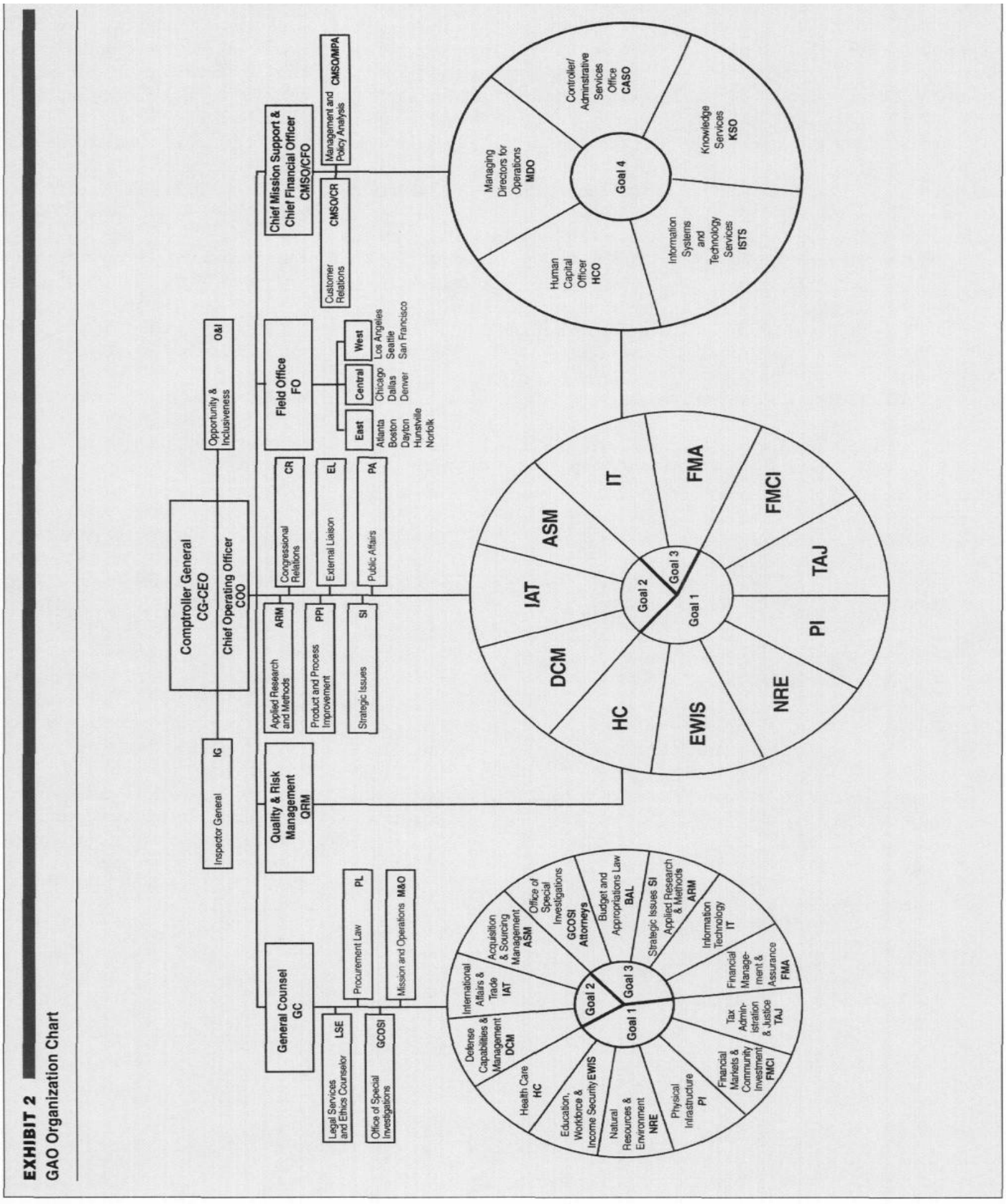
GAO's independence is safeguarded by laws guaranteeing it access to government records; a budget that is set by Congress, and a workforce of nearly 3,300 employees who are career civil servants. GAO's staff represents such diverse disciplines as public policy, health care, economics, accounting, and information management. (http://www.gao.gov/, 2006) GAO's audit staff is organized into 13 teams that focus on specific subject areas, such as national defense, international affairs and trade, natural resources and the environment, health care, and homeland security. These teams are supported by various staff and administrative offices. GAO is headquartered in Washington, D.C., and has 11 additional offices across the country.

GAO supports congressional oversight by:

- evaluating how well government policies and programs are working;
- auditing agency operations to determine whether federal funds are being spent efficiently, effectively, and appropriately;
- investigating allegations of illegal and improper activities; and
- issuing legal decisions and opinions. (http://www.gao.gov/, 2006)

With virtually the entire federal government subject to its review, GAO issues a steady steam of products - more than 1,000 reports and hundreds of testimonies. Despite the fact that inside the Budget and Accounting Act there is no reference to the environment, the GAO have been vested through other regulations of the power and jurisdiction to develop environmental audits and verify the compliance of environmental laws inside the US government organizations. From the three Supreme Audit Institutions reviewed in this work, the GAO is the one that realizes a more comprehensive type of audits and control and the one that deal with more environmental issues. As a result a very good part of the system of environmental accountability in USA relies in the job of the GAO that beyond of the legality or the performance also evaluates social and environmental matters between some others aspect can be inferred from their organizational chart.

GAO Structure



Source: (http://www.gao.gov/, 2006)

As can be observed in the GAO charter, this is a very different organization in comparison with the other two Supreme Audit Institutions reviewed in this work. Reviewing the General Accounting Act it can be found that there is no explicit reference about environmental issues, only is established the power of the Auditor General to audit the compliance of the distinct laws applicable to public organizations, as the National Environment Protection Act (NEPA), and the rest of environmental regulations. About, the information that are published in the web page of the GAO there are multiple reports of environmental audits made to public organizations, and also there are multiple reports of audits made to different public organizations in charge of environmental issues, there are also a set of bills proposed by Congressmen that deals about environmental issues; situation that shows a clear relation and considerable work of the GAO about environmental issues. Summarizing, the accountability made by the GAO is one of the two main elements of horizontal accountability in USA together with the duty of the IGO´s, however the labor of environmental accountability it is concentrated in the GAO and the EPA, that as part of their attributions have consolidated a lot of work in environmental issues and are fundamental parts of the system of environmental accountability for the public sector in USA.

7.5. Remarks

The progress that USA has achieved about their system of environmental accountability for the public sector through more of 30 years is remarkable, the tools and mechanisms employed mainly by the EPA and the GAO are very diversified and innovative. As in the case of Australia the main environmental law, the NEPA establishes the obligation to federal institutions to realize an annual report of environmental performance; the EPA and the GAO have a very consolidated environmental auditing policy; about environmental reports and information they have several instruments, and databases of several topics as the High Production Volume Challenge Program, the Reports on Environment, the Integrated Data for Enforcement Analysis, the Environmental Data Registry, or the Environmental Monitoring and Assessment Program; in the field of enforcement the USA government as Australia has a strong jurisdictional policy to ensure the compliance and enforcement of the environmental laws, and their penalties and punishments are scared by all organizations, situation that stimulate to don't brake the environmental laws and regulations. Another important development of the American environmental policies are voluntary programs as the development of Environment Management Systems, the National Environmental Performance Partnership System, the Facility Registry System or the innovative project XL for excellence and leadership in environmental issues. Finally other highlight of their system of environmental accountability are the development of programs for environmental accounting, the National center for Environmental Economics, the Environmental Management Accounting System, the Regulatory Economic Analysis, or the Environment Price Performance which deals with the problematic matter of assign values to natural resources and environmental assets.

However, not all the environmental American policies are as good as it looks; many of the policies and programs are very brief interconnected to produce tangibles and results over the national environment and natural resources. There are several analysis made by the National Advisory Council for Environmental Policy and Technology (NACEPT) which recognizes that EPA has great difficulty in identifying and inventorying its

information resources. In the same way obtain specific environmental information through the American public institutions results a very complicated and frustrating exercise, not because of the lack of information; on the contrary because of the huge and disperse quantity of information and because of the bureaucratic procedures that must be followed to obtain it. However, as can be observed through the three last chapters where Australia, Mexico and USA systems of environmental accountability for the public sector were reviewed, the American system is the older and more elaborated, and the one that considers more issues, themes, instruments and tools.

VIII. Comparative Analysis

Before to starting with the comparative analysis it is necessary to make some considerations about the problems and difficulties that involves the development of a comparative study. In this sense, this chapter presents, first, the problems involved in the development of a comparative analysis; second a comparative analysis of the specific points of comparison that were stated in the introduction; and in third place a table that encloses how each country fulfills the indicators that were decided to utilize to evaluate the systems of environmental accountability; finally a reflection about what is the role of the stakeholders in the development of each system of environmental accountability.

8.1. The comparative policy analysis

Comparative research must start from the axiom that even similar phenomena are never identical (van Deth, 1998, p4) and this is especially true about environmental accountability. For example there are three characteristics very different between the three countries analyzed:

- The type and kinds of environmental issues that fronts,
- The origin and type of legal systems that have, and
- The culture and civic tradition of every society.

These particularities make each system of environmental accountability different; there are also other aspects that are important to take into account, for example contextual issues as the fact that USA is continuously involved in armed conflicts which promote the growth of a series of industries highly pollutants, or the fact that the economy of Mexico strongly relies in oil production, or that a huge proportion of territory in Australia is vacated and that the layer of ozone is disappearing in that zone of the earth. All this issues and considerations should be in mind in order to really get valuable insights from the compared analysis and not create false images or imprecise conclusions. That's why the author believes that as a very important part of the work it is the inclusion of an appendix with a set of mechanisms of environmental accountability applied by each country which can help to have a clearest vision of the big differences between the countries.

In general it can be said that developing a framework for an analysis of comparative public policy is not an easy job because even to specify the dependent and independent variables could be a hard work; as it was established before, environmental accountability (the dependant variable) refers to the capacity to hold public organizations liable for their actions, performance and the impacts of resulting activities on ecological systems. So, to reach insights of this important activity the comparative analysis of this work will focus on six governmental organizational aspects (the independent variables).

Another problem that usually present in comparative analyses is the search for equivalent indicators, or like Hague and Harrop (2004) put it, the problem of measurement and theory testing. To deal with this delicate issue the analysis assumes the proposition of van Deth (1998) that "indicators do not have to be similar at operational level as long as we succeed in constructing instruments indicating similar concepts at a higher level of abstraction" (P6), then the choose was to take a series of mechanisms and tools of environmental accountability proposed by Paddock (2004) to

utilize them as indicators of the development of the systems of environmental accountability of each country. The intension is not to propose a mechanism of measure for each indicator, which is a duty outside the reach of this work; far away from that, the intention is provide a view of what is doing each country about every type of mechanism of environmental accountability, and in this form provide a indicative vision of each system of environmental accountability.

It is assumed that these both organizational characteristics (the points of focus and the indicators) are important to explain the nature of the relation between the federal public administrations and the environment. However, as Ferrel (1991) mentioned "the basic dilemma is that any attempt to compare national administrative systems must acknowledge the fact that administration is only one aspect of the operation of the political system" (p.6); or in other words as Pollitt and Bouckaert (2004) stated "there is ample evidence from the study of public administration that implementation habitats can make a huge difference to the effects yielded by a particular piece of management change"(p.39); that´s why the research also tries to observe the phenomena of the development of systems of environmental accountability for the public sector in a broad sense, therefore the final part of this chapter is dedicated to the role that stakeholders play in the development and practice of the system of environmental accountability in the three countries.

