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The discourse of sustainable development: business groups, local government and NGOs in Juarez (Mexico) and El Paso (USA)

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F.G. and my parents

ABSTRACT

The thesis proposes and develops a threefold categorisation as a framework for the analysis of the sustainable development (SD) discourse of business groups, local government and NGOs in the Mexico-US border region and specifically in the border cities of Juarez (Chihuahua, Mexico) and El Paso (Texas, US). The SD categorisation proposed in this thesis consists of three schools of thought, namely, **Ecologism, Ecologically-sustainable-Development (EsD) and Corporate-Environmentalism.** The thesis investigates how and why Corporate-Environmentalism came to dominate sustainable development discourse in the 1990s?

Based on data collected in the border region of Juarez and El Paso, this thesis argues that Corporate-Environmentalism strongly influenced the sustainable development discourse of business groups, local government and NGOs and became the prevailing orthodoxy in the sustainable development discourse of the region during the 1990s. In the course of the same decade, ideas of Ecologism and Ecologically-sustainable-Development were marginalised and lost significant support, whilst Corporate-Environmentalism shaped the majority of respondents' sustainable development discourse and practices.

The complex interrelations between the sustainable development discourse of the 1990s and the views of business environmental managers, local government officers, and NGO members/leaders in the region of Juarez/El Paso are discussed. Career mobility of personnel of the three groups (business groups, local government and NGOs), and other factors such as their different educational and professional background, and training shed light on how and why Corporate-Environmentalism became the dominant view within the sustainable development discourse of the 1990s. This research is grounded on the qualitative analysis of semi-structured interviews carried out with business environmental managers, local government officers and NGO members/leaders. The interviews were conducted with those responsible for the implementation and promotion of SD policies that embroil mid-level and senior environmental professionals. The analysis in this thesis is comparative in as much as it analyses the differences and similarities of the SD discourse and practices within and between business groups, local government and NGOs. Finally, the thesis analyses the extent to which SD discourse affected approaches to the natural environment of the region of Juarez/El Paso, as well as in other regions in developing and developed countries during the 1990s.

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Acronyms and abbreviations

BECC	Border Environmental Co-operation Commission
BEP	Border Ecology Project
CANACINTRA	*Cámara Nacional de la Industria de la Transformación*, National Chamber of Transformation Industry.
CCE	*Consejo Cordinador Empresarial,* Co-ordinating Business Council.
CEC	Commission for Environmental Co-operation
CESPEDES	*Centro de Estudios para el Desarrollo Sustentable*, Centre for Sustainable Development Studies
CONADE	*Comisión Nacional de Ecología,* National Ecology Commission.
EDF	Environmental Defence Fund
ENGO	Environmental Non-Governmental Organisation
EPA	Environmental Protection Agency
EZLN	*Ejercito Zapatista de Liberación Nacional*/Zapatista Army of National Liberation
IBWC	International Boundary and Water Commission
INE	Instituto Nacional de Ecologia, National Institute of Ecology
INEGI	*Instituto Nacional de Estadística, Geografía e Informática,* National Institute for Statistics, Geography and Information.
JAC	Joint Advisory Committee
JMAS	*Junta Municipal Agua Saneamiento,* Ciudad Juarez Water Utility
LGEEPA	*Ley General del Equilibrio Ecológico y Protección al Ambiente,* General Law for Ecological Equilibrium and Environmental Proteccion.
NACE	North American Commission on the Environment
NaDBANK	Noth American Development Bank
NAFTA	North American Free Trade Agreement
NGO	Non-Governmental Organisation
NRDC	Natural Resources Defence Council
NWF	Natural Wildlife Federation
OECD	Organisation for Economic Co-operation and Develoopment
PAN	*Partido Acción Nacional,* National Action Party
PEMEX	*Petróleos Mexicanos,* Mexican Oil Company
PGE	*Pacto de Grupos Ecologistas,* Pact of Ecologist Groups
PRD	*Partido de la Revolución Democrática,* Party of the Democratic Revolution.

PRI	*Partido Revolucionario Institucional*, Institutional Revolutionary Party.
PROFEPA	*Procuraduría Federal de Protección al Ambiente,* Office of the Attorney General for Protection of the Environment
PRONASOL	*Programa Nacional de Solidaridad,* National Solidarity Programme
RMALC	*Red Mexican de Acción Frente al Libre Comercio,* Mexican Action Network on Free Trade
SE	*Subsecretaría de Ecología,* Sub-ministry of Ecology
SECOFI	*Secretaría de Comercio y Fomento Industrial,* Ministry of Commerce and Industrial Development
SEDESOL	*Secretaría de Desarrollo Social,* Ministry of Social Development.
SEDUE	*Secretaría de Desarrollo Urbano y Ecología,* Ministry of Urban Development and Ecology.
SEMARNAP	*Secretaría de Medio Ambiente, Recursos Naturales y Pesca,* Ministry of Environment, Natural Resources and Fishiries
SSA	*Secretaría de Salubridad y Asistencia,* Ministry of Health and Asistence
TNC	Transnational Corporation
TNRCC	Texas Natural Resources Conservation Commission.
UGAM	*Unión de Grupos Ambientalistas,* Union of Environmental Groups
UN	United Nations
US	United States
WWF	World Wildlife Fund

Chapter 1

The discourse of sustainable development: business groups, local government and NGOs in the region of Juarez (Mexico) and El Paso (US)

Section 1

Introduction

Corporate-Environmentalism held sway within the sustainable development discourse of the 1990s. It influenced the discourse and practice of business groups, local government and NGOs in the region of Juarez/El Paso throughout the decade, marginalising *Ecologism* and *Ecologically-sustainable-Development*. From these premises emerges the research question underpinning the present work: how and why did Corporate-Environmentalism come to dominate sustainable development discourse in the 1990s?

Corporate-Environmentalism and its proponents, notably business groups, have succeeded in dominating sustainable development discourse within and between different groups at the global, regional and local levels. Their version of sustainable development discourse includes, as will be demonstrated, the idea that the world does not face a global (holistic) ecological and social crisis, emphasising instead an *environmental problematique*. *Environmental problematique* refers to a set of environmental problems that can be managed and ultimately solved individually within global capitalism. Correspondingly, this study investigates the competing ideas of ecological crisis and *environmental problematique* and explains why local groups tend to be more inclined to downplay the idea of an ecological and social crisis (prioritising *environmental problematique*), whilst external observers tend to classify the environmental problems of a particular region, in this case the region of Juarez/El Paso, as an (holistic) ecological (and social) crisis.[1]

In order to systematically assess these research issues, the thesis examines the interrelation between the sustainable development (SD from this point on) discourse and three different groups in the cities of Ciudad Juarez[2] (Chihuahua, Mexico) and El

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[1] Other academic approaches reject the existence of a single environmental and social crisis, and are not market-oriented; see the vast literature on the deconstruction of crisis narratives. Two good examples within this approach are Forsyth (2003) and Leach & Mearns (1997). These are as yet minority views within SD discourse.

[2] Throughout the thesis Ciudad Juarez will be referred to simply as Juarez, as it is commonly known.

Paso (Texas, US)[3], namely business groups, with particular emphasis on the *maquila*[4] industry, local government and NGOs.

The thesis proposes and develops a tripartite categorisation as a framework for the analysis of SD discourse and practices of business groups, local government and NGOs in the border region of Juarez/El Paso. SD discourse categorisation consists of three schools of thought:

1. ***Ecologism:*** Integrates bio-centric views that emphasise environmental justice, animal rights, environmental ethics and radical changes in present human values (Naess, 1973; Devall & Sessions, 1985; Lovelock, 1979; Goldsmith et al, 1972). Ecologism evokes a single holistic ecological crisis. This school of thought, as will become clear, tended to dominate SD discourse during the 1970s and lost significant support in the 1990s. Supporters of Ecologism are mainly radical conservationist theorists and activists who have no faith in technological solutions to global ecological crisis. Ecologism draws its support from academics, radical NGOs, activists and left-green parties in developed countries. As will be demonstrated, most business groups, local government and NGOs in the region of Juarez/El Paso tend to downplay Ecologism.

2. ***Ecologically-sustainable-Development (from now on EsD):*** This school of thought emphasises the need to re-incorporate developmental issues (including quality of life, poverty, environmental health, alternative technologies, social justice, environmental ethics, and development other than capitalist growth) as the dominant element of SD discourse. EsD claims (like Ecologism) that the ecological crisis needs to be urgently addressed and radical changes are required in the present values of society. It differs from Ecologism in as much as EsD is mainly anthropocentric and regards the social and ecological crises as one global (holistic) crisis. EsD supports the idea that this global ecological and social crisis arises from present economic and social structures within the capitalist system. The widening gaps between rich and poor are a major concern of EsD.[5] This school of thought integrates the ideas that supporters of

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[3] The cities of Juarez and El Paso form one of the biggest urban centres along the US-Mexico border. Juarez and El Paso are geographically isolated from other urban centres both within the US and Mexico and form a single region on the US-Mexico border. For the purposes of this thesis the cities of Juarez and El Paso will be subsequently referred to as the region of Juarez/El Paso. For further details on the geographical characteristics of the region of Juarez/El Paso see chapter 5.

[4] Assembly or in-bond plants are commonly known as *maquilas* or *maquiladoras*, after the Spanish verb *maquilar*. (Ingram, et al, 1995: 37; Betts & Slottje, 1994: 89).

[5] For example, Anderson & Cavanagh (2002: 2) report that in Mexico the poor officially comprised 58 percent of the population in 2002, up from 50 percent in 1994.

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Ecologism[6] and, even more, Corporate-Environmentalism, tend to dismiss. EsD is supported by some government agencies (mainly in developing countries), some NGOs and academics (see, for example, Gorz, 1980, 1991; Hettne, 1990; Hecht & Cockburn, 1989; Redclift, 1987 & 1991; Sachs, 1993; Shiva, 1992). EsD was most influential during the 1980s; however, as the thesis makes clear, since the early 1990s EsD (and Ecologism) have been in retreat.

3. **Corporate-Environmentalism[7]:** The emphasis of this school of thought is on managerial and technological solutions, self-regulation, continuous improvement and free-trade environmentalism. It proposes an *environmental problematique*, and it differs from Ecologism and EsD in that it rejects the existence of one global (and holistic) ecological and social crisis. Corporate-Environmentalism integrates the dominant notions of SD discourse of the 1990s. Its supporters maintain that environmental management, free trade, technological change, continuous improvement, self-regulation, and economic growth will solve (manage) the world's environmental problems (*environmental problematique*) and ultimately enhance SD at a local, regional and global level (see for example Pearce et al, 1989; Pearce & Warford, 1993; Hajer, 1995; Lomborg, 2001; Simon & Khan, 1984; Simon, 1994). Business groups, governments, multilateral organisations, and (co-opted) NGOs tend to support and promote Corporate-Environmentalism. A good number of these groups have introduced various elements of Corporate-Environmentalism into their principles, mission statements, policies, codes of conduct and decision-making processes during the 1990s (Dion, 1998). Corporate-Environmentalism promotes technological innovations, systematic methodologies[8] and adjustment to the market system as the main tools to solve and manage the *environmental problematique* around the world. Proponents of Corporate-Environmentalism tend to marginalise Ecologism and EsD (including social justice, democracy, development - other than free-market economic growth- poverty eradication, alternative technologies, bio-diversity conservation, animal rights and environmental ethics).

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[6] Some radical conservationists are more concerned about the conservation of natural resources or animal rights than they are about social and development issues. See, for example, Naess (1973), Devall & Sessions (1985), and Lovelock (1979).

[7] The phrase 'corporate environmentalism' was used by the CEO of DuPont in 1989, Edgar Woolard (see: http://www.nae.edu/ - internet sources are listed in at the end of the bibliography). Sklair (2001: 199) suggests that the ecological disaster in Bhopal and the Superfund legislation in the US triggered the concept's rise. However, Corporate-Environmentalism is used in this thesis as a general term to categorise different views associated with SD discourse, including technological solutions, greening of corporations, self-regulation, free trade environmentalism and continuous improvement.

[8] Including economic instruments (i.e. 'green' taxes and permits) and the efficient use of natural resources (i.e. recycling, waste management and emission control). See chapter 2.

Background of Sustainable Development Discourse

The term 'sustainable development,' and the three schools of thought associated with it have a lengthy history. Its prominence at the international and global levels, though, is directly linked with three specific events: the Stockholm Conference (1972), the publication of the Brundtland Report (1987) and the Earth Summit (1992) (Adams, 1990; Fisher, 1995; O'Riordan, 1981; Redclift, 1987). Whilst the term 'sustainable development' owes much to the definition put forward by the Brundtland Commission, it can only be understood and analysed in a wider context of institutional, social, economic and environmental changes and the rise of awareness of the threats posed to the life on earth by a global ecological crisis.

This research analyses ideas derived from the 1970s and 1980s, when SD debates grappled with the possibility of integrating development and environmental objectives in one master concept. After the Brundtland Commission defined[9] SD in the mid-1980s, governments, NGOs, international organisations, environmentalist and business groups put forward alternative definitions and interpretations of the term.[10] At the same time, a number of academic studies examined SD discourse from varying perspectives, giving rise to apparently contradictory views and competing ideas. Dobson (1990), for example, points out that SD discourse (as a global goal) resembles political objectives such as social justice and democracy, which are, like SD, readily understood but lack a simple definition (Yearley, 1996: 130; Redclift, 1987: 33).[11] SD discourse is distinctive in that it involves physical changes, namely environmental degradation, in the form of soil, air and water pollution, and has brought into play a range of actors including political parties, funding agencies, health organisations, scientific research centres and business groups. Whilst the term SD has resisted a simple definition - necessary to evaluate policy making and practice - the critical analysis of the three schools of thought proposed in this thesis helps explain how SD discourse has changed over time and why different schools of thought have dominated it (whilst others have languished) at different times.

The ideas and actors that have dominated (or struggled on the sidelines of) SD discourse have changed over time. During the 1970s, for example, Ecologism and Northern radical ecologists' views dominated SD discourse. These directly opposed the social and development interests of less-industrialised countries in the South. Debates

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[9] Before the Brundtland Report, SD issues had been classified, for example, by O'Riordan (1981: 303-307) who identifies four broad approaches to institutional change for environmentalists, namely the 'new global order', 'centralised authoritarianism', 'authoritarian commune' and the 'anarchist solution,' and later labelled SD a 'contradiction in terms.'
[10] For different definitions of SD see: Pezzey (1992: 55) and Pearce et al (1989: 173-185).
[11] See also: Adams (1990), Dobson (1990), Pearce et al (1989), Redclift (1991), Young (1990) and Zimmerman (1994).

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in the 1980s centred on attempts to marry the competing interests of Northern and Southern countries, namely development issues and environmental conservation. EsD dominated SD discourse in the 1980s at the expense of Ecologism. In the 1990s, when global capitalism and free-markets consolidated, new ideas and actors came to prominence within SD discourse, namely Corporate-Environmentalism and business groups. It is no longer possible to examine SD discourse of the 1990s in terms of the ideas that prevailed in the 1970s or 1980s. The 1990s SD discourse deserves closer examination. This thesis shows that Corporate-Environmentalism dominated SD discourse and practice during this period, whilst Ecologism and EsD sunk to the bottom of the discursive pool.[12]

Much of the recent research on SD discourse (particularly during the 1990s) has revolved around the process often referred to as the 'greening of corporations' and cross-sector partnerships between business groups, governments and/or NGOs (Utting et al, 2002; Murphy & Bendell, 1997, 2002; Heap, 2000; Robbins, 1999, 2001; Schmidheiny, et al, 1997).[13] Less attention has been paid to Ecologism and EsD and their influence in shaping a universalising SD discourse (notable exceptions are Redclift, 1991, 1992; Redclift & Bentton, 1994; Yearley, 1996). At the peak of global capitalism in the 1990s, different groups talked about SD discourse and practice in contrasting ways (as a response to the ecological crisis threatening the global capitalist system), in line with the economic, social and political interests that (they believed) separated them.

Utting (2002), for instance, edited a book entitled *The Greening of Business in Developing Countries*, which analyses the extent to which business has truly gone green in developing countries and whether large corporations pursue their business interests in a genuinely environmentally responsible manner. Numerous academic studies have examined the greening of corporations, corporate responsibility, self-regulation and voluntary initiatives. Few, though, systematically discuss the different and complex notions within the schools of thought that have embraced SD discourse since the 1970s or its interrelation with different groups from developed and developing countries. To this end, and to clarify the analysis throughout the thesis, the key characteristics of SD discourse are examined over three time periods, in terms of dominant and marginalised discourses (specifically, the three schools of thought

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[12] Whilst the thesis adopts this viewpoint, based on the critical analysis of diverse academic sources, it also recognises that within or outside the academic world different points of view may be held (i.e. by governments or other academic traditions), in regard to the dominance of Corporate-Environmentalism during the 1990s. Of course, the chronology is approximate (and not in any way conclusive) and the boundaries between each decade are blurred. It is convenient, however, for the purposes of clarification to present the analysis in the form of these three decades; there is a wealth of evidence that justifies this approach.

[13] Criticisms of the greening of corporations notion come from a number of sources; NGOs have been particularly active as the watchdogs of large transnational businesses and their SD practices. (see Karliner, 1997; Tokar, 1997; www.corpwatch.org).

categorised above). The three historical periods of SD discourse - and the main events that occurred during them - are:

- **1970s** (Stockholm Conference- preparations for Brundtland Commission)
- **1980s** (Brundtland Commission – preparations for Rio Summit and the creation of the World Business Council for Sustainable Development (WBCSD)
- **1990s** (Rio Summit and the preparations for WBCSD–World Summit on Sustainable Development Conference-- WSSD).

This thesis focuses on the third period of SD discourse, the 1990s. The Earth Summit held in Rio de Janeiro in 1992 and the creation of the World Business Council for Sustainable Development (WBCSD)[14] in 1995 are two of the most significant events marking the growth of Corporate-Environmentalism as the dominant strand of SD discourse. In the 1990s, business groups (and some governments and co-opted NGOs) emerged as central actors in the promotion and formulation of Corporate-Environmentalism and the notion of *environmental problematique.* The defensive position that characterised business groups during the 1970s and 1980s - when environmental regulatory systems were established - began to change into more proactive policies and practices directed towards building new co-operative relationships with government and/or NGOs (Murphy & Bendell, 2002: 216). In the 1970s and part of the 1980s governments focused on developing environmental regulatory systems and NGOs on monitoring the environmental performance of the industrial sector. However, by the mid-1990s the concern of both groups about monitoring business groups' environmental performance and compliance had largely subsided (Hanson, 2002: 159; Utting, 2002).

In the 1990s, businesses incorporated the environmental dimension into their policies and codes of conduct and initiated cross-sector co-operation to promote SD, (the 'greening of corporations'). SD discourse reflected this new agenda more and more.[15] Business groups played a pivotal role in formulating and promoting concepts such as continuous improvement, corporate social and environmental responsibility, self-regulatory mechanisms and technological determinism, which came to dominate SD discourse in the 1990s. Table 1.1 below summarises the key characteristics of SD discourse since the 1970s.

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[14] The WBCSD defines itself as a coalition of 160 international companies 'united by a shared commitment to sustainable development via the three pillars of economic growth, ecological balance and social progress.' The Council was formed through a merger between the Business Council for Sustainable Development (BCSD) in Geneva and the World Industry Council for the Environment (WICE) in Paris (www.wbcsd.org).