8.2. The points of Focus of the comparative analysis

8.2.1. Characteristics of the organization(s) responsible for the accountability in the public sector

As was exposed in the corresponding chapters, the accountability organizations in USA and Mexico are two: in one hand the accountability institutions of the Congress –General Accountability Office (GAO) and Audit Supreme Federation (ASF) respectively —and the accountability institutions of the executive branch: the Inspector General Offices (IGO´s) for USA and the Control Internal Organisms (OIC´s) in Mexico; Australia that has a parliamentary type of government only counts with the accountability made by the Australian National Audit Office (ANAO); all these institutions develop what is considered theoretically as horizontal accountability. From all these institutions it can be remarked the labor of the GAO which is the only one that has a specific area to deal with environmental issues and it is also the more complex and diversified institution. Regarding the development of environmental accountability , all the institutions analyzed perform certain type of labor that can be included as mechanisms or tools of environmental accountability, however again it is necessary to emphasize the labor of the GAO which has a long history developing environmental audits and auditing public institutions involved with environmental issues; in second place the ANAO also has developed audits to public institutions involved with environmental issues but it doesn't have a specific office that deals with environmental issues. Finally, all the institutions: GAO, ANAO, ASF, IGO´s and OIC´S have the attribution of developing performance audits, and all, in major and minor degree, contemplate the environmental issues as part of these types of audits.

8.2.2. Characteristics of the organization(s) responsible for the enforcement of environment laws and regulations

Regarding the characteristics of the Department of Environment and Heritage (DEH) in Australia, the Secretariat of Environment and Natural Resources (SEMARNAT) in Mexico and the Environment Protection Agency (EPA) in USA, it can be observed that their duties and objectives are very similar; however the organization of each institution is very different. The Australian DEH has an organizational structure defined according with specific professional functions as: water, parks, industries, Antarctic division and etcetera; the Mexican SEMARNAT has an organizational structure more focused to a policy procedure and counts with the support of semi-independent organizations that deals with the specific functions of the environment, in this sense the Secretariat have general directions of: planning, normative, international affairs, and etcetera and coordinates the labor of institutes as the National Water Commission, the Forestry Commission, and etcetera. In the other hand the American EPA doubtlessly is the biggest institution of the three, and has a mixed organizational structure, with divisions advocated to specific professional functions as: air and radiation, water, toxic substances and etcetera; and also has a series of divisions that attends every region of the country. In this sense as it had been mentioned each country according with their particular environmental problems, administrative tradition, legal system and culture have developed different institutions and structures; therefore is not possible and is not the aim of this work qualify if one is better than other, the purpose is rather present all the information available for make some recommendations of improvements in the conclusions part.

8.2.3. Definitions of environmental accountability in national or international regulations

In the legal frameworks of the three countries analyzed there is no conceptualization of environmental accountability to be found; despite the fact that at least in the web pages of the Australian and American institutions there are some –not many--references to this concept, none of the regulations contains a definition of it. Although, inside the structure of the region 4th of the EPA there is a environmental accountability office, even there , there is not a definition of what can it be considerated or understood by environmental accountability, consequently one first recommendation or suggestion that comes from this work is the necessity to introduce the conceptualization of environmental accountability in the legal framework of the three countries and even in international regulations, treaties and accords where it is mentioned but also never defined.

8.2.4. Mechanisms of environmental accountability applied to the organizations of the public sector

This specific topic is going to be analyzed in a broader form in the next section of the indicators, however in this section it can be stated that the research provides information about 12 mechanisms or tools used in the Australian system of environmental accountability, 8 instruments or mechanisms applied in Mexico, and 13 tools or procedures developed in USA; in this sense the simple observation of the numbers of instruments utilized by each country it corroborates that the systems of the two developed countries are more comprehensive, and enclose a major range of

environmental issues than the case of Mexico. Nevertheless, it should be mentioned that in the cases of Australia and Mexico there is not a complete openness to develop a great degree of environmental accountability in the public sector as it is established in USA. The American system treats the governmental organizations with the same yardstick than the private organizations; Australia have established the obligation of produce annual reports about their environmental performance for public institutions, but the DEH have not the same power attributions to enforce the compliance of environmental laws and regulations to governmental institutions than to private organizations; and finally in Mexico the law, regulations and practices have been almost completely advocated to the private sector and just in April of 2006 the Congress approved a reform to the LGEEPA that establishes the possibility of the SEMARNAT to realize environmental audits to public institutions as the Oil Mexican Company (PEMEX). As a result can be emphasized that USA have the broader system of environmental accountability followed by the Australian and in third place the Mexican system it begins to walk in the same direction of the systems of the developing countries.

8.2.5. Products of the environmental accountability of public sector organizations, as reports, data information, studies, recommendations

The products of each system of environmental accountability can be enclosed in similar categories but definitively every product of each country is very different; however in general terms the products produced by each country are enounced in the next table:

Table of Products from the National Systems of Environmental Accountability

Products	Australia	Mexico	USA
Laws or regulations	1	1	1
Reports	4	3	2
Policies	4	1	3
Grants	1	--	1
Agreements, accords, plans, protocols, standards	1	--	1
Databases	1	1	3
Measures, evaluations, monitoring and audits	1	1	2
Enforcement procedures	--	1	1
Sanctions	1	1	1

These numbers are extracted from the instruments and tools that were registered in the chapters of each country. The squares that are in blanc doesn't mean that Australia don't count with a procedure of enforcement of the laws, or that Mexico don't give grants

or have a procedure to establish agreements, accords, plans and protocols, both countries realize these activities however there are not institutionalized in a specific program or policy of their environmental agencies and that's the reason why in the table appears with no data. Still, the interesting of this table is notice the differences in numbers about databases, measures or evaluations and policies; in all these products Australia and USA produces at least twice quantity than what Mexico does. This situation give an image of what are the fields and mechanisms that are privileged in each system of environmental accountability.

8.2.6. Kind and type of sanctions derived from application of environmental

Finally the sanctions, deserve a separated commentary because despite the fact that the three countries have a system of sanctions for environmental crimes or violations to the environmental laws and regulations, the type and impact of the sanctions in Mexico are sensibly less than in the other two countries; in each country there are different ways of sanctioning the noncompliance of the environmental regulations: administrative, civil and criminal action; in Australia the administrative sanctions is imposed by the DEH, the civil action normally involves a Minister or a third subject who was affected, and the criminal procedure is initiated by the General Attorney of the Commonwealth Government. In Mexico, the administrative sanctions are established by the PROFEPA, and the civil and criminal action can be initiated by the PROFEPA or a third subject who was affected through a trial in a federal or local Court. In USA the EPA can establish some type of sanctions that can be from simply notifying recommendations to initiate a procedure in an administrative Law Judge or ask to the Department of Justice to file a civil or criminal judicial lawsuit before a US district Court. In this topic, the situation that Mexico has created a special institution to define the sanctions for noncompliance of environmental regulations is observed by several experts as a interesting innovation, however the lack of resources and the limited participation of the society denouncing environmental crimes has limited their effectiveness.

8.3. The Indicators:

The best way to present the indicators selected is through tables, where are stated some general commentaries and their application in every country.

Table 8.3.1. Indicators of Emissions Reports

Emissions reports	This indicator refers to the obligation or opportunity that provides every system of environmental accountability to the public institutions for make public their reports about pollutant emissions.		
Indicator	Australia	Mexico	USA
Mandatory	The EPBC law establishes the obligation to report of government institutions.	The LEEGEPA establishes the obligation of the SEMARNAT to elaborate an annual report.	There are several reports as the report on environment, or the High Production Volume Challenge Program
Voluntary	Triple bottom line reports	Results of the environmental audits	There are several voluntary reports as the Environmental Monitoring and Assessment Program, or the Project XL

This first indicator is very important because it shows the degree or amount of environmental information that is provided by public institutions in mandatory or voluntary form. According with the results, USA is the country with more voluntary emissions reports established and Australia is the country that has established in a clearly way the mandatory production of reports for the governmental institutions, Mexico in the other hand only has established the obligation that the Ministry in charge of environmental issues elaborate an annual report about all the emissions of contaminants.

Table 8.3.2. Indicators of Government Support

Government support	The indicator talks about the provision of economic, material, technical or human support to realize activities, audits or reports related with environmental issues.		
Indicator	Australia	Mexico	USA
Environmental actions	Yes, the program of Environmental Management Systems (EMS) provides some types of technical and human support to establish (EMS) in the government institutions.	No.	Yes, Project XL, promote plans and programs to achieve excellence and leadership in environmental issues
Environmental Audits/reports	Yes, in several programs the DEH provides technical and material help to develop self audits and reports of environmental issues.	Yes, the SEMARNAT provides audit protocols, and education material to develop environmental audits.	Yes, in several programs it is provided, economic, material, technical and human support to established systems of information and reports.

As it has been presented the management of environmental issues is a very recent activity developed mainly in the private sector and just recently adopted in the public sector, in this sense still is necessary that governments provide support in different ways to promote the sustainability of public organizations, the results of this second indicator prove that USA and Australia has programs to provide economic, technical and material support to make actions of preventions and remediation of pollution and to develop environmental audits or reports whereas Mexico only provide some technical documents to help the development of environmental audits.

Table 8.3.3. Indicators of Public Access

Public access	One of the main principles established in the Earth summit of Rio de Janeiro (1992) was the right of the citizens to have access to public information about environmental issues. In line with this principle, the indicator regards the type of information disclosures about environmental issues provided by the government institutions		
Indicator	Australia	Mexico	USA
Emissions data	Yes, in programs as the National Environment Pollution Measures or the National Pollutant Inventory.	Yes, in programs as the Integral Program of Clean Beaches or the Basic Indicators of Environmental Performance.	Yes, in several programs as the Facility Registry System, or with the program of High Production Volume Challenge.
Enforcement data	Yes, with the National Natural Resource Management, Monitoring and Evaluation Framework	Yes, in the annual report of the PROFEPA.	Yes, in several programs as the Auditing Policy, the Compliance and Enforcement Program or in the Integrated Data for Enforcement Analysis.

This third indicator talks about how good are governments in ensure the compliance of the citizens right to know what is happening about environmental issues, and as can be observed in the results of the indicators the three countries has a good policy of transparency about national and specific environmental topics.

Table 8.3.4. Indicators of Citizens Participation

Citizens participation	The kind and level of citizens participation in environmental issue can be reflected in mandatory dispositions in the law, by receiving funds for technical or administrative actions, or by the promotion of governments for participate in some stage of the policies procedures.		
Indicator	Australia	Mexico	USA
Mandatory	No.	No.	No.
Funding	Yes, provided by the National Environment Protection Council	Yes, inside the budget of the SEMARNAT there is some funds for grants and financial supports to citizens but is not regulated.	Yes, in several programs are funds for specifics developments as in the Project XL.
Procedural	Yes, in the Corporate Sustainability Reporting, is necessary the participation of citizens.	No.	Yes, in the National Environmental Performance Partnership System to elaborate the plans and policies is necessary the participation of citizens.

The citizens participation in environmental decisions can appear from two sources, the first when is provoked by the same government or laws with mandatory specifications or the second when is caused by the interest of the citizens who are affected by some policy and they search the way to participate. The results obtained in this indicator

confirm that none of the country analyzed has established mandatory participation of citizens for environmental decisions, however in the three countries the citizens have the opportunity to receive some funds to several objectives related with the citizens participation and in the cases of Australia and USA there are room for the citizens to participate in procedures of environmental decisions.

Table 8.3.5. Indicators of Corporate Culture

Corporate culture	The corporate culture was the starting point of the environmental accountability, and refers to voluntary agreements about environmental reports, standards and policies to conserve the environment and protect the natural resources.			
Indicator	Australia			Mexico
Voluntary involvement	Yes, in the Corporate Sustainability Reporting	Yes, in the environmental audit programs.	Yes, in the auditing policy.	
Voluntary standards	Yes, in the Corporate Sustainability Reporting, and the Triple Bottom Line Reports	No.	Yes, in the High Production Volume Challenge Program.	