[15] See, for example: Ledgerwood (1997), Rhys (1991) and Robbins (1999, 2001).

Table 1.1. The discourse of sustainable development: key characteristics of the 1970s, 1980s and 1990s

	1970s	*1980s*	*1990s*
Dominant views	Ecologism (main concern in the North)	Sustainable development	Corporate-Environmentalism
Key events	Stockholm Conference, 1972	Brundtland Report: 'Our Common Future', 1987	The Rio Summit, 1992. Creation of the World Business Council for Sustainable Development (WBCSD), 1995.
Key actors	United Nations (UN), governments and NGOs	International organisations, governments, NGOs and businesses	Business groups, international organisations, governments and NGOs
Context & characteristics	International environmental negotiations within the UN system. Environmental regulation activism. Development of national environmental laws and regulations	International environmental agreements led by international organisations. International, regional and bi-national environmental co-operation agreements. Accelerating economic activity and concerns over possible environmental consequences.	Globalisation (financial, economic, cultural and environmental). SD discourse (and rhetoric) becomes global. Overall increase in business groups' global impact. Deregulation International and/or cross-sector co-operation and partnerships (business groups - governments, and/or NGOs)
Central debates	North vs. South Developed vs. developing countries Conservationism vs. development (eradication of poverty is a prerequisite to conservation of natural resources) Strong support for bio-centric views in the North vs. strong anthropocentric views in the South.	North-South co-operation and environmental agreements. General consensus that solutions to the world's ecological crisis can only be found by bringing together development and environmental objectives Intergenerational approach	Globalisation and global environmental management Trade & Environment Green corporate culture Deregulation (self-regulatory mechanism such as ISO 14000)
Ideological struggles	Ecologism vs. Ecologically-sustainable-Development (right of the poorest to development/better quality of life).	Sustainability of natural resources vs. unrestrained economic growth.	Green capitalism vs. social development
Global environmental problems	Ecological crisis (one single/holistic crisis)	Ecological and social crisis (one single/holistic crisis)	Environmental Problematique (evokes a series of environmental problems that can be managed and solved individually and separately).
Marginalised views	Development (main concern in the South)	Ecologically-sustainable-Development Ecologism	Ecologically-sustainable-Development Ecologism

Source: *Based on SD literature review*

In sum, SD discourse and the claims of its proponents have changed radically over the years. The dominant SD discourse has shifted away from Ecologism, popular in the late 1960s and early 1970s, towards market-oriented, managerial notions that integrate the environmental dimension into global capitalism. The latter dominated SD discourse in the 1990s. From the 1970s onwards, different threads of SD discourse have made their way to almost every sphere of the political, economic and academic arenas and many interpretations have emerged. As the table above indicates -and as this thesis will demonstrate— Corporate-Environmentalism elbowed out Ecologism and EsD during the 1990s.[16]

Section 2

Theoretical considerations on the categorisation of SD discourse

Since the 1980s, several authors have put forward classifications of SD discourse and provided useful frameworks for its analysis.[17] McManus (1996), for example, classifies SD into nine different approaches and identifies the differences and similarities between each of them. During the 1990s a number of scholars discussed and classified corporate environmental performance and SD policies. In one of the most useful discussions Dion (1998) divides corporate environmental policies into four different categories: neo-technocratic enterprise, techno-environmentalist enterprise, pseudo-environmentalist enterprise, and quasi-environmentalist enterprise. This thesis critically engages with such typologies of SD. It pays particular attention to the work of Dobson (1990), McManus (1996), Dion (1998), and Lélé (1991).

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[16] In November 1999 thousands of anti-globalisation activists gathered in Seattle, Washington state, to protest against the World Trade Organisation (WTO) meeting to advance global trade. Demonstrators blocked streets, provoked mass arrests and exulted when WTO delegates left town after failing to open a new round of trade. The anti-globalisation demonstrations in Seattle is one of the most significant events that marked the emergence of a worldwide movement against corporate globalisation and global trade growing since the early 1990s. The changing atmosphere after Seatle, the resistance to global trade and the anti-globalisation movement reflect the growing antagonism to global capitalism (See: www.corpwatch.org/news/PND.jsp?articleid=314). However, (despite the growth of the anti-globalisation (or anti-capitalist) movement in the 1990s, at the beginning of the 21st Century) the events of the September 11 changed the atmosphere and could well mean a backlash for the movement, since many commentators argued that the attacks on the twin towers in New York were not just an attack to any building, they were symbols of American capitalism. As Naomi Klein (2001) put it '...it would be foolish to pretend nothing has changed since September 11...In North America, at least, campaigns that rely on attacking –even peacefully- powerful symbols of capitalism find themselves in an utterly transformed semiotic landscape...The attacks could well, I fear, also cost us our few political victories.'

[17] See, for example, Daly, 1991; Dobson, 1990; Dion, 1998; Jacobs, 1991; Lélé, 1991, McManus, 1996 and O'Riordan, 1981. The work of these authors is discussed in detail in chapter 3.

To grasp the mutual imbrication of SD discourse, business groups, local government and NGOs in the region of Juarez/El Paso[18] requires the development of new categories of SD discourse that incorporate the distinctive characteristics of the Corporate-Environmentalism that dominated in the 1990s. In order to develop the present work's SD categorisation, the study recognises:

(i)   The relevance of previous typologies to the SD categorisation proposed in this thesis.

(ii)   That previous categorisations provide good analytical frameworks for the study of SD discourse but that such typologies become dated (as this one eventually will).

(iii)   The influence that the dominant Corporate-Environmentalism of the 1990s has had on SD discourse and on the practices of business groups, local government and NGOs, particularly in the region of Juarez/El Paso.

(iv)   The need to identify the deficiencies in previous SD typologies as well as aspects that enrich the analysis of SD discourse and practices among business groups, local government and NGOs.

The thesis thus builds on previous SD categorisations in order to integrate the dominant views and actors of the 1990s into the analytical tools and framework of the thesis. The SD categorisation presented here derives from the logical organisation and analysis of the fieldwork findings coupled with the critical analysis of academic studies. The categories proposed in this thesis depict proponents or key actors who collectively construct a universalising SD discourse and practice at the local level. Proponents or key actors are defined here as business groups, local government and NGOs whose collective actions have been influenced by SD discourse and practices in the region of Juarez/El Paso.

Categorisation risks over-simplification. This thesis argues, though, that there are sufficient differences between the three schools of thought (Ecologism, Ecologically-sustainable-Development and Corporate-Environmentalism) and that they 'stretch' enough to incorporate a number of concepts that have dominated SD discourse at different times. Furthermore, the tripartite categorisation presented here offers powerful

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[18] At a macro level the region of Juarez/El Paso is not entirely different from various regions in other countries such as Korea, Malaysia or Brazil where the introduction of export processing industry has had similar environmental and socio-economic impacts (Utting, 2002: 268-292).

analytical tools to examine SD discourse in terms of dominant/marginalised views and actors in the 1990s.

Section 3
Research Aims

In order to systematically examine how and why Corporate-Environmentalism came to dominate SD discourse and whether any SD discourse consistently explains the SD practices of BGs and local government in the region of Juarez/El Paso during the 1990s, this thesis will:

(1) Examine the schools of thought underpinning SD discourse during three periods: the 1970s, 1980s and 1990s.

(2) Examine previous SD typologies and/or categorisations and identify both their weaknesses and elements that continue to offer analytical insights into SD discourse in the 1990s.

(3) Develop a categorisation that serves as a framework for the assessment and analysis of SD discourse and practice among business groups, local government and NGOs in the region of Juarez/El Paso.

(4) Examine to what extent the different ideas that constitute SD discourse influenced business groups, local government, and NGOs in terms of their ideology, politics and operational structures in the 1990s.

(5) Demonstrate that new ideas (Corporate-Environmentalism) and actors dominated SD discourse in the 1990s, whilst others (Ecologism and EsD) lost influence.

(6) Analyse how business groups, local government and NGOs in the region of Juarez/El Paso responded to the dominant SD discourse in the 1990s.

(7) Examine to what extent business groups, local government and NGOs have influenced the construction of an SD discourse in the region of Juarez/El Paso.

In order to achieve these objectives for the Juarez/El Paso case study, the thesis will:

(a) Explain any systematic differences in the responses of business groups, local government and NGOs to SD discourse.

(b) Investigate to what extent the three groups have affected the natural environment of the region.

(c) Study the main characteristics of people within these three groups responsible for promoting SD in the region: environmental managers, local government officers and NGO leaders and/or members. The thesis investigates where they were trained, whether business environmental managers, local government officers and NGO members move from one group to another, and if so, what effect such mobility had on SD discourse and practice, and on the environment of the region.

Section 4
Methodological Strategy

This section outlines the methodological strategy employed to assess key issues related to the aims and objectives of the thesis. The thesis broadly considers two main data sources. First, the study employed, reviewed, and analysed bibliographical, statistical, periodical and primary sources on Juarez/El Paso region (US-Mexico border), business groups, local government, NGOs and the SD discourse. Second, the study is based on the empirical data collected through open-ended semi-structured interviews conducted with members of business groups, local government and NGOs in Juarez and El Paso.

The use of Sustainable Development Discourse

The term 'discourse' requires some explanation to understand how and why it is used throughout the thesis. Many scholars have defined discourse, including Dryzek, who describes it as:

> ...a shared way of apprehending the world...Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent studies or accounts... Each discourse rests on assumptions, judgments, and contentions that provide the basic terms for analysis, debates, agreements and disagreements, in the environmental area no less than elsewhere (Dryzek, 1997:8; see also Strydom, 2000: 57).