The degree of corporate culture is a strong influence for the development of environmental responsibilities in private and public organizations, Australia and USA has established environmental regulations promoted in many cases by private organizations, Mexico in the other hand don't have a strong corporate culture and due to the necessity of high volumes of foreign investments sometimes need to accept the establishment of companies highly polluters.

In general from these tables several insights about the systems of environmental accountability for the public sector of the three countries can be deduced, as a major point to emphasize is that the three nations need to develop more mechanisms for the citizens involvement and the increase of the corporate culture; and in the other hand is notorious that the fields of reports, information and evaluations can be considered as the mechanisms that have received more attention from the three countries.

About the indicator of ISO 14001 it refers to an international standard, which seeks that organizations establish a type of management that controls several environmental issues. In paper the three countries promote the establishment of this kind of certification process in private and public institutions however the quantity of public institutions involved in this program in Australia and USA is very low, and in Mexico is none.

Finally trying to do a balance of the three countries, it can be affirmed that Mexico have the system of environmental accountability for the public sector that needs to work more in several fields to cover all and in a better way the types of mechanisms or tools of environmental accountability. About Australia, the results of the table of products can be interpreted that has less mechanisms established in comparison with USA but if this results are contrasted with the results of the other tables it can be observed that there are some areas where the Australian tools are more effective than the American mechanisms, for example in the field of emissions report, where the National Pollutant Inventory of Australia, is more comprehensive and more detailed than the American High Production Volume Challenge Program; but as has been mentioned several times, all these instruments were developed to specific situations with particular goals, so the

major lesson that can be extracted is that there are many ways and forms to deal with environmental issues and from this three presented in the table the reader can select some mechanisms and adequate them to their particular necessities.

8.4. The Stakeholders

There are three types of stakeholders that are directly related with the environmental accountability of the public sector:

- Entities with powers to make or influence environmental policy and regulations,
- Entities with power to monitor and control the environmental action of others, and
- Entities whose operations directly or indirectly affect the environment whether positively or negatively

Through all the chapters of this work the attention have been concentrated on the first two types of stakeholders, where can be placed the Congress, the bodies that advise the Congress, the institutions in charge of the accountability and the public agency in charge of environmental matters. However, little it has been said about the labor of the governmental and non governmental institutions (NGO´s) affected by any government activity that implies environmental issues, and the role that plays the private organizations and the citizens in the development of the systems of environmental accountability for the public sector.

Consequently in order to tackle this point it can be mentioned that the NGO´s and the private organizations are the two kind of stakeholders that have more influence in the development of the systems of environmental accountability; in particular the NGOS have been closely linked to the green movement since the 70´s, their power have increased since that time and in the Earth Summit of 1992 in Rio de Janeiro occupied a relevant role that allows them to establish various points of the agenda of that meeting. In the other hand the private organizations in the 80´s responded to the social concern of the effects of pollution and developed the idea of the corporate governance that tried to stop the path of high production and high pollution. As it has been mentioned, from corporate governance was created the notion of environmental accountability which was first implemented in the private organizations and later was translated to the public sector. Finally, should be mentioned that these global trends promoted by the NGO´s and the private organizations were propagated really fast thanks to the labor of the media mass, which are the major responsible of promote environmental accountability in many countries, because the media have the power to set in the public agenda since specific local problems as the construction of a building to the assumption of global crusades for universal problems as the global warming.

9. Conclusions

Through this long way it has been presented a brief history of the relation of humans with their environment, it was reviewed the theoretical framework of accountability and environmental accountability, there were three chapters advocated to explain and expose the characteristics of the government, accountability institutions and systems of environmental accountability of Australia, Mexico and USA. In this previous chapter it was presented a comparative analysis of six organizational points of the public sectors of each country and the results of an evaluation of the systems of environmental accountability for the public sector and finally were stated some reflections about the role and influence of the stakeholders involved in environmental issues of the public sector. With all these information, it is considered that at this stage the reader have a clear and broad vision about the complex field of the systems of environmental accountability for the public sector, consequently now only rest recapitulate the answers that can be provided to the main and secondary questions of the research and enunciate a set of conclusions, observations, recommendations in order to fulfil the practical aim of the research.

9.1. Answers to research questions

The environmental accountability is one of the best mechanisms that governments have to deal with environmental issues and to promote a new path of sustainable development. **To answer the secondary question number 1** (What can be understood by environmental accountability?) the author of this work propose to define environmental accountability as the obligation to report, inform and justify the accomplishment to environmental laws and regulations, the commitment to be responsible of their environmental performance and holds the promise to be reliable to answer questions and proportionate information about the impact and affectation realized to the environment in a intended or unintended way.

To answer the secondary question number 2 (What are the elements that conforms a system of environmental accountability for the public sector?) it can be said that some of the main elements that conforms a system of environmental accountability are all kinds of emissions reports, Government support to policies, programs, audits, reports, research and voluntary programs; another element is the utilization of International standards as the ISO 14001; or provide a great access to citizens for achieve information and participate in decision-making processes; and develop a level of corporate culture that enhances the involvement of the major possibly number of stakeholders that collaborate to the protection of the environment and the conservation of natural resources.

In this sense inside this work very important has been the exposure of the different and variable mechanisms, tools and experiences developed in Australia, Mexico and USA. Because as has been mentioned previously the environmental issues proportionate a huge challenge that is in continuous change which provoke that the government and the society need to learn in a fast way from many perspectives and several fields new forms to deal and treat the environmental threats. According to these experiences analyzed and in order **to answer the secondary question number 3** (What can be learned from

what are Australia, Mexico and USA doing about environmental accountability of their public sector?) it can be mentioned that USA is the country with more mechanisms and experiences to provide talking about environmental accountability, however still is one of the major nations polluters of the world; Australia is a country that in the last years have demonstrated a big commitment to tackle the environmental problems, that probably together with Canada and the Netherlands are the countries where their societies have achieved a very high degree of consciousness about the importance of conserve an protect the environment, in this sense there are several cultural and educational tools that can be valued and promoted in other countries. Finally Mexico, even with their economic, political and social problems, it is one of the countries that is more involved in the participation of international and global agreements, treaties and accords about environmental issues; and even with the fact that their institutional mechanisms are weak and even some times ineffective, the existence of institutions as the PROFEPA represents the commitment of the Mexican government to try to tackle the big problem that is the compliance and enforcement of the environmental law inside the country.

Specifically about the success of mechanisms of environmental accountability that can be applied in other countries and that is stated **to answer the secondary question number 4** (What mechanisms of environmental accountability are successful and can be applied by other countries?) it can be argued that is very hard to establish them because the achievements or success can be related to several factors and not only to the establishment of the mechanisms or procedures by them selves, however being discriminative there are three mechanisms that in particular can be remarked and that with some adaptations to every particular situation can work very well in any country:

1. The Australian National Pollutants Inventory, that is an internet database designed to provide publicly available information on the types and amounts of certain chemicals being emitted to the air, land, and water.
2. The Mexican PROFEPA, that is an independent attorney of environmental issues that has been invested with multiple, varied and complex powers on inspection and surveillance matters for manage the environmental justice. And,
3. The American Project for eXcelence and Leadership (XL) in environmental issues, which is a national pilot program that allows state and local governments, businesses and federal facilities to develop with EPA innovative strategies to test better or more cost-effective ways of achieving environmental management systems and protection policies.

These three mechanisms represents a good effort of innovation to deal with environmental issues, and according with the point of view of the author of this work the three tools can be utilized in almost any nation and society and can be regarded as solid steps to create a real path of sustainable development.

About answer the main question of the research, that is: how can the environmental accountability for the public sector be improved? The author believes that through all the work has been mentioned several ways to improve the systems of environmental accountability which are referred in the next section in a systematic way as a set of remarks, observations and recommendations to improve the systems of environmental accountability are proposed.

9.2. Remarks, observations and recommendations

1.- The environmental issues are best handled with the involvement of the major number of people, because in this way it can be ensured to have a complete representation of the interests, visions and believes of the different parts that are affected directly or indirectly by decisions that affect the environment.

2.- The design of systems of environmental accountability must be realized in a form that don't be bended to rigid mechanisms or unique models, the environmental issues are different in every region and nation of the world, so the systems must always contemplate the particularities of it, and to be really effective must deal effectively with the temporality, which means that should prevent all the conditions of the present and the short, medium and large future.

3.- The systems of environmental accountability should be adaptable to the way humans relate with their environment, the systems should evolution at the same rhythm that society does, and should always contemplate the cultural, social and economical characteristics of the nation where are established.

4.- To develop effective systems of environmental accountability for the public sector is necessary that some instruments, mechanisms and tools could be designed from a global or international focus and advocated to specific environmental problems as the air pollution, the sea water pollution, the atomic wastes, and some others that due to their characteristics should be treated preferably with the same standards by all the nations in order to ensure a real policy of protection and conservation of the world environment.

5.- The main element of any system of environmental accountability is the information, depending on the amount, quality and degree of environmental information that every system possess will be how good, bad, effective or ineffective the system will be. In this sense, is also convenient that some specific parts of the information contained in all the systems of environmental accountability should be determined in a global or international way, in order to have a minimum set of world environmental indicators that can provide a clear vision of the effectiveness or negativity of policies adopted in national or international level.

6.- The systems of environmental accountability for the public sector must utilize the two dimensions of governmental accountability but even in a broader sense than how are utilized now; in one hand the vertical accountability should not be limited to the participation of citizens in elections, it also need to promote the major social involvement possible in as many mechanisms as can be possible like operations of control and gathering of information about environmental issues; and in the other hand the horizontal accountability should expand their mechanisms of control from the control exercised by different branches of the national governments, to new and innovative mechanisms where can participate international institutions as the INTOSAI, OECD, NAFTA, WTC, World Bank, European Union, and etcetera, in order to exercise a more proactive labor of ensure the compliance of environmental laws and regulations and also for the establishment of a world system of punishments and penalties for environmental crimes.

7.- There must be improved the labor of accountability about environmental issues of the SAI´s; because as was illustrated in the comparative analysis of the three countries only the GAO have a particular area of their structure to deal with environmental issues; and the SAI´s are very important in all the nations due to the fact that are the major institutes that exercises the labor of horizontal and parliamentary accountability. In this sense is necessary that SAI´s play a major role in the achievement of a sustainable development in their countries. So, they need to have a good set of legal attributions and effective and specialized structures advocated to the attendance of environmental issues.

8.- In the nations with presidential types of government is also necessary to strength the mechanism of environmental accountability developed by the organisms in charge of the executive control; as in the case of the SAI´s the organisms in charge of the internal control of the executive power must be provided with legal and technical elements that allows them to review and control in an effective way environmental issues.

9.- The stakeholders play a very important role in the development of the systems of environmental accountability, because they usually are who pressure and proposes the standards, mechanisms and tools to develop an adequate environmental performance of private and public organizations and can be a very important actor in the vigilance of the compliance of environmental laws.

10.- For the development of better systems of environmental accountability is necessary to promote the establishment not only of legal codes about environmental issues, is also necessary promote the development of more managerial and professional codes that establishes conducts and paths of action to be developed by all the countries or institutions in charge of apply the instruments and mechanisms of the systems of environmental accountability; in this way it can be ensured an homogeneity of methods about certain procedures that will build international trust about the real implementation of global environmental policies.

11.- The labor of governments can not be constrained only to introduce new mechanisms and instruments to make environmentally accountable the public and private institutions; the State is the major responsible of the social development of the countries, so in order to achieve a real sustainable development is necessary to promote and establish policies that ensure the construction of a dense network of organizations and people involved in environmental issues, between more large this network, better will be the system of environmental accountability developed in any country because between more citizens can be able to understand and manage environmental information less will be the space to avoid the compliance of environmental laws or the opportunities to cheat about the information of environmental reports.