The term 'discourse' has a long history within the social sciences and linguistics. The work of authors such as Foucault (1972) and Habermas (1987) became principal points

of reference for the analysis of discourse.[19] Foucault (1972, 1980) referred to the concept of power/knowledge and developed the idea that knowledge – and discourse or discursive knowledge - reflects power within society, and therefore such language is the operation of power (see also Strydom, 2000). He claimed that modernity fails to recognise that whenever knowledge is applied, knowledge is accompanied by the exercise of power. For Habermas (1987) discourse was regarded as 'symbolic understanding' or a 'communicative rationality'. In the early 1970s Habermas introduced the concept of discourse as 'linguistically or communicatively transformed transcendental hermeneutic tradition' (Strydom, 2000: 42). Habermas, thus, conceives discourse in terms of the dual concept 'communicative action/discourse' (Habermas, 1987). For Harbermas discourse is the construction of common symbols achieved through the shared and symbolic understanding and agreement of social interaction. In his view, discourse concerns the universalisation of symbols in such a way that the existing institutions are opened up, changed and improved in line with the rationalisation of communicative action (Strydom, 2000: 44). According to Strydom (2000: 57) discourse, in a Habermasian sense, does not allow us to 'gain access to society and to grasp the process of its construction'. This author argues that it is not possible or sociologically acceptable, to exclude power from discourses. Hajer (1995: 58) also points out that Habermas' focus on the intersubjective element might make it difficult to understand power relationships. Strydom claims Foucault's theory of discourses is a necessary corrective of Habermas' position.[20] Eder (1996) on the other hand uses a Habermasian approach in his discussion on green discourses and the public sphere.

The work of both Foucault and Habermas form the roots of the debate on discourse theory and discourse analysis. Their work has been the basis for work of a great deal of research in many academic fields including linguistics, sociology, psychology and environmental studies (see, for example, Phillips and Hardy, 2002; Mumby et al, 1993; van Dijk, 1993). However theorists of environmental studies only began using discourse relatively recently (Dryzek, 1997; Darier, 1999: 1-33; Hajer, 1995; Yearley, 1996: 100-141).[21] This thesis does not address the myriad debates on discourse theory and discourse analysis. Nevertheless it is important to have a brief discussion about the central building stones of the analysis of discourse within environmental studies (the

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[19] Discourse analysis is also rooted in the work of Fairclough (1992). Fairclough was especially interested in the relationship between discourse and social change and how discourses contribute to the constitution of all those dimensions of social structure, which directly or in-directly shape and constrain it. For analysis of alternative approaches to discourse analysis see for example: Ockwell (2001).

[20] Strydom (2000: 34-52) provides a thorough analysis of discourse theory, discourse analysis and sociology.

[21] Sharon Beder's (1997) critique of language of anti-environmentalism and the work of Darier (1999) are also relevant. However, due to space limitations their work is not discussed in detail in this study.

work of Hajer, 1995, Dryzek, 1997, and Yearley, 1996) in order to understand how the term discourse is used in this thesis.

1. Hajer

Maarten Hajer (1995) incorporates strong Foucauldian elements into his work in terms of issues of vested interest and power. Hajer (1995) focuses on the discursive nature of environmental policy-making, particularly on acid rain politics and the emergence of the discourse of ecological modernisation. Hajer (1995: 17) regards discourse as constituting both text and practice. In his view, discourses are the product of institutional practices and individual activities that reflect particular types of knowledge. Discourses are produced by different actors, which undertake specific practices and describe the world in specific ways. However, at the same time discourses provide parameters within which people act and they also shape the way actors influence the world around them (Hajer, 1995: 59-60). Hajer's approach to environmental discourse analysis leans on the social constructivist approach, which in his view needs a more 'robust footing.' To do this, he draws on the work of philosophers and social psychologists such as Michel Foucault (1972) and Ron Harré (1995) and develops his own 'argumentative' approach to environmental discourse analysis. For Hajer, discourse is related to power which itself a central issue in much of Foucault's work (Hajer, 1995: 49; Murphy, 2001: 12-14).

Hajer introduces the concept of 'story-lines,' a concept that was first introduced by Davies and Harre (1997), to describe the common adoption of narratives through which elements from many different domains are combined to provide actors with symbolic references that suggest a common understanding (Hajer, 1995: 62). Ockwell (2001: 13) notes that Habermas' underlying assumption is that actors do not draw on a comprehensive discursive system; instead these discourses are evoked through 'story-lines.' Hajer defines story-lines as follows:

> A story-line, as I interpret it, is a generative sort of narrative that allows actors to draw upon various discursive categories to give meaning to specific physical or social phenomena. The key function of story-lines is that they suggest unity in the bewildering variety of separate discursive component parts of a problem like acid rain (Hajer, 1995: 56).

This author therefore argues that by speaking of a specific element (i.e. acid rain); a whole story-line is re-invoked, contributing to the definition of what the policy problems are (Hajer, 1995: 56-57; Ockwell, 2001: 14). The adoption of story-lines results in the formation of what Hajer calls 'discourse coalitions'. A discourse coalition is formed by group of actors that subscribe to a particular story-line, which reflect common interests

and understanding of specific problems. Discourse affinities may appear among actors that have never met and may apply different meanings to a story-line, but the story-lines here act as the 'seam' that keeps the discourse coalition together.

According to Hajer, a new discourse in order to shape policy, must both dominate public discussion and policy rhetoric, and must penetrate routinary policy practices through institutionalisation within laws, regulations and routines (Healy, 1999; Murphy, 2001; Ockwell, 2001: 15). Therefore, according to Hajer's approach to environmental discourse analysis, it is possible for actors to influence policy change through discursive interaction within structures, by deconstructing dominant political interests. In sum, Hajer has emphasised that he does not deny the existence of real and severe environmental problems, however he is mainly concerned with drawing attention to the construction of these problems in language. For Hajer, discourse analysis involves looking at the context in which a statement is made and to whom statements are directed, as well as the content of what is said.

2. Dryzek

John Dryzek (1997) on the other hand, takes a very broad approach to the analysis of environmental discourse and clearly rejects central Foucauldian notions of discourse. Dryzek's focus is on explaining how environmental discourses inform political programmes. Dryzek's approach to environmental discourse leans towards more traditional approaches to environmental policy analysis and takes as a starting point the notion that environmental problems are real and need to be addressed. Dryzek points out that Hajer – who leans on a social constructivist approach to environmental discourse, downplays the idea that the environment might really exist independently of its social construction even though Dryzek denies that his social constructionism disputes the actual existence of real and severe ecological problems (Dryzek, 1997). He argues that Hajer does not really systematically identify different environmental discourses before his analysis of policy formation and that he merely defines one discourse – namely, ecological modernisation - and then argues it became the dominant discourse.

Ockwell (2001) points out that Dryzek fills this gap by developing a typology of discourses. Dryzek (1997) systematically describes different types of environmental discourse including 'survivalism,' 'environmental problem solving,' 'sustainability,' and 'green radicalism.' In each case he outlines the main characteristics of the discourse. Firstly, the discourse of 'survivalism,' according to Dryzek, was popularised by the Club

of Rome (see Meadows et al, 1972). He argues that the discourse of 'survivalism' is radical because it seeks wholesale redistribution of power within the industrial political economy and reorientation away from perpetual economic growth in order to avoid exhausting natural resources and over stretching the assimilative capacity of the environment (Dryzek, 1997: 14; Ockwell, 2001: 16). Secondly, he argues that the discourse of 'problem solving' accepts the political *status quo* but it sees it as being in need of adjustment so as to cope with environmental problems (Dryzek, 1997: 13). Thirdly, he claims that the discourse of 'sustainability' begins in the 1980s (see WCED, 1987) with the attempt to bring together in one concept environmental and economic values. And finally, the notes that the discourse of 'green radicalism' is imaginative and radical but that it reflects basic structures of industrial society and the way the environment is conceptualised within them (Dryzek, 1997: 15; Ockwell, 2001: 17). It is important to note at this point out, following Dryzek's argument, that this thesis argues there are different views within the SD discourse. As will be shown later in the thesis, the central findings of the empirical research conducted in the region of Juarez/El Paso show that different discourses of SD coexist within and between different groups of actors. The findings also showed that whilst Corporate-Environmentalism dominated environmental policy rhetoric in the region, other less influential views on SD discourse were marginalised. The results of the research also suggest a struggle among the different views of SD discourse. As in Dryzek's view discourses may be absorbed to suit the interests of specific businesses or governments.

3. Yearley

Stephen Yearley (1996) has addressed universalising discourses in his analysis of global environmental problems. For Yearley, universalising discourses:

> ...Have held out the prospect of resolving apparently intractable global problems by providing us with the tools to describe and analyse those problems in authoritative ways. The hope has been these universalistic discourses would supply insights that transcend the national differences and political interests, and thus offer binding interpretations of environmental problems confronting the globe (Yearley, 1996: 100).

Yearley (1996: 100-141) analyses universalising discourses including those of natural science, logic and rational economic choice and in his words the 'newly-minted sustainable development discourse.' He argues that SD discourse -a universalising discourse - provides us with a 'common currency,' founded in well established scientific theory, 'for assessing the globe's environmental problems and for the development of future policy ...which will be recognised as objectively valid by other scientists' (Yearley,

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1996: 102, 132). Yearley (1996: 132) argues that SD 'offers a universalising discourse for assessing the globe's environmental problems' and that SD has become a 'shared' goal for mankind. He notes that SD is a joint and necessary project without which humankind could not live in the long term. Therefore, the discourse of SD (and the ensemble of ideas, concepts and categories of SD discourse) has become a powerful and influential discourse that dominates environmental policy by providing an objective that no one could reasonably disagree with. Yearley (1996: 134) argues that SD as other universalising discourses 'turns out to be less incontestable in practice that its proponents routinely imply.' According to this author, the universalising discourse of SD allows us to recast our ideas about what environmental policies are needed to solve global environmental problems. This universalising discourse colonizes of environmental policy by offering one ultimate shared goal or aspiration: sustainable development. This shared goal of SD, however, lacks a precise definition and has risen to numerous and at times contradictory definitions. Adams (1995: 87) suggests that in spite of the multiple meanings of the notion, sustainable development has 'colonized academic discussion of development,' and environment and is rarely subjected to any careful scrutiny or critical analysis.