12.- To really affirm that some nation count with a complete system of environmental accountability for the public sector, the system should take into account all the types of accountability mentioned in this work: horizontal, vertical, legal, political, managerial, parliamentary and specially social accountability because the environmental accountability is a very broad can complex field that only can be assessed by several mechanisms implemented a different levels and with the participation of the major quantity of people possible.

13.- Probably the main conclusion of this work is that the concept of environmental accountability is not yet accepted or assimilated by the majority of governments of the world. Even though this concept is frequently utilized in discourses or documents of the government environmental agencies, their conceptualization doesn't appears in any law or national regulation; so in this sense the main recommendation of this work is propose that the concept of environmental accountability should be established in the national legal frameworks and that the environmental governmental agencies should establish in a clearly way what are the mechanisms, scope and objectives that constitute the systems of environmental accountability.

14.- As well as in the private sector the beginning of the green movement was the utilization of the Social Environmental Accounting and Reporting as part of the Corporate Environmental Governance, the public institutions should begin to utilize these two tools as a mean to develop more environmental information and create conscience about the importance of the environmental issues.

15.- Even in the traditional fields of financial and economic accountability there are a lot environmental issues that can be reviewed and controlled, so a good start for construct a system of environmental accountability for the public sector should utilize the actual mechanisms of governmental accountability broadening their scope in order to cover and focus environmental matters.

16.- It results drastically important to define at a global level a consensual way to assign economic value to environmental assets, without this international system of environmental values and costs there going to be a lot of problems in the measurement and calculation of environmental accounts, and this can produce the proliferation of geographical zones where the environmental costs will be so low that will be convenient for many organizations settle their polluter industries there.

17.- The mechanisms of environmental accounting, reporting and audit started in the seventies, however even now days there is no specific academic area or institution that forms professionals in this field, for example in all the world there is no single university that offers the bachelors degree of environmental accountant, or environmental auditor, in this sense the multidisciplinary character of the knowledge required to domain this profession and the rigidity of many academic bodies have limited the generation of this new type of professions that are definitively necessaries for the private market and also for the public sector.

Finally to strength the achievement of the practical aim of improve the systems of environmental accountability for the public sector of the countries analyzed next are stated three specific actions that can be applied immediately in the analyzed countries to improve their environmental public management.

- First, establish more order and hierarchy about the information, reports and disclosures of environmental issues, it can be recommended to the three countries to elaborate a data architecture of all the environmental information that can be provided at national, regional, and local level by private, public organizations and citizens; and establish a rational, logical and not expensive

procedure of gathering, maintenance and actualization of this information; because right now each country have different types, levels and forms of manage the environmental information, so establishing a complete architecture of the environmental data could be a good improvement measure for the systems of environmental accountability of the public sector of Australia, Mexico and USA.

- Second, the environmental problems are not constrained to the geographic limits of the nation states, in this sense without pretending to brake the actual model of legal and political systems it is necessary to start to think about the establishment of global procedures for tools and mechanisms that promote the sustainability of the earth and not only of a country; inside these mechanisms can be placed policies of global grants, global enforcement procedures, or the homogenization of sanctions. Regarding various problems from this perspective the governmental policies can be more effective and improve strongly the systems of environmental accountability for the public sector.
- Third and to conclude this work, that that have the pretension of generate an innovative research about the systems of environmental accountability for the public sector in order to provide new insights and recommendations for their improvement and in this sense cooperate with a little piece of ground to the construction of the global sustainable development. It can be said that definitively the major improvement to any system of environmental accountability that can be recommended is begin as soon as possible with a global and ambitious education program of sustainable ways of life advocated to children, young and mature people who needs to develop conscience and specially customs that ensure an equilibrium in our relation with the environment and the protection of the natural resources.

So, as can be observed through all this research project the environmental challenge is enormous, but the man is still greater.

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Appendix.

1. Environmental accountability in Australia

Inside the Australian main legal document that deals with environmental issues, the Environment Protection and Biodiversity Conservation Act 1999 (EPBC) there is no definition or mention about environmental accountability; nevertheless according with the theoretical concepts and elements that it was established in the previous chapter that can constitute a system of environmental accountability for the public sector next are going to be presented the major tools and instruments that Australia have established to execute environmental accountability in the public sector.

1.1. The Environmental Protection and Biodiversity Conservation Act (EPBC)

Definitively the first element that most be mentioned as part of the environmental accountability system of Australia, is the existence of a comprehensive Law from where is derived a vast set of regulations that was already mentioned early in this chapter. The Environmental Protection and Biodiversity Conservation Act (EPBC) protect the environment, particularly in matters of national environmental significance. It streamlines national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and cultural places. About the environmental accountability for the public sector, particularly the Section 516A of the EPBC requires Commonwealth organizations to include in their Annual Reports a section detailing the environmental performance of the organization and the organization's contribution to Ecologically Sustainable Development (ESD). The purpose of section 516A is to ensure that the Commonwealth Government is publicly reporting information relevant to its environmental performance and its implementation of ESD. The Departments, Commonwealth authorities, agencies and companies are required to produce an ESD and environment report as part of their Annual Report:

The section 516A about the Annual reports establishes the content of the reports as:

- include a report on how the activities of, and the administration (if any) of legislation by, the reporter during the period accorded with the principles of ecologically sustainable development;
- identify how the outcomes (if any) specified for the reporter in an Appropriations Act relating to the period contribute to ecologically sustainable development;
- document the effect of the reporter's activities on the environment; and
- identify any measures the reporter is taking to minimize the impact of activities by the reporter on the environment; and
- identify the mechanisms (if any) for reviewing and increasing the effectiveness of those measures.

The section 516B talks about the state of the environment reports and establishes that: 1) The Minister must cause a report on the environment in the Australian jurisdiction to be prepared in accordance with the regulations (if any) every 5 years. The first report must be prepared by 31 December 2001. 2) The report must deal with the matters prescribed by the regulations. 3) The Minister must cause a copy of the report to be laid before each House of the Parliament within 15 sitting days of that House after the day on which he or she receives the report. And the Section 3A of the EPBC Act sets out five

principles of ESD that should be considered by agencies in planning for ESD reporting. These are that:

1. decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
2. if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
3. the principle of inter-generational equity—that the present generation should ensure the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
4. the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making; and
5. improved valuation, pricing and incentive mechanisms should be promoted.

With the establishment of these sections in the EPBC Act, Australia established mandatory and voluntary reports. The mandatory must follow what is established in the section 516A and voluntary reports are made by public organizations that choose to report publicly on their environmental performance through Public Environment Reports (PER); or choosing to provide information about their social and financial performance in a sustainability report or a triple bottom line report. Some organizations have also entered into commitments that require reporting on performance, such as the Greenhouse Challenge. Some others Australian Government organizations are also required to report against National Environment Protection Measures (NEPMs). NEPMs are designed to ensure consistency of environmental regulations across jurisdictions. Some organisations, such as those dealing with protecting the environment, those charged with overseeing the industry, primary industry, and transport sectors, and some (like Defence) whose activities affect large areas of land, are likely to have significant environmental effects and readily identified ESD implications.

1.2. State of Environment reports

In 1992 after the Conference of Rio de Janeiro Australia developed the National Strategy for Ecologically Sustainable Development where was established the production of the first State of Environmental report in 1996. The national State of Environment (SoE) report is the major mechanism in which resource management and environmental and heritage issues are comprehensively reported and analyzed on scales that transcend State and Territory boundaries. National SoE reporting is carried out at a continental scale on the land and also for coastal and marine environments, and includes Australia's external territories. The environment and heritage is covered in seven major themes: Atmosphere, Land, Inland Waters, Coasts and Oceans, Biodiversity, Human Settlements, and Natural and Cultural Heritage. The regular production of SoE information provides scope for changes in environmental and heritage pressures and condition to be tracked over the long term. The purpose and objectives are to provide accurate, up-to-date and accessible information about environmental and heritage conditions, trends and pressures for the Australian continent, surrounding seas and Australia's external territories. Following the release of 1996 Australia State of the Environment, a set of environmental indicators was developed for use in tracking the condition of Australia's environment and the human activities that affect it and our management of the environment. The DEH commissioned reports recommending

indicators for each of the seven major themes, on which Commonwealth SoE is based; these seven reports recommend a total of 454 indicators to provide a consistent picture of trends in the Australian environment. Most of these indicators were tested in the production of the 2001 SoE reporting process. And a set of 75 indicators were derived from the larger set of environmental indicators which were identified as the core of environmental indicators. The core environmental indicators were endorsed in the Australian and New Zealand Environment and Conservation Council (ANZECC) in December 1999, giving theme more weight and institutional support; the indicators cover six of the state of the environment reporting themes. And only the theme of cultural heritage indicators has not yet been developed.

1.3. Australia's international reporting obligations

Australia's membership of international organizations brings with it reporting obligations for various aspects of the condition of the Australian environment. Organizations include:

1. Organization for Economic Cooperation and Development (OECD)
2. United Nations Environment Programme (UNEP)
3. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
4. Convention on Biological Diversity Framework on Climate Change Convention (FCCC)
5. Montreal Process for forestry reporting World Meteorological Organization (WMO)

The membership to international organizations settles obligations to Australia about report and informs a set of environmental issues which include in most of the times information related with the labor of the government institutions and can be considered as part of the mechanisms of environmental accountability of the public sector.

1.4 The National Environment Protection Council

The National Environment Protection Council (NEPC) comprises environment ministers from the Australian Government and each state and territory. The purpose of NEPC is to ensure that:

- Australians enjoy the benefit of equivalent protection from air, water or soil pollution and from noise wherever they live
- business decisions are not distorted and markets are not fragmented by variations in major environment protection initiatives between member governments

The Australian Government Minister for the Environment and Heritage chairs NEPC. Each NEPC minister has equal voting power. Decisions of NEPC can only be made with a two-thirds majority of ministers. The Australian Government does not have the power of veto. NEPC was an outcome of an Intergovernmental Agreement on the Environment (IGAE), which was reached at a Special Premiers Conference in October 1990 and came into effect in May 1992. NEPC was incorporated in the Environmental Protection and Heritage Council (EPHC) in June 2001. However, because NEPC has law making powers under the NEPC Act it retains its distinct status within the EPHC. The creation of this council in particular is also considered as part of the mechanisms of environmental accountability for the public sector mainly because of their regulation power and because it has settle specific measures for private and public organizations that are known as National Environment Protection Measures.

1.5. National Environment Protection Measures (NEPMs)

National Environment Protection Measures (NEPMs) outline national objectives for protecting or managing particular aspects of the environment. NEPMs may be a combination of goals, guidelines, standards or protocols. A rigorous consultation process ensures that stakeholders and interest groups, including industry, environmental groups, government agencies, non-government organizations and members of the public are involved in making a NEPM. After NEPC makes a NEPM, each jurisdiction must enact laws to implement it and the NEPC annual reports describe how each jurisdiction implement the NEPMs. The NEPC had established NEPMs about: ambient air quality, ambient marine, estuarine and fresh water quality, the protection of amenity in relation to noise, general guidelines for the assessment of site contamination, environmental impacts associated with hazardous wastes, the re-use and recycling of used materials, motor vehicle noise and emissions (in consultation with the National Transport Commission). The specific NEPMs developed are:

- The Air Toxics NEPM that establishes procedures to collect information regarding certain hazardous air pollutants in order to develop national standards by 2012
- The Ambient Air Quality NEPM which establishes ambient air quality standards and monitoring and reporting protocols for listed air pollutants, namely CO, SO2, lead, NO2, photochemical oxidants (measured as ozone), and particulates (PM10). The NEPM aims to use the collected data to establish national air quality standards by 2008.
- The Assessment of Site Contamination NEPM which provides national guidelines for assessing contaminated sites. The guidelines seek adequate protection of the environment and human health.
- The Diesel Vehicle Emissions NEPM that establishes guidelines to assist jurisdictions to develop programs to minimize exhaust emissions from diesel vehicles. The guidelines cover smoky vehicles, emission tests and repairs, audited maintenance, and engine retrofit and rebuild.
- The Movement of Controlled Waste between States and Territories NEPM establishes a nationally consistent approach for tracking controlled (hazardous) waste when it is moved interstate for recovery or disposal..
- The National Pollutant Inventory (NPI) NEPM assists environmental management by government, industry and the community by providing improved information on released emissions. Since 1 July 1998, many industrial facilities have been required to estimate and report annually their emissions of NPI listed substances.
- The Used Packaging Materials NEPM that provides regulatory support for the National Packaging Covenant, a self-regulatory agreement aimed at improving the recovery, reuse and recycling of used domestic consumer packaging materials.

As it can be seen the NEPM's enacted by the NEPC constitute an important instrument to be considered as part of the system for environmental accountability in the public sector, because of the broad range of environmental topics that are involved and because of the regulatory dispositions that affects and involve the labor of different public organizations.

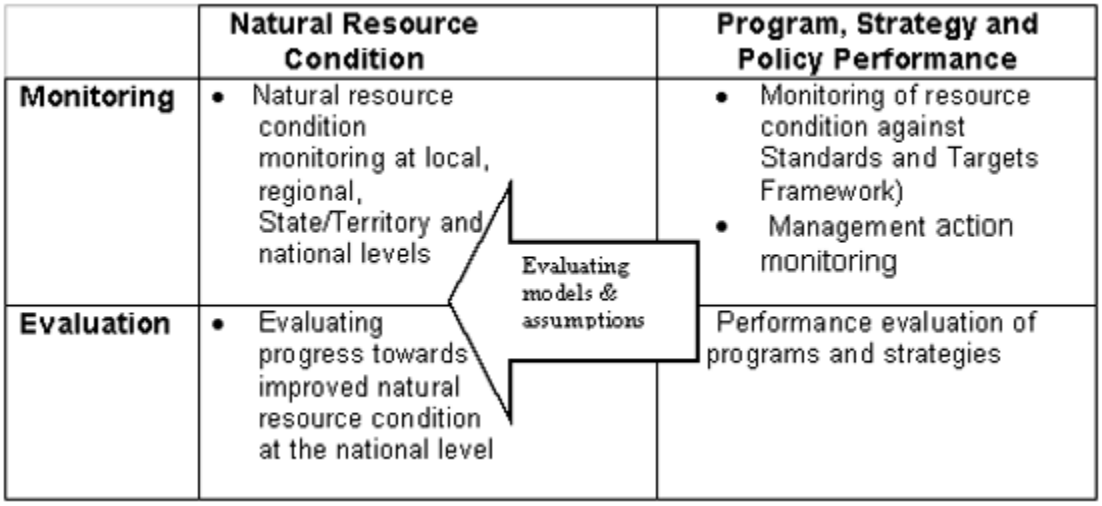
1.6. National Natural Resource Management Monitoring and Evaluation Framework

The Natural Resource Management Ministerial Council is a council that aggregates the results of other councils as the Primary Industries Ministerial Council, the Australian Agricultural Council, or the Australian Water Council to provide a holistic vision of the evaluation of the use and degradation of the natural resources, it was established in 1991 and one of the main achievements of this Council is the establishment of the National Natural Resource Management Monitoring and Evaluation Framework (National Framework) to assess progress towards improved natural resource condition through the development of accurate, cost-effective and timely information on two aspects, the:

- health of the nation's land, water, vegetation and biological resources; and the
- performance of programs, strategies and policies which provide national approaches to the conservation, sustainable use and management of these resources.

The National Framework is based on a set of principles for the monitoring, evaluation and reporting on natural resource condition. It also provides a set of indicators for assessing change in resource condition and program performance. The National Framework structures monitoring and evaluation processes at the national level and also provides a blueprint for monitoring and evaluation frameworks for programs, strategies and policies within the scope of the Council. The framework is represented diagrammatically in the following figure:

Diagram of the process of the National Natural Resource Management Monitoring and Evaluation Framework



Source: (http://www.mincos.gov.au/)

Theoretically whit this framework all stakeholders' reporting requirements are incorporated. Reporting products will be specified to meet the needs of stakeholders at all levels. Each program, strategy or policy will establish a comprehensive reporting structure for monitoring and evaluation activities at all levels tailored to the needs of the stakeholder groups. The structure should support the transmission of complete and accurate information in the agreed format to the required stakeholders in time for it to be used in the processes for which it was collected. The reporting structure should include all statutory and accountability requirements including: Agency annual reporting; Budget

document reporting; Performance reporting within financial agreements at predetermined intervals; Evaluation reports and as can be inferred independently of the degree of real application of the national framework it constitutes a major attempt to conform a national system of measure and evaluation of the state of natural resources and the impact of governmental programs.

1.7. National Pollutant Inventory (NPI)

The national environment protection goals established by the NPI are to assist in reducing the existing and potential impacts of emissions of substances and to assist government, industry and the community in achieving the desired environmental outcomes by providing a basis for:

a. the collection of a broad base of information on emissions of substances on the reporting list to air, land and water; and

b. the dissemination of information collected to all sectors of the community in a useful, accessible and understandable form.

The NPI provides the framework for the development and establishment of an Internet database designed to provide publicly available information on the types and amounts of certain chemicals being emitted to the air, land, and water. The NPI also holds some data for diffuse sources whose emissions are aggregated together, including emissions from motor vehicles. The NPI is doubtlessly a major instrument of environmental accountability and their scope is not constrained to private sector so the public sector organizations participate on it and must proportion the information of their pollution activities.

1.8. Environmental Management Systems

Environmental Management System (EMS) is a tool for measuring and improving an organization's compliance with regulations and management of environmental risks. To assist agencies tailor the model of EMS that requires, the DEH has developed generic tender documents that can be used by the public agencies to adopt an own EMS. According to the information of the webpage of the DEH until now there are not many government agencies that has developed their own EMS, however according to the EPBC Act all managers are accountable for environmental performance in their area of responsibility, so it is expected that in the short term all the agencies and units of the Commonwealth government implement a EMS that once that will be established will constitute a very important tool of the Australian system of environmental accountability for the public sector.

1.9. Triple bottom line reports

Unlike Section 516A reports, triple bottom line reports are voluntary. Triple bottom line reporting looks at practical measurable social and environmental outcomes, as well as financial matters. Benefits of producing the triple bottom line report include:

- communicate to staff and stakeholders what is done to improve sustainability performance
- drive improvements in environmental, social and economic outcomes
- improve risk management

- benchmarking performance against other organizations
- show, by example, how to improve the sustainability of operations

The triple bottom line report has been developed mostly in the private sector and a model of triple line report for government agencies was designed by the DEH and was verified by the Australian National Audit Office. This kind of reports enact a more comprehensive and broad form of report the organization impact in financial, social and environmental terms and between more public organizations adopt them major level of public sector accountability will be achieved.

1.10. Corporate Sustainability Reporting

Corporate reporting is the voluntary public presentation of information about an organization's non-financial performance - environmental social and economic - over a specified period, usually a financial year. The release of a corporate sustainability, environmental or health and safety report is seen as increasing transparency and therefore accountability. Corporate reporting is used by organizations to voluntarily communicate information on environmental and other non-financial performance to their stakeholders. The only related legal requirements in Australia of corporate reporting are:

- Section 299(1)(f) of the Corporations Act 2001, that requires companies to include details of breaches of environmental laws and licenses in their annual reports; and
- Sections 1013(A) to (F) of the Corporations Act 2001, which requires providers of financial products with an investment component to disclose the extent to which labor standards or environmental, social or ethical considerations are taken into account in investment decision-making. These reports together with the triple-line reports are the most advanced forms that organizations had developed to inform their results and achievements, both types of reports now are mostly made by private organizations, especially transnational companies; however there is a global trend to implement them in other private companies and in the public sector organizations. As in the previous type of reports between more public organizations adopt them major level of environmental public sector accountability will be achieved.

1.11. Environmental Economics Unit

The Environmental Economics Unit (EEU) works to integrate environment and economic considerations in the decision-making process within the DEH. The Unit has a central role in supporting work on Australian Government environmental policy objectives with economic analysis. Specifically Environmental Economic Units (EEU)develops policies and provides advice on issues such as:

- Ecological and environmental economics;
- Social and economic impact assessment (advice for Environment Protection and Biodiversity Conservation Act 1999);
- Sustainable development;
- Market incentives, economic instruments and natural resource property rights and pricing;
- Extended cost-benefit analysis and environmental accounting; and
- Applied economic research.

The EEU is a major challenge for the DEH due to the difficulties that implies the establishment of economic values to environmental assets, in this work their development is also considered a part of the system of environmental accountability for the public sector because the initiative of the development is made by a public organization: the DEH, and because once constituted will represent a major element of any environmental account.

1.12. Punishment of violations to environmental rules

The application of incentives to ensure the compliance of the law and regulation are also a mechanism of environmental accountability, in the web page of the DEH there is no information in particular about the punishment or rewards that can be applied to members of the public administration service due to the good or bad accomplishment of the environmental laws and regulations, however there is some general information about three ways that could be followed to remedy a violation of environmental laws.

Administrative action

In response to relatively minor contraventions of Australian Government environment and heritage legislation, or where the suspect has been particularly cooperative, it may be appropriate to pursue administrative rather than legal remedies. Administrative measures do not involve court action and include:
•verbal cautions and educational messages;
•requiring a person to leave an area, such as a Commonwealth reserve;
•formal advisory or warning letters seeking future compliance;
•infringement notices;
•varying, revoking, or imposing further conditions on permits, licences or approvals;
•suspending or cancelling permits, licences or approvals;
•Ministerial orders made to correct a contravention;
•retaining bonds or securities lodged as a condition of permits, licences or approvals, to remediate any harm cause by a violation;
•directed environmental audits; and
•conservation or other agreements to compensate for the contravention or to prevent future contraventions.

Civil action

•Where the Department's investigations have produced sufficient evidence of a serious civil contravention, appropriate civil sanctions may be sought through the Federal Court. Such sanctions include injunctions, court orders for repair and mitigation of damage to the environment and civil penalty orders.
A serious civil contravention has at least one of the following attributes: it involves a blatant disregard for or significant degree of indifference to the civil law; the Australian Government or the community expects that the matter will be dealt with by way of enforcement action; it resulted in or had the potential to result in significant real harm or detriment to the Australian Government or the community, including substantial harm to the environment, cultural heritage, economy, resources, assets, or well being of Australia or Australians; or it is of such a nature or magnitude that it is important to deter other potential contraveners and/or educate the public. Civil action on behalf of the

Australian Government is normally initiated by the Minister. The Australian Government Solicitor, or other legal service provider, administers the civil action, acting on the instructions of the Minister.

Criminal action

Where the Department's investigations have produced sufficient evidence to prove both the physical and fault elements of a serious offence beyond reasonable doubt, criminal prosecution may be sought. A serious offence is one for which:
•there is a significant degree of criminality on the part of the offender; or
•previous administrative or civil responses to contraventions by the suspect have not resulted in compliance; and
•where the Australian Government or the community expects that a crime will be dealt with by prosecution conducted in public before a court and usually carries the risk of imprisonment in serious cases, and
•the crime produced significant real or potential harm to the Australian Government or the community, including harm to the environment, cultural heritage, economy, resources, assets, or well being of Australia or Australians; or
•the crime is of such a nature or magnitude that is important to deter potential offenders and prosecution will act as a very effective deterrent. The Director of Public Prosecutions has responsibility for the conduct of prosecutions for offences against Australian Government law. If the Department considers criminal prosecution to be the most appropriate course of action and sufficient evidence is gathered, a brief of evidence is prepared for submission to the Director of Public Prosecutions. The Department also seeks assistance and advice from the Director of Public Prosecutions about investigating serious offences, particularly in large and complex matters. The final decision on whether or not a prosecution is to be instituted or continued rests with the Director of Public Prosecutions. This decision is taken in accordance with the Prosecution Policy of the Commonwealth, the primary criterion being whether or not prosecution is in the public interest. In taking this decision, the Director of Public Prosecutions takes into account the views expressed by the Department on the issue.