'Discourse' in this study relates to the notion of universalising discourses - or implicit assumptions - that help us to define SD globally. This thesis attempts a critical elaboration of Yearley's version of universalising discourses, specifically of the discourse of SD. Here SD discourse is defined as an ensemble of ideas, concepts, and categories through which meanings are given to SD and environmental problems are defined. Such meaning is thus produced, disseminated and reproduced by different actors within different groups through identifiable types of language and sets of practices. In the context of this definition – rooted in Yearley's analysis of univesalising discourses - SD is conceptualised in this thesis as a universal (global) discourse offering different interpretations (Ecologism, Ecologically-sustainable-Development, and Corporate-Environmentalism) and references to different the local actors.

The thesis argues that SD discourse is formed of three main schools of thought, which have evolved and come to dominate or have been marginalised at different time periods. The study argues that the SD discourse reflects conceptual struggles (i.e. among the three categories proposed in this thesis) in which one particular set of ideas is privileged whilst others are marginalised (Fairclough, 1992).[22] More specifically, the

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[22] See Fairclough (1992) who's work focuses on the study of discourse and social change and sees the relationship between discourse and social structures as dialectical. In his view, discourses are shaped and constrained by social structures and on the other hand are socially constitutive.

thesis explores how, why and by whom, the ideas and categories of the SD discourse are made meaningful (production, reproduction, dissemination and/or consumption). It systematically identifies and categorises the concepts which business groups, local government and NGOs use to define SD, and the extent to which SD discourse contributes to the construction of the social and environmental realities of the region of Juarez/El Paso. The thesis also focuses on exploring how different actors (business groups, local government and NGOs) draw on the SD discourse to legitimate their positions and actions. The study also looks at how these actors (themselves) constructed and employed categories during the interviews to define SD and the state of the environment in the region. The SD discourse gives meaning and substance to numerous and contradictory ideas and concepts of economic, environmental, political and social patterns in the region of Juarez/El Paso.

This implies that the discourse of SD transcends the local and thus calls for universal validity and allows us to speak universally (Yearley, 1996: 100). The discourse of SD is embedded in the language (oral and written) and practices of business groups, local government and NGOs in the border region of Juarez/El Paso.[23] As will become clear later in the thesis, the central findings of the research are that almost every business group, local government and NGO researched in the region claims to have incorporated SD discourse into their everyday language, policies and principles, in which - as will be shown – Corporate-Environmentalism dominates. The findings also show that Ecologism and EsD struggled to make an impact and that local groups tend to work within the framework of an *environmental problematique*. External observers, in contrast, believe that the region faces an ecological crisis, as chapter 5 depicts.

Challenges

We can never study all aspects of discourse, and we inevitably have to select a subset of concepts, ideas and texts for the purpose of manageability. Nevertheless, reference is made to other discourses (i.e. globalisation) and important research areas and questions brought up (or in some cases omitted) by the interviewees including labour, gender, urban development, and democracy are acknowledged at different points in the empirical analysis of the thesis (see Chapters 6, 7 and 8). As will be shown later in the thesis plural ideas and concepts of SD discourse emerged during the interviews, but only the dominating ones were replicated. However, other less influential ideas such as

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[23] Taylor & Buttel (1992) discuss how specific issues have come to be considered global (or universal). Also see: Litfin (1994).

gender and environment were by the majority of interviewees marginalised even when they form part of the SD discourse. Moreover, it is important to remember at this point the findings and conclusions of this thesis are not in any way conclusive and that if the research were conducted in a different geographical region the results might not be same.

Other questions arise in terms of the method followed for collecting empirical data and the design of the research. One relevant question is: why did the study design analyse actors and not themes (i.e. water, air, or soil pollution) as Hajer proposes? Whilst the thesis could have been designed in that way, I chose to analyse actors primarily because I was interested in learning about their views on SD on the state of the environment of the region. The focus the interview guide (see Appendix 4) on SD and not different environmental problems, in my view, avoided influencing the interviewees' responses by presenting an specific 'agenda' of 'the relevant SD and environmental issues' present in the region. In addition to this, during the period in which the field work was conducted (or close to that period) there were not any significant environmental disasters or any particular matters relevant to this discussion which specifically need to be discussed during the interviews or indeed in this thesis.

Documentary material

The research and analysis of the documentary material forms the basis of the theoretical and conceptual framework of this research. Numerous primary and secondary sources on the SD discourse were reviewed and analysed. The analysis in this study concentrates on different schools of thought and conceptual areas of the SD discourse. For this purpose, the thesis critically analyses the work of authors such as Daly (1977), Gorz (1980), Hajer (1995) Hettne (1990), Naess, (1973), Redclift (1987), Pearce (1991), and others. This phase of the research combines what is known as 'multidimensional classification schema' (Nowak, 1971: 119). According to the multidimensional classification schema, in order to construct a categorisation and a typology of the SD discourse, it is necessary to consider various political, economical, environmental and social perspectives. The development of such categories also required the review and analysis of the methodologies followed by recent approaches to construct SD indicators and previous typologies (i.e. OECD, 1991; Adriaanse, 1995; Walker, 1995; Karas, 1995).

The research strategy employed is a qualitative analysis method and the generation of conceptual categories through the analysis of the data (i.e. Ecologism, EsD and Corporate-Environmentalism). The study attempts to base its analysis, as do the majority of qualitative analyses, on inductive research. Inductive research attempts to avoid testing preconceived notions or theoretical paradigms. Whilst it is difficult for most research to be purely inductive or deductive, the analysis of the empirical data emphasises the inductive nature of the research by generating hypotheses as well as testing them (Silverman, 1993). For example the distinction between ecological crisis and *environmental problematique*[24] proposed in this thesis emerged from the pilot interviews and participant observation carried out during the fieldwork in 1997-1998, and from the review and analysis of bibliographical material.

The SD discourse categorisation proposed here on the other hand also derives from (an inductive method) the organised and logical interpretation of the observation of the reality of Juarez/El Paso and the empirical data collected through the semi-structured interviews carried out during the fieldwork. This part of the research aims to provide a useful insight into the interrelationship between the SD discourse and practices of these groups.

The development and environmental policies of Mexico and the US were analysed in order to assess how they have contributed to, and their connections with, the SD discourse and practices, and the state of the environment in the region of Juarez/El Paso and the border region as a whole. By doing this, the thesis examined how global economic changes of the 1980s and 1990s have impacted upon the SD discourse in the region of Juarez/El Paso. The implications of NAFTA and its parallel environmental agreement, as well as the theories lying behind economic globalisation processes, are relevant for this analysis. A number of primary sources, bibliographical, statistical as well as the reports and self-assessments from Business groups, Local government and NGOs were reviewed and analysed for this purpose. This analysis can also usefully identify the main local economic, political, ideological and social structures that have incorporated the SD discourse. However, whilst these sources provide theoretical views of the SD discourse they do not reveal SD practices of business groups, local government and NGOs in a direct way. It is also necessary to evaluate the adequacy of the bi-national environmental management mechanisms and to examine the formal/political institutions and mechanism established to deal with environmental

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[24] Such distinction is used for the analysis of the empirical data collected and to present the findings of the thesis (see chapters 6, 7 and 8 below).

issues, particularly since NAFTA was signed in the early 1990s. For this purpose primary and secondary data were reviewed and analysed.

Many studies are available on the assessment of the performance of bi-national treaties such as the "La Paz" Agreement (Agreement between the United States of America and the United States of Mexico on Co-operation for Protection and Improvement of the Environment in the Border Region) and the Integrated Border Environmental Plan (IBEP), *Comisión Internacional de Límites y Aguas* (CILA) and its US counterpart the International Boundary and Waters Commission (IBWC), Border Environmental Co-operation Commission (BECC), and the North American Development Bank (NADBank) (see, for example, Anderson, 1993; Atkeson, 1992; Baez-Flores, et al., 1997; Barkin, 1999; Bugeda, 1999; Chavez, 2000; Hogenboom, 1998; Kelly, 1993; Mumme, 1992; Spalding, 2000; Székely, 1993). This part of the study is also supported by periodical and official publications and interviews with senior government officials working for these organisations. The ways in which business groups, local government and NGOs responded to the SD discourse in the 1990s in the region of Juarez/El Paso thereby are investigated through a qualitative analysis of the empirical data collected in the Juarez and El Paso area.

The material collected from each of the three groups examined here forms an important part of the data analysed and systematically reviewed. In addition, local newspapers and academic journals have been reviewed periodically since 1996, including: El Paso Times, *Periódico El Norte*, *El Diario de Juárez*, and journals such as Borderlines, *Noesis* (published by *Universidad Autónoma de Juárez*), *Frontera Norte* (published by *Colegio de la Frontera Norte*) and *Ciudades*.[25]

Interviews

Interviews and participant observation were conducted in the cities of Juarez/El Paso. Unstructured or semi-structured and face-to-face elite interviews were conducted with business environmental managers, local government officials, NGO members and/or leaders, and academics. The interviews were based on a series of questions organised in an 'Interview Guide' (see Appendix IV). The interview guide was divided into four main sections:

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[25] I reviewed most local newspapers periodically on the web. See for example: http://www.elpasotimes.com/ and http://diario.com.mx/portada/juarez/, and section 1 of the bibliography.

1. *Personal History* aimed to obtain background information of the respondent. This section was designed to gain a deeper insight on the characteristics of those in charge of promoting SD discourse in Juarez and El Paso and to investigate the mobility of environmental professionals between and within sectors.

2. *Questions about the organisation* aimed to gain a deeper understanding of the structure, financial and political capacities and performance of the Business groups, Local government and NGOs.