2. Environmental Accountability in Mexico

The Mexican main legal document that deals with environmental issues is the General Law of Ecological Balance and Environmental Protection 2000 (LEEGEPA) inside that law there is no definition or mention about environmental accountability; there is just reference to environmental audits; nevertheless according with the theoretical concepts and elements that it was established in the chapter fourth about what can constitute a system of environmental accountability for the public sector next are going to be presented the major tools and instruments that Mexico have established to execute environmental accountability in the public sector.

2.1. The General Law of Ecological Balance and Environmental Protection (LEEGEPA, 2000)

The LEEGEPA is the main environmental Law in Mexico, establishes the right to all citizens to live in a healthy and adequate environment, define the principles of environmental policies and the instruments for their application, promotes the preservation and conservation of species and natural resources, mandate to prevent the pollution and to restitute the air, water or soil if a damage to some ecosystem is done, gives guaranties for the participation of all the levels of government, citizens and industries. About environmental accountability for the public sector the LEEGEPA:

Establishes in the article 2, the federal responsibilities of integrate the National System of Environmental and Natural Resources Information (SNIARM) (paragraph XVI); the emission of recommendations to federal, state and municipal authorities for promote the accomplishment of environmental legislation (paragraph XVII). In the article 15, determines that through the quantification of the cost of the pollution and the deterioration of the natural resources caused by the economic activities in a year it will be calculated the Net Environmental Internal Product which will need to be included in the national system of accounts (paragraph XIX). The law have a section advocated to economic instruments (Section 3, articles 21 and 22) where are explained what is considered an economic instrument, how can be utilized for the improvement of the environment and what are the main fields where the State must utilize the instruments in a positive way (education, research, energy safe, etcetera) and also in a negative way (recovering of ecological damages, vigilance of hazardous wastes, etcetera). There is also a section advocated to the self-regulation and the environmental audits (Section 7, article 38); where is established that environmental audits are voluntaries and only directed to business, the SEMARNAT only can determine who is qualified for do the audits and supervise how are realized these audits and make recommendations according with the results; The article also mention that the SEMARNAT must establish a system of education and recognition to industries that perform environmental audits and follow the recommendations made by the Secretariat.

In another article, (109) the Law establishes the share responsibility of federation, states and municipalities to conform a register of emissions and transferences of air, water, soil, subsoil, wastes, and hazardous materials. About social participation and rights of information the LEEGEPA, have two chapters with three articles (157-159) where is mentioned that the federation will promote the participation of the citizens for the planning, execution, evaluation and vigilance of the environmental policies; establishes

the obligation of the SEMARNAT to elaborate and publish every two years a detailed inform of the state of the environment and the natural resources; and settle some dispositions about the rights and procedures that citizens have to ask and receive environmental information from the governmental authorities. Finally the LEEGEPA utilizes several articles (170-204) for settle the dispositions about the punishments to those that violates the Law, in those articles is explained which is the procedure to make denounces, what are some administrative sanctions and is explained in what circumstances the government authorities need to initiate criminal or civil procedures to amend environmental damages.

As can be observed the LEEGEPA is the main tool of environmental accountability in Mexico, in their dispositions there are important elements that can be identified with the tools and mechanisms that have been established as part of any system of environmental accountability, that's why it is important to mention this Law first in the instruments and tools employed in the Mexican system of environmental accountability for the public sector, consequently next are going to be reviewed how are been implemented some of the dispositions established in the Law and if there is some other instrument also applied to maintain the public organizations accountable about their environmental behavior.

2.2. The Federal Environmental Protection Attorney (PROFEPA), Environmental Justice Administration Program

PROFEPA has been invested with multiple, varied and complex powers on inspection and surveillance matters. The Environmental Justice Administration Program 2001-2006 is an attempt to move towards an expeditious environmental justice administration that guarantees law enforceability without making differences of individuals or groups. According with the web page of the SEMARNAT, the program "is a reliable tool to assure a greater efficiency in the environmental protection task, based upon a more efficient surveillance in the compliance with the environmental rules", for this purpose five strategic objectives were established:

1. Stop the destruction of our natural resources and reverse the processes of environmental deterioration.
2. Strive for providing full access of society to an expeditious administration of environmental justice.
3. Achieve a determined, informed and responsible participation of the members of society and its organizations to oversee and achieve compliance with the environmental law.
4. Strengthen the presence of the Agency and extend its territorial coverage with federalist criteria.
5. Create a modern and efficient institution, under honesty, transparency and reliability criteria, thereby disclosing a new image to society.

To accomplish these objectives there were established some fields of action like: a) increase the percentage of priority natural protected areas where an inspection and surveillance program is being applied; b) inspect and watch over the whole industrial and service establishments carrying out high-risk activities; c) increase the level of compliance with the environmental legislation by sources of pollution of federal jurisdiction through inspection and surveillance; or d) include new sectors to the

Environmental Audit Program, specially tourism, electric power and exploitation of natural resources.

For the good operation of the program, it is essential the participation of many actors as some areas of the SEMARNAT, some other federal governmental agencies and other governmental levels, as well as the nongovernmental organizations. Without the agreement of all these participants, it will be difficult for this program to have the essential consensus and support for its successful operation. If there is a good achievement of the objectives and goals of this program the benefits will be for the whole society that can get better levels of environmental equilibrium and life quality. One of the main purposes of this program is increase the rate of environmental regulation compliance to a 34%, which can give a real image of how chaotic and desperate is the actual situation of the protection of the environment in Mexico. For assessing and monitoring the results of the Environmental Justice Administration Program, databases were designed to integrate the reports requested both by the central sector and the globalizing agencies of the federal government: this are the PROFEPA Institutional Information System (Sistema Institucional de Informacion de la PROFEPA, SIIP), allowing to record data of the whole juridical-administrative proceeding in the areas of industrial verification, natural resources, legal matters, complaints and claims, as well as a unit for registration of environmental emergencies. And, the Institutional Strategic Information System (Sistema Institucional de Informacion Estrategica, SIIE) that update strategic information through a series of indicators that show the progress achieved regarding the most significant goals of the Agency.

2.3. The National System of Environmental and Natural Resources Information (SNIARN)

To conform the SNIARN is an obligation established in the LEEGEPA, now is conformed by set of databases, procedures and programs advocated to enclose, organize and diffuse information about the environment and the natural resources; enclose information about the inventory of natural resources, several monitoring of water, air and soil, the ecological use of the territory and the programs, actions and policies established by the government for maintain the ecological equilibrium and the protection

to environment. The SNIARN include also information from academic sources and from the independent organisms as the National Water Commission, the National Institute of Ecology, and etcetera. The SNIARN has two objectives, first, constitute a strong and integrate source of official information that works as reference for different environmental stakeholders as ONG´s, academics, public sector, decision makers, students, etcetera; and second, be a basic income for the integration of the general inform of the situation of the ecology and the environment protection that the LGEEPA mandate to develop. The SNIARN following the recommendations of the UNEP enclose and organize the information in four sections: social, economic, institutional and environmental characters, putting special attention to the state of the natural resources and their degree of sustainability. In the social characters are information about the socio economic characteristics of the Mexican population; in the economic section, there are the environmental accounts and information about the main economic activities related with the environment; in the environmental section, there is abundant information about water, air and biodiversity, finally in the institutional section it is described the environmental legislation, their accomplishment and the instruments and mechanisms utilized to enforce the environmental laws and norms.

2.4. Inform of the environmental situation in Mexico (IESM) (2005)

Inside the LEEGEPA and the National Program of Environment and Natural Resources 2001-2006 is established the obligation to conform a trustful National system of Environment and Natural Resources that can serve to keep inform the society about the state of art of the environment and the natural resources, that can be used as base to formulate policies and programs of environmental conservation and protection and that can incorporate the environmental issues in the political, economical and social agenda of the government, the private sector and the society. The inform is concentrated by the SEMARNAT and is maintained in their webpage, the work constitute a synthetic report of the environment and natural resources of the country and the actions realized to improve it and conserve it. Inside of the report there are several sections that deals with:

- Population,
- Vegetation and use of the soil,
- Bio diversity,
- Forestry resources,
- Fisheries,
- Wild life,
- Atmosphere,
- Water,
- Wastes, and

- Environmental planning

The objective underlying this work of compilation and integration of environmental information is that the inform can serve to create in all the readers (academics, ONG´s, businessmen, decision makers, authorities, and people in general) a complete vision of the real situation of the environment in Mexico and that this create conscience about the necessity of develop a sustainable management and adequate utilization of the resources. For this work this tool is important because is part of the obligations consigned by the LEEGEPA and because constitute an important effort to develop a environmental reporting produced by the government which according with the theoretical elements that were established in the chapter four can be considered as part of the system of environmental accountability of the Mexican public sector.

2.5. Basic indicators of environmental performance in Mexico (2005)

To achieve their objective and goals the SEMARNAT needs to count with trustful, opportune and relevant environmental information that serve as a guide and basement to the formulation of strategies, policies and programs. As a result of this necessity the SEMARNAT developed a set of basic indicators of environmental performance. These indicators enclose more of 130 indicators that describe the actual situation, the principal changes occurred in the last years, the pressures and the responses that the government have gave to attend the problematic about eight basic themes: atmosphere, water, soil, Municipal solid wastes, hazardous wastes, biodiversity, forestry resources and fishery resources. These set of environmental indicators are complementary to the SNIARN and some of the indicators are used in the IESM. The indicators count with a technical explanation, and include more of 450 variables in form of tables or maps that permit to know the topics in a better way. All the indicators count of two parts the first describe the conceptual base and antecedents that explain the selection and organization of the indicators; and the second, contains the indicators by itself; in each theme it is presented an scheme: pressure-state of the art-answer, that establish if the indicators are adequately documented or needs more information. For each indicator there are six elements:

1. A brief text with the justification and relevance of the indicator,
2. A description of the situation and tendency of the indicator,
3. Commentaries about the indicator that offers practical facts to complement the interpretation
4. A list of complementary information that can be consulted in annexed files
5. The source of the dates,
6. A technical card with the definitions, way of measure, and responsible of the information between some other.

The importance of these indicators for this work is because at the same level of the two previous tools constitute governmental efforts to provide environmental information which is a very elemental part of any system of environmental accountability and also are important because these indicators and the rest of information provided with them can serve to the state and municipal governments which also are starting to develop measures about the environmental performance of their programs and activities.

2.6. Integral Program of Clean Beaches.

In April 2003 began the National System of Water Quality Information in the Mexican Beaches, for this system it was necessary a coordinated effort of the Marine Secretariat, SEMARNAT, Health Secretariat and Tourism Secretariat; each one of these institutions collaborated to systematize and homogenize a way to monitor the sea water according with criteria established by the World Health Organization. Actually there are local laboratories of the Health Secretariat that perform the monitoring, following the policies established by all the Secretariats, in each one of the tourist beaches of the 17 states with coast of Mexico. The development of this system was done because there was a publicity campaign in USA that affirmed that the Mexican beaches were highly polluted and can affect the health of the tourists, this campaign caused a decrease in the quantity of American tourists and the Mexican authorities answer this pressure campaign with the instauration of the system, that now can be also mentioned as part of the system of environmental accountability of Mexico.

2.7. Mexico's international reporting obligations

Mexico's membership of international organizations brings with it reporting obligations for various aspects of the condition of the Australian environment. Organizations include:

6. Organization for Economic Cooperation and Development (OECD)
7. United Nations Environment Programme (UNEP)
8. Agreement between USA and Mexico for the cooperation for the protection and improvement of the environment in the metropolitan zone of Mexico city
9. Convention about cooperation for the protection and improvement of the environment in the frontier zone with USA
10. Agreement of Environment Cooperation of North America, derived from NAFTA
11. Convention on Biological Diversity Framework on Climate Change Convention (FCCC)
12. Montreal Process for forestry reporting World Meteorological Organization (WMO)
13. Convention relative to the cooperation to combat the spills of oil, and protect the marine life in the Caribbean Sea.
14. International convention about the rules for the whale hunting
15. Inter-American convention for the protection and conservation of sea turtles.

The membership to international organizations accords, agreements and treaties settles obligations to Mexico about report and informs a set of environmental issues which include in most of the times information related with the labor of the government institutions and can be considered as part of the mechanisms of environmental accountability of the public sector.

2.8. Enforcement of environmental regulations

The application of incentives to ensure the compliance of the law and regulation are also a mechanism of environmental accountability, in the LEEGEPA there are several articles that deals in particular about the punishment that can be applied in general due the lack of accomplishment of the environmental laws and regulations; the sanctions depending on the type and scale can be implanted by administrative procedures of by civil and criminal trials. Supposedly the criminal trials are utilized only for major violations of the environmental laws, and I for crimes as provoke damage to public health, natural

resources, flora, fauna, wild life, discharge pollutants to the air, sea, rivers or soil without authorization and cause deterioration of ecosystems the punishment goes from imprisonment penalty ranging from three months to nine years and a fine from 1,000 to 20,000 days of minimum wage (the minimum wage daily in 2004 was 4.5 US dollars). In addition according with the article 421 of the Federal Criminal Code the judge may impose one or more of the following penalties:

I.- The carrying out of those activities necessary to restore the natural elements constituting the affected ecosystems, to the condition they had before the commission of the crime;
II.- The suspension, modification or demolition of constructions, works or activities, as the case may be, which gave rise to the corresponding environmental crime;
III.- The return of the natural elements, specimens or species of wild flora and fauna to the habitats from which they were taken; and
IV.- The return of hazardous materials or waste or the return of specimens of wild flora and fauna threatened or in danger of extinction to the country of origin in accordance with the provisions of the international treaties and conventions to which Mexico is a party.

So, as can be observed the penalties and punishments established in the law for environmental violations are not very severe if is considered that the maximum fines and time of imprisonment would apply for example to disasters as the oil spill of the Exxon Valdes or the Bophal disasters. Therefore another point where the Mexican system of environmental accountability can be improved is in this field of penalties and punishment for violations to environmental laws and regulations.

3. Environmental Accountability in USA

Inside the legal framework that deals with environmental issues in America, there are two that can be considerate the more important: the National Environmental Policy Act (NEPA) and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) in both laws there is no definition of environmental accountability; however both Acts have some references or requirements of: environmental audits, environmental accounts and environmental reports that according with the theoretical concepts established in the chapter fourth can be considered as part of the tools and instruments of the American system of environmental accountability. Some of the other instruments and tools of the American system of environmental accountability are:

3.1. The National Environmental Policy Act (NEPA, 1969)

The NEPA is the main environmental Law in USA, the purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; promote efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; it also provides the establishment of a Council of Environmental Quality. About environmental accountability for the public sector the NEPA requires federal agencies to integrate environmental values into their decision making processes by considering the environmental impacts of their proposed actions. Some of the disposition of this law that can be remarked are:

Section 102: “all agencies of the Federal Government shall:

(A) utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment.
(B) (B) identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decisionmaking along with economic and technical considerations…”

Section 201: “The President shall transmit to the Congress annually an Environmental Quality Report which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban an rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals with particular reference to

their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation."

As can be observed the NEPA provides attributions to the EPA for develop tools and mechanisms of environmental accountability. Therefore, next is reviewed some of the dispositions and instruments applied to maintain the private and public organizations accountable about their environmental behavior.

3.2. High Production Volume Challenge Program

The HPV Challenge Program is a collaborative partnership whose goal was to ensure that the American public had access to the type of information that would allow it to actively participate in environmental decisionmaking at all levels-federal, state, and local. The program began in 1998 sponsoring over 2,200 chemicals. Sponsorship involves a commitment to develop data summaries of relevant existing information and to conduct testing to fill any data gaps. This collection of screening-level hazard data will provide the public with basic information about the chemicals that are produced in the largest quantities. The EPA provides two data base: the HPV Voluntary Challenge Chemical List with the amounts and types of chemicals included and the HPV Challenge Summary Report with the information of the industries that are reporting their production or import of chemicals.

3.3. The EPA auditing policy

The EPA Audit Policy, "Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations", has been in effect since 1995. It reflects input from industry, trade associations, state environmental programs, and public interest groups. The Audit Policy is designed to provide incentives for regulated entities to come into compliance with the federal environmental laws and regulations. These incentives are for regulated entities that voluntarily discover, promptly disclose and expeditiously correct noncompliance. EPA has developed a series of Environmental Auditing Protocols to assist the regulated community in developing self-audit programs at individual facilities for evaluating their compliance with the environmental requirements under the federal laws and regulations. The protocols are intended solely as guidance in this effort. Environmental audit reports are useful to a variety of businesses and industries, local, state and federal government facilities, as well as financial lenders and insurance companies that need to assess environmental performance. These protocols provide detailed regulatory checklists that you can customize to meet your specific needs. The audit protocols cover: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Clean Water Act (CWA), Emergency Planning and Community Right-to-Know Act (EPCRA), Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), Resource Conservation and Recovery Act (RCRA), Safe Drinking Water Act (SDWA), Toxic Substance Control Act (TSCA) Finally is necessary to mention that In addition, there is a "how to" manual on designing and implementing environmental compliance auditing programs for federal agencies and facilities.

3.4. Report on Environment

In 2003, EPA published its first ever national Draft Report on the Environment (ROE), using available indicators and data of national environmental and human health conditions. It was developed as the first step in the Environmental Indicators Initiative. Two documents were published; one for readers with a general interest in the environment (the 2003 Draft Report on the Environment Public Report) and another for more technical readers (the 2003 Draft Report on the Environment Technical Document). These draft documents utilized indicators to describe current conditions, trends, and data gaps. The Technical Document (TD) present and discuss indicators and data that are currently available to answer the ROE's questions as well as describe their limitations. The document will provide the scientific foundation for the more general Public Document. The content of the ROE Public Document will be derived from the ROE TD and is designed to communicate the conditions and trends in the environment and human health in a way that is succinct, compelling, and understandable to the public. Additionally in 2007 it is going to be a electronic document in a Web site that will contain peer review comments, EPA's response to the comments, and the revised indicators.

3.5. Environment Management Sytems

An Environmental Management System (EMS) is a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency. EPA has a cooperative EMS agreement with the American Public Works Association (APWA) and the International City/County Management Association. Inside the public sector EPA have initiatives in: 1) Industry Sector; 2) Water/Wastewater; 3) Waste Management; 4) Design for Environment Program; 5) Environmentally Preferable Purchasing. But, the more important initiative is the National Environmental Performance Track Program that was established in June 2000 to recognize and reward companies and public entities that consistently exceed regulatory requirements, work closely with their community, and excel in protecting the environment and public health. To join, an organization needs to demonstrate that it has: a proven record of regulatory compliance; a commitment to continuous improvement; a mechanism for public outreach; and an Environmental Management System. Performance Track is a partnership that recognizes top environmental performance among participating U.S. facilities of all types, sizes, and complexity, public and private. Currently, the program has about 400 members and welcomes all qualifying facilities. Between some of the federal institutions that has or are implementing an EMS are:

- FedCenter.gov has information, including the latest guidance, examples, and resources for the development and implementation of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency.
- NASA contains information on aspects determination, operational controls, and self-audits.
- Department of Defense DENIX (Defense Environmental Network and Information eXchange) is the clearinghouse for EMS information and documentation as it relates to the Department of Defense community.
- Department of Interior provides information on corrective and preventive actions, and environmental training.

- Department of Energy contains information on significant aspects.
- Department of the Navy provides specific ISO requirements, and a checklist for monthly goals.
- United States Postal Service's strategic plan includes environmental programs such as an EMS.
- Department of Commerce includes links to the department's EMS Implementation Guide and EMS Policy Memorandum.

3.6.a. Compliance and Enforcement

Complying with environmental regulations is important in protecting public health and the environment. EPA is responsible for enforcing and assuring compliance with environmental regulations and may delegate this responsibility to state and tribal governments. EPA's enforcement efforts focus on assisting businesses and communities with compliance training and guidance. The Agency also partners with foreign governments, international organizations and other federal agencies to help building enforcement and compliance capabilities in other countries, and to fulfill U.S. commitments under international agreements. The EPA utilizes several instruments to enforce the compliance of the environmental laws and regulations, where violations are committed by federally-owned facilities or businesses, the Federal Facility Enforcement program has primary responsibility. When the remediation or clean up of abandoned waste sites, private facilities or federal facilities is required, Clean Up Enforcement takes over. If an intentional or deliberate violations are found, they are referred to the Criminal Enforcement program for enforcement action.

Another tool is the Civil enforcement that is one part of a broader regulatory program that includes both compliance assistance--which helps industry prevent violations before they occur--and criminal enforcement--which prosecutes those intentional or deliberate acts of noncompliance. EPA's enforcement options range from simply notifying a facility that minor violations exist and granting a reasonable time for compliance to criminal sanctions for persons who will fully disregard the law. Other options include filing enforcement actions before an Administrative Law Judge. The EPA may also ask the U.S. Department of Justice to file a civil judicial lawsuit before a United States District Court. EPA’s civil enforcement program protects human health and the environment by taking legal action to bring polluters into compliance with the federal environmental laws. Alternative Dispute Resolution (ADR) is a procedure used to resolve issues in controversy, “including but not limited to, conciliation, facilitation, mediation, fact finding, mini-trials, arbitration, and use of ombuds, or any combination thereof." (Administrative Dispute Resolution Act of 1996, 5 USC 571(3)). All of these procedures involve a neutral third party, a person who assists others in designing and conducting a neutral process. T

The Supplemental Environmental Projects (SEPs) Policy is other tool that the enforcement program utilizes when settling a civil judicial or administrative enforcement action. The SEP Policy provides for the inclusion in settlements of environmentally beneficial projects which the defendant/respondent is not otherwise legally required to perform.

Finally Compliance monitoring is one of the key components the EPA uses to protect human health and the environment by ensuring that the regulated community obeys environmental laws/regulations through on-site visits by qualified inspectors, and a review of the information EPA or a state/tribe requires to be submitted. EPA also promotes compliance incentives and auditing to encourage facilities to find and disclose violations to the Agency. Violations may also be discovered from tips/complaints received by the Agency from the public. Violations discovered as a result of any of these activities may lead to civil enforcement or criminal enforcement. There are 44 statutory programs for which EPA and its regulatory partners perform compliance monitoring activities such as inspections and investigations, oversee imports and exports of environmental substances, and provide training to federal, state, and tribal personnel. Inspection manuals and other guidance provide a uniform framework for EPA's compliance monitoring activities. Generally, each program is unique to an environmental statute, but some encompass multiple statutes. Some programs are implemented by Office of Enforcement and Compliance Assurance (OECA) directly, while others are administered by the regions, states, or tribes.