3. *Questions on Sustainable Development* aimed to gain a deeper understanding of SD perspectives and practices within Business groups, Local government and NGOs. At the same time, interviewees were asked for their personal opinions, to discover whether the organisations' perspective was different from their own personal opinions. Although, these questions did not eliminate misleading answers about 'sensitive' issues for their organisation, the interviewee was reminded of the possible distinction between their personal opinions and the organisations' perspective.

4. *Categorisation of the state of the environment in the region of Juarez/El Paso* aimed to investigate the ways in which the three different groups examined in this thesis have responded to the environmental issues in the region of Juarez/El Paso.

In total 70 interviews were conducted with local government officers (GOs), business environmental managers (EMs) and NGO members (NGOs) in the region of Juarez/El Paso. The number of interviews per group is 31 for environmental managers, 21 for local government officials and 18 for NGO members/leaders. According to Silverman (1993) qualitative interviewees are often conducted with small samples in order to produce in-depth 'authentic' insight on respondents' views. The decision to target a relatively small number of interviews per group was taken under this assumption. The sampling decisions, however, were taken gradually and made whilst the fieldwork was conducted and data was collected. The gradual strategy is based on the 'theoretical sampling' developed by Glaser and Strauss (1967) (see also Flick, 1998: 65-70). Gradual sampling is based on the selection of individuals or groups according to their (expected) levels of expertise on the topic investigated.

Access

The access to elite interviews poses specific problems and challenges. One of the most common problems in gaining access to 'authentic' or reliable data is the resistance of some elite interviewees to talk in-depth and openly about 'sensitive' or contentious issues associated with the interests of the organisations, businesses or government agencies they work for. On the other hand, elites in power positions tend to be knowledgeable and well educated which could increase their co-operation and understanding of the research purposes.

> ...few social researchers study elites because elites are by their very nature difficult to penetrate. Elites establish barriers that set their members apart from the rest of society (Hertz and Imber, 1993: 3; Quoted in Neuman, 2000: 152)

While Hertz and Imber rightly point out the difficulties of penetrating elites, it could be argued that similar difficulties and barriers are found when interviewing other groups of society such as some religious groups and gangs, among others. However, the obstacles to access any group in terms of research need to be recognised.

Other common obstacles in gaining access to elite or power positioned interviewees are their busy schedules. Elites, specifically senior government officials, environmental managers and NGO leaders are very busy, or appear to be very busy. Research on elites requires the researcher to adjust his/her schedule to that of the interviewee. Establishing contacts and connections in the region of Juarez/El Paso was essential to gain access to the groups in question. The pilot fieldwork and interviews were crucial to pre-establish the necessary contacts that would facilitate access to the elite network. During the pilot research and throughout the 10 months of fieldwork I attended conferences and workshops where I made good contacts with environmental managers, local government officials and NGO members/leaders (Neuman, 2000: 152-154). I expected that access to environmental managers would be difficult, according to other researchers' accounts. However, I found that most *maquila* industry environmental managers were quick and willing to give me an appointment and to talk about SD and environment-related issues.

Local government officers were also accessible although, on occasion, the appointments made had to be rescheduled, since urgent matters came up unexpectedly. The access to NGO members/leaders was the most problematic of the three groups. Most NGOs in the region are not well funded and therefore understaffed

and in the majority of the cases (with few exceptions) only a couple of persons have permanent jobs and/or have two jobs at the same time. The rapid access to environmental managers as well as the problems in accessing NGOs are findings in themselves and led to a greater understanding of the SD discourse and practices of business groups, local government and NGOs in the region.

Time restrictions varied from interview to interview. On many occasions, particularly in the case of environmental managers, time and/or content were restricted. Some environmental managers were the most suspicious about the purposes of the research and I was asked on several occasions what I would do with my doctoral thesis, if it would be published and where. The majority of environmental managers gave 45 minutes to one hour of their time but never exceeded this limit. In contrast many local government officials and NGO members/leaders would spend normally more than one hour without really thinking of it. Most informants provided primary printed material such as business reports, SD and environmental principles, the mission and vision statements of their organisations and information about the structure of the business, government agency or NGOs.[26]

Section 5
Structure of the thesis

This section explains the structure of the thesis and outlines the key concerns of its nine chapters.

Chapter 2 analyses the roots of SD discourse and is divided into five main sections. Section 1 reviews the history of SD discourse and identifies key events that illuminate the diverse notions underpinning this debate since the 1960s. Section 2 analyses and clarifies the differences and links between the dominant and marginalised strands of SD discourse in the 1970s. Section 3 therefore critically analyses key events and conceptual frameworks, including limits to growth (Meadows et al, 1972), overpopulation (Ehrlich, 1968) and the connections between environmental pollution and market economics (Commoner, 1971). Section 4 continues to examine SD discourse in the 1980s, particularly the Brundtland Commission and its definition of SD, expounded in *Our Common Future*. Section 5 summarises the key concepts examined throughout the chapter and pinpoints the links and discrepancies between SD discourse in the 1970s,

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[26] Printed material was requested from all informants on environment and SD related issues (see Appendix IV, section 3).

1980s and 1990s and prepares the ground for SD discourse categorisation proposed in Chapter 3.

Chapter 3 begins by examining previous SD categorisations. It pays particular attention to the classifications of Dobson (1990), McManus (1996) and Dion (1998). This section introduces the tripartite SD discourse categorisation that functions as the analytical paradigm of the thesis as a whole: *Ecologism, Ecologically-sustainable-Development (EsD), and Corporate-Environmentalism.*

Section 2 focuses on the analysis of the first two discursive categories: Ecologism and Ecologically-sustainable-Development. It does so by examining conceptual frameworks including deep ecology (Naess, 1973, 1991, 1997; Devall & Sessions, 1985), the work of radical social ecologists, anarchists (Bahro, 1986, 1991; Boocking, 1991), social justice theorists (Gorz, 1980), neo-Marxists (Redclift, 1987; Hecht & Cockburn, 1989; Hettne, 1990). Section 3, similarly, explains and analyses *Corporate-Environmentalism.* Finally, section 4 provides a summary and conclusion of the issues discussed in the chapter.

Chapter 4 deals with the growth of environmental policy and SD in Mexico and the US, associated with global trends such as the spread of free markets and commerce. This section also examines the relationship between NAFTA and the environment, the development of US and Mexican environmental law and regulations, along with national issues such as decentralisation in Mexico. Section 2 provides an overview of the developmental pattern and the geopolitical and socio-economic characteristics of the US-Mexico border region. The enforcement of environmental law is analysed in terms of its connection with SD discourse and its effectiveness in halting environmental degradation. Section 3 aims to critically analyse the role that transboundary environmental mechanisms, such as the BECC and the Environmental Border Plan for the year 2000, have played in the region, and their effectiveness in halting environmental degradation. Finally, section 4 briefly analyses the development of the environmental movement in both countries, with particular reference to the border region, as well as these movements' views on SD discourse.

Chapter 5 introduces the case study, centred on the region of Juarez/El Paso. The singular characteristics of the border region and of the cities of Juarez and El Paso have proved a useful basis for research on different aspects of the environment (Ingram, et al, 1995: 25). Though in different countries, the cities of Juarez and El Paso form a whole from an environmental perspective. Furthermore, the two cities are becoming

economically, politically and socially dependant on each other (Herzog, 1990; Mumme, 1992; Llera-Pacheco, 1995).

The region of Juarez/El Paso represents a good example where the interrelations between SD discourse and practice of business groups, local government and NGOs can be examined. The cities not only share most of their industrialisation experiences and environmental problems with other twin cities on the US-Mexican border, but with other regions in the world such as Southeast Asia (Frey, 1996; Hanson, 2002; Perry & Singh, 2002). Southeast Asian countries also face environmental problems arising from the growing concentration of manufacturing plants. In South Korea, Singapore and Malaysia, for example, manufacturing grew rapidly during the 1970s and 1980s and business groups, local government and NGOs from the three countries have dealt with deteriorating environmental conditions. Since the 1970s these countries have introduced environmental policies and processes including command and control policies) (Perry & Singh, 2002:103).

The cities of Juarez and El Paso thus shed light on the social and environmental changes associated with the industrial activities of global capitalism (Sanchez, 1990a; Sklair, 1994; Gereffi et al, 2001). The rapid industrialisation of the border region of Juarez/El Paso is enmeshed with global economic changes, global environmental concerns and the SD discourse that emerged since the 1970s.[27] The North American Free Trade Agreement (NAFTA), signed by Mexico, the US and Canada in 1992, greatly influenced the SD discourse and practice of business groups, local government and NGOs in the three countries, and specifically in the region of Juarez/El Paso.

The thesis probes the economic, political and social sources of environmental degradation and their connections with business groups, local government and NGOs in the border region of Juarez/El Paso. The primary analytical focus is on the environmental problems associated with these three groups, particularly with business groups' activities (in the *maquila* industry). Maquilas have been associated with toxic emissions, soil and air pollution, water quality and quantity issues, lack of infrastructure and the inappropriate management of hazardous wastes and materials. Business groups, local government and NGOs have all tried to come to terms with issues such as soil pollution and erosion, the exhaustion and pollution of ground- and surface water,

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[27] This can be illustrated by the adherence of both countries to several environmental and trade treaties and agreements. Mexico and the US signed, among others, the Convention on International Trade of Endangered Species (CITES, 1973), The Montreal Protocol (1987) and the Climate Change Convention (1992) during the Rio Summit; and the North American Free Trade Agreement (NAFTA) signed in 1992. For a detailed analysis of the negotiations of international environmental treaties and agreements see, for example, Caldwell (1996), Benedick (1998), Rowlands (1992), and Sands (1993, 1995).

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bio-diversity loss, air pollution, deterioration of the quality of life of local communities and threats to human health (Frey, 1996; Hill, 2000; Magee, 1983; Reed et al., 1998; WHO, 1992).