3.6.b. Federal Facilities compliance and enforcement

One of EPA's most important roles is ensuring that Federal agencies comply with environmental requirements in the same manner and extent as any other regulated facility. EPA has explicit authority to assess fines at Federal facilities violating environmental statutes, including the Clean Air Act, the Resource Conservation and Recovery Act, and the Safe Drinking Water Act. Federal facilities that are significantly contaminated may be listed on the National Priorities List (NPL). The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), Section 120 requires Federal agencies with NPL sites to investigate and clean up the contamination. EPA works in partnership with other federal, state, tribal, and local agencies to see that federal facilities meet their environmental requirements. Between some of the tools that EPA manage to enforce the compliance of the environmental law by the federal institutions are:

- Compliance Assistance - Part of EPA's mission is to assist federal facilities in complying with environmental requirements.
- Federal Facilities and Pollution Prevention - Pollution prevention (P2) is a practice which reduces the amount of a hazardous substance, pollutant, or contaminant entering waste streams or released into the environment.
- Federal Facilities and Environmental Management Systems - An Environmental Management System (EMS). Federal facilities are required to implement EMS's by December 31, 2005 under Executive Order 13148.
- Compliance Incentives for Federal Facilities - EPA has programs that promote environmental compliance and the correction of violations by offering incentives in exchange for agreements to perform self-assessment, disclosure, and the correction of violations. Government facilities can then voluntarily discover, disclose, and expeditiously correct environmental problems.
- Compliance Monitoring at Federal Facilities - Compliance monitoring identifies which facilities are complying with and which facilities are violating environmental laws and regulations.

EPA established the Federal Facilities Multi-Media Enforcement/Compliance Initiative (FMECI) in order to assess the compliance status of federal facilities with environmental laws using a multi-media approach. EPA also has explicit authority to assess fines at federal facilities violating environmental statutes. EPA's federal facilities civil enforcement program helps protect public health and the environment by assuring that federal facilities comply with federal environmental laws. And, EPA enforces environmental cleanup requirements at federal facilities.

3.7. The Integrated Data for Enforcement Analysis (IDEA)

(IDEA) system is a single source of environmental performance data on EPA-regulated facilities. IDEA maintains copies of the Agency's air, water, hazardous waste and enforcement source data systems that are updated monthly. IDEA uses "logical" data integration to provide a comprehensive historical profile of inspections, enforcement actions, penalties assessed and toxic chemicals released, for any EPA-regulated facility. IDEA has two different Web interfaces available to users. These interfaces are:

- Online Targeting Information System —(OTIS) uses IDEA as its back-end database, and provides users with the means to query IDEA online. OTIS is available only to EPA, federal government and state government users.
- Enforcement and Compliance History Online —(ECHO) is a Web-based tool that provides public users with compliance monitoring, enforcement, and demographic data for approximately 800,000 active facilities regulated under the Clean Air Act stationary source program, the Clean Water Act direct discharge program, and the Resource Conservation and Recovery Act hazardous waste generation program.

3.8. Environmental Accounting

Environmental accounting is the process of assessing the full spectrum of costs and benefits associated with the implementation of pollution prevention measures and other environmentally-friendly procedures. Through its Environmental Accounting Project, the EPA helps businesses to calculate the hidden costs of preventive actions, including public education, outreach, resource acquisition, permitting and facility modification. The Environmental Accounting Project's mission is to encourage and motivate business to understand the full spectrum of their environmental costs, and integrate these costs into decision making. Inside this labour of the EPA there are several programs as:

3.8.1 The National Center for Environmental Economics (NCEE)

NCEE analyzes relationships between the economy, environmental health, and environmental pollution control. This includes: Economic benefits and costs, Economic incentives, Size, composition, and effects of the pollution control industry, Risk assessment data used in economic analyses. NCEE also serves as a central point of contact for communicating and resolving cross-cutting technical economic issues and carries out research and analyses of the interactions and relationships between the economy and environmental pollution control. NCEE:

- Conducts and supervises research and development on economic analytic methods

- Leads production of EPA economic reports
- Provides guidance for performing economic analysis
- Promotes consistency in the preparation and presentation of economic information in the Agency

NCEE prepares economic analyses and is a resource for information regarding:

- Benefit-cost research and techniques
- Economic impact models and measures
- Economic incentive mechanisms

NCEE researches environmental health issues to improve risk assessment data used in economic analyses and to aid in the evaluation and design of environmental programs.

3.8.2. Environmental Management Accounting (EMA)

The Environmental Management Accounting (EMA) is an international web site is located at www.emawebsite.org. This web site is now the primary source of U.S. based EMA information from the U.S. EPA Environmental Accounting Project, contain many documents as:

- The Lean and Green Supply Chain: A Practical Guide for Material Managers and Supply Chain Managers to Reduce Costs and Improve Environmental Performance - January 2000.
- An Introduction to Environmental Accounting as a Business Management Tool: Key Concepts and Terms - June 1995.
- Valuing Potential Environmental Liabilities for Managerial Decision-Making: A Review of Available Techniques - December 1996.
- Healthy Hospitals: Environmental Improvement Through Environmental Accounting - July 2000.
- Environmental Cost Accounting for Chemical and Oil Companies: A Benchmarking Study - June 1997.
- A guidebook of financial tools that deals with the answer of the question how to pay environment and natural resources?

The EMA is a partnered project with the Tellus Institute and part of the EPA's Environmental Accounting Project to maintain and further develop tools and documentation on Environmental Accounting.

3.8.3 The Environmental Data Registry (EDR)

EDR is a comprehensive, authoritative reference for information about the definition, source, and uses of environmental data. The EDR supports the creation and implementation of data standards that are designed to promote the efficient sharing of environmental information among EPA, states, tribes, and other information trading partners. The EDR also catalogs data elements in application systems. The EDR does not contain environmental data - it provides descriptive information to make the data more meaningful. EDR updates data standards for contact Information, federal facility Identification, and permitting information, newsletter is published to provide the latest

information on registry and data standards related matters at EPA, commonly used code sets associated with EPA's Data Standards, comparative data elements from various sources, and etcetera.

3.8.4. Regulatory Economic Analysis

EPA has prepared regulatory economic analyses for most major regulations. These analyses have gone by a variety of names, including:

- Economic Analyses (EAs),
- Regulatory Impact Analyses (RIAs),
- Inflation Impact Statements,
- Economic Impact Statements,
- Regulatory Analyses, and
- Regulatory Flexibility Analyses.

However, all analyze alternative approaches to achieving regulatory objectives as well as the benefits and costs associated with these alternatives. From 1981 to 1993 these analyses were prepared in accordance with Executive Order 12291; since 1993 they have been prepared under Executive Order 12866. The EPA office issuing the regulation has primary responsibility for conducting the analysis, often using external contractors; NCEE staff may be involved in conducting the analysis. For an introduction, overview, and survey of this database see Regulatory Economic Analysis at the EPA.

This database contains one record each for the approximately 1,700 analyses covered, as well as some related reports and other materials. Each record relates information such as the reference number, availability, issuing office, draft or final status, and contractor.

All these sources and types of information are administered by the Office of Environmental Information (OEI), that manages the life cycle of information to support our goal of protecting human health and the environment by. OEI collects, manages, provides and safeguards your environmental information; ensures that the information we use are accurate, representative, and reliable; and offers tools to access and analyze environmental information.

3.8.5. The Environmental Monitoring and Assessment Program (EMAP)

EMAP is a research program designed to develop the tools necessary to monitor and assess the status and trends of national ecological resources. EMAP's goal is to develop the scientific understanding for translating environmental monitoring data from multiple spatial and temporal scales into assessments of current ecological condition and forecasts of future risks to our natural resources. EMAP aims to advance the science of ecological monitoring and ecological risk assessment, guide national monitoring with improved scientific understanding of ecosystem integrity and dynamics, and demonstrate multi-agency monitoring through large regional projects. EMAP develops indicators to monitor the condition of ecological resources. EMAP also investigates designs that address the acquisition, aggregation, and analysis of multiscale and multitier data.

3.9. Performance-Based Programs and the National Environmental Performance Partnership System (NEPPS)

In 1995, state and EPA leaders developed the National Environmental Performance Partnership System (NEPPS) to work together more effectively—as partners—to solve the nation's remaining environmental challenges. The goals for this initiative include:

- Providing states with greater flexibility to deploy resources for performance-based programs;
- Working with regions and states to include commitments such as incentives development and recruiting in the PPG workplans;
- Identifying opportunities where performance-based work could be substituted for one or more commitments in the workplan; and
- Communicating the progress of the above activities to other states.

Many states develop Performance Partnership Agreements (PPAs) with EPA regional offices. States can choose to receive federal environmental program grant funds in a combined Peformance Partnership Grants (PPG's), which allows them to direct resources where they are needed most. In this sense, NEPPS is designed to:

- Promote joint planning and priority-setting based on information about environmental conditions and program needs;
- Use a balanced mix of environmental indicators and traditional activity measures for managing programs; and
- Improve public understanding of environmental conditions and protection efforts.

The PPA y PPG negotiation process presents an excellent opportunity for discussing and defining how EPA and a state will collaborate and coordinate between state performance-based environmental initiatives and corresponding federal programs such as Performance Track.

3.10. Environment Price Performance (EPP)

EPP is a computerized program that provides information to assist federal purchasers in putting a system of EPP into practice. There are a set of dynamic tools as:

- General EPP Training Tool that covers basic EPP principles, along with some more in-depth applications of EPP.
- Database of Environmental Information for Products and Services, that is a searchable database of product-specific information developed by government programs.
- Draft Federal Guide for Green Construction Specs - Covering over 60 building materials and methods, the Guide, organized according to the Construction Specifications Institute's MasterFormatTM, will help agencies meet their project-specific environmental goals and mandates.
- Promising Practices Guide for "Greening" Contracts that is a series of short case studies highlighting successful strategies for incorporating environmental factors into a variety of product and service contracts.
- Tips for Buying "Green" with the Government Credit Card or realize "Green" Meetings or "Green" trades that are a variety of tools to assist purchasers incorporate environmental considerations in their purchasing decisions.

3.11. Facility Registry System (FRS)

FRS is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel. The FRS responds to the increasing demand for access to high quality information and the public need for one source of comprehensive environmental information about a given place on the earth.

EPA's Office of Information Collection in the Office of Environmental Information is the organization responsible for implementation and management of the FRS. FRS has over 1.5 million unique facility records linking over 2.0 million program interests such as: Toxic Release Inventory, Resource Conservation and Recovery Act Information, Risk Management Plans (RMPs), Permit Compliance System (PCS) - Biennial Reporting System (BRS), Aerometric Information Retrieval System (AIRS), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), and etcetera. FSR also includes locational information which provides accurate mapping (EnviroMapper) of the facilities regulated by EPA.

3.12. Project XL

Project XL, which stands for "eXcellence and Leadership," is a national pilot program that allows state and local governments, businesses and federal facilities to develop with EPA innovative strategies to test better or more cost-effective ways of achieving environmental and public health protection. In exchange, EPA will issue regulatory, program, policy, or procedural flexibilities to conduct the experiment. To approve a Project XL experiments needs address eight: 1) produce superior environmental results; 2) produce benefits such as cost savings, paperwork reduction or regulatory flexibility; 3) be supported by stakeholders; 4) achieve innovation/pollution prevention; 5) produce lessons or data that are transferable to other facilities; 6) demonstrate feasibility; 7) establish accountability through agreed upon methods of monitoring, reporting, and evaluations; 8) and avoid shifting the risk burden, i.e., do not create worker safety or environmental justice problems as a result of the experiment.

The project XL wants to be the a model of how EPA should work with all environmental stakeholders, focusing on results, building partnerships, providing incentives and positive results and moving the labour of the agency from command and control to cooperation and accomplishment.

3.13. USA's international reporting obligations

USA's membership of international organizations brings with it reporting obligations for various aspects of the condition of the Australian environment. Organizations include:

16. Organization for Economic Cooperation and Development (OECD)
17. United Nations Environment Programme (UNEP)
18. Convention on Biological Diversity Framework on Climate Change Convention (FCCC)

19. Convention about cooperation for the protection and improvement of the environment in the frontier zone with Mexico and Canada
20. Agreement of Environment Cooperation of North America
21. Montreal Process for forestry reporting World Meteorological Organization (WMO)

The membership to international organizations settles obligations to Australia about report and informs a set of environmental issues which include in most of the times information related with the labor of the government institutions and can be considered as part of the mechanisms of environmental accountability of the public sector.