This thesis does not intend to analyse the world's environmental problems in depth, or to describe in detail all sources of environmental degradation along the US-Mexican border or the region of Juarez/El Paso. A vast amount of research exists on these issues.[28] It does, nevertheless, examine border environmental problems such as water quality and quantity, air pollution, lack of infrastructure, quality of life, poverty, environmental health and toxic waste disposal and management, since they are intimately connected with SD discourse and practice among business groups, local government and NGOs in the region. The focus is on the structure, environmental policies, ethos and projects of business groups, local government and NGOs in the region, and how they interweave with SD discourse and the state of the region's environment.

As will become clear in the chapters that follow, the economic disparities and contradictions in the region of Juarez/El Paso came to the fore during the 1990s. The population of the border region grew rapidly with the arrival of new *maquilas*, while the Mexican local government lacked financial and political autonomy. These facts are closely related to the failure to improve the living standards of the poorest communities - and ultimately to SD discourse and the state of the environment in the Mexico-US region.

Chapter 5 includes four sections. Section 1 examines the environmental, political, economic, geographical and social dynamics of the region of Juarez/El Paso. Section 2 investigates business groups, local government and NGOs in the area and the interactions between and within each country. Section 3 examines the characteristics of the region's natural environment, as well as the main environmental issues, such as air and water (quality and quantity), municipal solid waste, infrastructure and toxic waste, and how business groups (with emphasis on the *maquila* industry), local government and NGOs have dealt (or failed to deal) with environmental degradation in the border area, particularly in the region of Juarez/ El Paso. Section 4 explains the research strategy used to collect and analyse field research data and provides some general conclusions on the issues analysed in the previous sections.

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[28] For detailed analyses on environmental politics and the state of the environment along the Mexico-US border, including the region of Juarez/El Paso, see, for example: Hill (2000), Magee (1983), Michel (2000), Kelly et al (1994), RMAFLC (1996), Reed et al. (1998) Ojeda (2000), and Sanchez (1990) among others. For detailed analyses on the state of the global environment see, for example, Manion & Bowlt (1992), Brown et al. (1997, 2001 & 2003), and the World Resources Institute-WRI (1998), and Matthews & Hammond (1999) published annually since the late 1970s.

The methodology includes interviews with the environmental managers (EMs) of business groups and with representatives of the authorities (local government) and NGOs in the Juarez/El Paso region. This section explains how the data collected is analysed in the chapters dealing with the interview findings.

Chapter 6 analyses and explains the ideological and social practices, and the policy and operational changes within business groups (particularly the *maquila* industry) that are connected, in one way or another, with SD discourse in the area of Juarez/El Paso. The chapter explains how and how much Corporate-Environmentalism has influenced business groups in the region. Equally importantly, the chapter unpicks how business groups in the region of Juarez/El Paso have responded to and influenced the construction of Corporate-Environmentalism as the dominant school of thought in 1990s SD discourse. This chapter is supported by an in-depth examination of the data collected in the field, especially the 31 semi-structured interviews carried out with environmental managers of different businesses in Juarez/El Paso. This chapter has five main sections: 1. Business groups in the region of Juarez/El Paso: description and analysis; 2. Business groups' SD discourse and practice; 3. Mobility of environmental managers; 4. Business groups and environmental issues; 5. Summary and conclusions.

Chapters 7 and 8 have the same structure as chapter 6. This both aids the analysis of SD discourse and practice in local government and NGOs in the Juarez/El Paso region and facilitates the comparability of the data. Chapter 7 analyses and explains the fieldwork data on local government. The chapter is supported by an in-depth examination of data collected in the field, of the 21 semi-structured interviews with (municipal, state and federal) government officers with responsibility for environmental policy in the region of Juarez/El Paso.

Section 1 provides an overview of local government and defines, classifies and analyses SD discourse and practices among local government agencies. This section also discusses how local government, business groups and NGOs interact in terms of SD discourse. Section 1 is based on the qualitative analysis of the responses of local government officers to the questions addressed in part 2 of the fieldwork guide ('About local government and NGOs') (see Appendix IV).[29] Section 2 analyses the characteristics and personal history of local government officers. Environmental activists have played a major role in the promotion of SD discourse in the border region of Juarez/El Paso. An examination of local government officers' professional background

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[29] For further discussion on the definition and classification of NGOs see for example:Vakil (1997) and Carruthers (2002).

and their responses to questions addressed in part 1 and part 2 ('Personal History' and 'About the organisation') of the fieldwork guide supports the analysis in this section.

Section 3 analyses the extent to which SD discourse has influenced local government in the area of Juarez/El Paso. Since the late 1960s, environmental issues and SD appear to have shaped how environmentally oriented local government officers have carried out campaigns and projects along the border. Finally, section 4 scrutinises the views of local government officers on the state of the environment in the area of Juarez/El Paso and the border region as whole. This section evaluates the responses obtained in part 4 ('Ecological crisis or environmental problems') of the fieldwork guide (see Appendix IV).

Chapter 8 analyses and explains the changes in ideology, social practice, policy and operational approach within environmental NGOs that are, in one way or the other, connected with SD discourse in the region. An in-depth examination of the data collected in the field, mainly of the 18 semi-structured interviews with environmental NGO members and/or leaders, supports this chapter. Finally, Chapter 9 summarises the research findings, draws some general conclusions and identifies questions for future research.

Chapter 2

The historical context of the Sustainable Development discourse: 1970s, 1980s and 1990s.

This chapter examines the historical roots of SD discourse and begins to explain how and why Corporate-Environmentalism came to dominate the 1990s. This chapter also investigates the significance of key events and texts in order to understand the development of SD discourse. It is vital to explore in depth the differences and similarities between the three historical periods of SD discourse: at a theoretical, but also empirical, level new categorisations can enrich the analysis of SD discourse and practice.[30]

The analysis in this chapter is divided into four sections. Section 1 analyses and reviews the growth of SD discourse in historical context and identifies key events to illustrate the conceptual complexity of SD discourse since the 1960s. Section 2 briefly explains and analyses SD discourse in the 1970s and 1980s and clarifies the differences and similarities between these two periods. The focus here is on establishing the differences and connections between the dominant (and marginalised) strands of SD discourse in the 1970s and 1980s. Section 3 examines SD discourse in the 1990s; this is the main concern of the present work. The Earth Summit (Rio de Janeiro, 1992) and the creation of the World Business Council for Sustainable Development (WBCSD) in 1995 are, I argue, the two most significant events marking the growth of the Corporate-Environmentalism that dominated SD discourse in the 1990s. Section 4 summarises the key concepts examined in the chapter and establishes the differences and connections between SD discourse in the 1970s, 1980s and 1990s in both developed and developing countries.

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[30] This thesis acknowledges that SD discourse has been analysed in different ways both in academic studies and by diverse organisations, which may dispute the historical analysis presented in this chapter. The thesis analyses the major trends of SD discourse throughout these periods and, whilst this analysis is not conclusive, there is a great deal of evidence to justify this approach.

Section 1

The roots of SD discourse

Pinpointing when the concern about the relationship between environmental degradation and human economic development first emerged is no easy task. Influential theoretical contributions to modern SD discourse are rooted in the work of 18th century English authors such as the economist Thomas Robert Malthus (1766-1834) and the utilitarian philosopher, John Stuart Mill (1806-1873)[31]. These two authors grappled with the relationship between population growth and the scarcity of natural resources. Their work continues to influence modern environmental thought.[32]

For the purposes of this thesis, though, the 1962 publication of American biologist Rachel Carson's *Silent Spring* marks the beginning of modern SD discourse. Pepper (1984) is one of the authors who support this contention. *Silent Spring* was one of the first books to significantly impact on public opinion about environmental pollution, particularly in the US. Rachel Carson's book became a best seller soon after its publication and by 1963 it had been translated into several languages and published in 15 countries (de Steiguer, 1997: 29-41; McCormick, 1995: 65-67).[33]

Silent Spring focused on the indiscriminate use of agricultural pesticides and the potential threat that chemicals, such as DDT, pose to human health and the natural environment. Carson describes the frightening effects of DDT on the reproductive functions of birds and the nervous system of mammals, its tendency to remain in the human body or fish tissues and its carcinogenic effects (Carson, 1962: 115-16, 172-3, 161-3,128,198).[34] Carson also posed some polemical and moralistic questions about the relationship between man and nature:

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[31] For a detailed analysis of the contribution of J.S Mill to sociology and political thought see for example: Smith (1998) and Lyons (1997). For a brief discussion on the connection of J.S. Mill's ideas on overpopulation and scarcity of resources and environmentalism see for example: de Steiguer (1997: 5-7). John Stuart Mill's *Utilitarianism* was published in 1861 and has been reprinted in various editions. See for example: Robson et al. (1969).

[32] Some modern environment theorists, particularly during the late 1960s and early 1970s, developed some of Malthus' views regarding the perils and consequences that excessive population growth could have on society due to scarce agricultural production (Malthus, 1817; Neurath, 1994: 3-38; de Steiguer, 1997: 5-7). These authors are often referred to as Neo-Malthusians. See for example: Meadows et al. (1972) and Ehrlich (1968) among others.

[33] *Silent Spring* was not, however, the only relevant book published in the early 1960s. The academic community generated important work on other environmental issues, such as scarcity of natural resources, population growth and pollution. One example was H. Barnett and C. Morse's book in 1963, entitled *Scarcity and Growth: The Economics of Natural Resource Availability.* For a brief discussion about the views of these authors see also de Steiguer (1997: 43-50).

[34] After years of debate DDT was banned in the US in 1972, however it continued to be produced until 1976. DDT is now listed as a hazardous air pollutant in the 1990 US Clean Air Act, which requires the US Environmental Protection Agency (EPA) to set emission standards. DDT however continues to be used in other parts of the world in agriculture and disease-control programmes. In the early 1990s in a US survey, DDT was the most frequently found residue on carrots and potatoes in the US (Harte, et. al., 1991: 284-286).

How could intelligent beings seek to control ...species by a method that contaminated the entire environment and brought threat of disease and death even to their own kind? (Carson, 1962: 26)

In the last paragraph of her book, Carson questions the moral character of modern society by warning that 'control of nature' is a phrase 'conceived in arrogance', that society in its attempt to manipulate the environment has '...armed itself with the most modern and terrible weapons, and that in turning them against the insects it has also turned them against the Earth' (Carson, 1962: 257).

Carson's book faced a barrage of criticism, particularly from the pesticide industry and corporate scientists, who campaigned against Carson's work and for pesticides. Hynes (1989: 1), who builds on Silent Spring's conservationist principles, highlights the ferocious reaction to the book in the industrial sector. A number of industries campaigned to stop the book's publication, by publishing parodies and financing damning reviews. Beder (1998: 108), for example, reports that PR firms embraced environmental and SD issues following publication of Silent Spring; this influenced how different corporations responded to the book's publication.[35] Monsanto, for example, distributed a parody of Silent Spring entitled The Desolate Year to media outlets and one of the biggest manufacturers of DDT sued Carson's publisher. According to Tokar (1997:115) the chemical industry invested more than a quarter of a million dollars in discrediting Carson's book. Corporate scientists typically claimed that many of the statements in the book were inaccurate, and that its conclusions were based on emotion rather than sound scientific data (Graham, 1970: 21-35).

The book adopted a moralistic approach, and presented alarming new data; taken together, these factors probably explain its popularity (Hynes, 1989: 3; de Steiguer, 1997: 32-34; Young, 1990: 3).[36] Carson's ethical probing influenced the development of environmental research, the environmental movement, environmental politics and ultimately what I have categorised as Ecologism. Deep ecologist Arne Naess, in an interview conducted in April 1982, agrees with some of Carson's remarks and points out: 'Rachel Carson...says that we cannot do what we do, we have no religious or ethical justification for behaving as we do toward nature...' (Quoted in Devall & Sessions, 1985: 76).

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[35] Bruce Harrison who campaigned against Silent Spring is now the owner of a PR firm that works for companies such as Monsanto and Dow Chemicals (Beder, 1998:108; Tokar, 1997: 115, 241).
[36] In the years that followed the publication of Silent Spring other polemical issues were widely discussed in public in the US and the rest of the world; these challenged the 'traditional' values of modernity. Events such as the Cold War and the nuclear arms race, the Vietnam War, the Student Movement and the Civil Rights Movement also had a great influence on modern environmental thought and politics (de Steiguer, 1997: 19-28; Pepper, 1984: 16).

Silent Spring played a significant role not only in awakening the general public's interest in environmental pollution, but also in promoting important changes in US environmental policy and law. The growing public concern about the effects of pesticides prompted US government agencies to take action, and by the end of the 1960s the US Congress had enacted the Wilderness Act (1964) and the Endangered Species Preservation Act (1966). In 1969 the passage of the National Environmental Policy Act (NEPA) and the creation of the Environmental Protection Agency (EPA) in 1970 marked the most important changes in American environmental law (de Steiguer, 1997: 22, 29,104; Porter & Brown, 1991: 28).

Between the mid-1960s and the early 1970s, public concern about environmental issues mounted, at both the national and international level. Contamination of the food chain by pesticides and their threat to human health, the destruction of wildlife habitats and biodiversity, and other environmental problems all became important issues, particularly on the political agendas of developed countries. The debate on such issues led to the development of a number of environmental policies and laws, in both developed and developing countries. Prominent examples are the passage of the US Clean Air Act in 1970,[37] and the 1973 Convention on International Trade in Endangered Species (CITES), which imposes strict trade controls on species that would otherwise become endangered and bans trade in endangered species. The 1973 CITES was signed by both Mexico and the US (Caldwell, 1990; Sands, 1993, 1995; Porter & Brown, 1991: 83-85).

In the late 1960s, public opinion and the international media coverage of environmental disasters, such as the *Torrey Canyon* crude oil spillage off the coast of England (117,000 tons), led to the development of legal instruments to prevent or mitigate the effects of such accidents in the future. The magnitude of these incidents not only forced a response from government agencies in the United Kingdom and other European countries,[38] but also led to a range of responses from various groups in the industrialised world. In 1969 a number of environmental NGOs, such as Greenpeace and Friends of the Earth (FoE) were founded, and in 1972 the first 'green' political parties were formed in Tasmania and New Zealand (*Value Party*) (McCormick, 1995:

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[37] The Clean Air Act (CAA) authorises the US Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS). The EPA and the states establish a source specific technology-based emissions limit to assist individual polluters in meeting the NAAQS (Young, 1996: 2-3). During the negotiations of the Clean Air Act, US industry used different strategies to prevent the CAA from being adopted. The industry argued that the cost of implementing such legislation would be higher than the benefits, and that it would endanger the American economy (Stockholm Environment Institute, 1999: 27).

[38] The Convention Relating to Intervention on High Seas in Cases of Oil Pollution Casualties, and the Convention on Civil Liability for Oil Pollution Damage were signed in 1969 (McCormick, 1989: 57-58). The *Torrey Canyon* accident, led ultimately to the creation of the British Royal Commission on Environmental Pollution in 1969, and also led several industrialised countries to sign The Convention on Prevention of Marine Pollution by Dumping of Wastes and Other Matter (or London Dumping Convention) in 1972. The 1972 London Dumping Convention became an important legal instrument for future negotiations over sea dumping (Porter & Brown, 1991: 20; McCormick, 1989: 58). For a detailed discussion on ocean dumping and oil pollution see, for example: Holliday (1992: 51-64) and Neal (1992: 65-80).

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140, 143; Gandy, 1992: 41). This was rapidly followed in Britain (*Ecology Party*) in 1973, and green parties were subsequently founded in France, Belgium, Switzerland, Luxembourg, Finland, Sweden, Australia, Ireland, Italy, The Netherlands and West Germany (McCormick, 1989: 140-142; Young, 1990: 171, 194-196).[39]

By the late 1960s a wide range of actors were discussing a great deal of information regarding environmental issues at both the operational and the theoretical level. Neo-Malthusian ideas regarding the relationship between world population growth and the Earth's carrying capacity dominated the academic environmental debate in the mid-1960s and the early 1970s (Pepper, 1984: 19-22). In 1966, the economist Kenneth E. Boulding published an essay entitled 'The Economics of the Coming Spaceship Earth.' Boulding's main concern was the scarcity of the world's natural resources, in particular of energy supplies, due to excessive consumption. [40] Boulding explored the physical phenomenon of energy *entropy* within a closed thermodynamic system.[41] Broadly understood, entropy 'refers to disorder or randomness within a system' (de Steiguer, 1997: 63). In a closed thermodynamic system all energy outputs would constantly be transformed into inputs, and 'if there were no energy inputs into the Earth, any evolutionary or developmental process would be impossible' (Boulding, 1966: 301). Boulding's notion of the Earth as a closed system, in which human economic activity takes place, derives from these concepts.

Boulding argued that the global community was in transition from an open Earth-system to a closed Earth-system and advanced some economic principles required for such a transition. He associated the open economy or 'cowboy economy' with the 'reckless, exploitative...and violent behaviour' whose goal was clearly to maximise Gross National Product (GNP) and the consumption of natural resources (Boulding, 1966: 303). In contrast, he envisioned a closed economy or 'spaceman economy', in which the Earth becomes a single 'spaceship' and where mankind 'must find its place in a cyclical ecological system which is capable of continuous reproduction of material form...' (Boulding, 1966: 303). Boulding's spaceman economy assumes stock maintenance with a minimum, rather than a maximum of throughput (production and consumption). He believed that the idea of resource stock maintenance should be incorporated into national indicators of economic growth, particularly into the GNP (Boulding, 1966: 297 -

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[39] The West German Green Party is often cited as one of the most successful parties of this kind. For a detailed analysis on green politics in West Germany see for example, Sprentnak & Capra (1986).
[40] Other ideas, not as popular as the ones Boulding put forward, were also relevant for they initiated the discussion of the environment as a religious issue. Such is the case of Lynn White's article 'The historical roots of our ecological crisis' published in 1967, whose thesis puts forward the idea that Christian religion was the cause of human's abuse of the natural environment (White, 1967; de Steiguer, 1997: 71; Pepper, 1984).
[41] The concept of entropy became a new and permanent point of discussion within environmental research. See, for example, Georgescu-Roegen (1993) and Ehrlich, Ehrlich & Holdren (1993).

309; de Steiguer, 1997: 60-69).[42] Boulding was a forceful advocate of normative economics - bringing ethical, religious and ecological concerns to bear on the analysis of desirable economic outcomes - and a ceaseless activist for the integration of the social sciences. From the 1970s onwards, Boulding argued that growth - ever increasing consumption - could not possibly be the prime objective of society and the individuals in it:

> ...economics has been incurably growth-oriented and addicted to everybody growing richer, even at the cost of exhaustion of resources and pollution of the environment (Boulding, 1971: 85).

Boulding's ideas greatly influenced sections of the environmental movement, particularly the Ecologism and Ecologically-sustainable-Development (EsD) that dominated SD discourse in the 1970s and 1980s, as subsequent sections of this thesis make clear.

Two influential works on population growth and overpopulation were published in the late 1960s. In 1968, the American biologist Garrett Hardin published an article entitled 'The tragedy of the Commons.' Hardin's main concern, shared with other neo-Malthusian proponents, was the detrimental effects of overpopulation and the overuse of natural resources on mankind. One of his central arguments was that technological changes were not the solution to the problem of population growth; instead he called for changes in human values and morality. Hardin was clearly a technological pessimist, as the first lines of his essay make clear: 'the class of 'no technical solution problems' has members. My thesis is that the 'population problem,' as conceived, is a member of this class' (Hardin, 1968: 128). Hardin stated that there was only one way to establish the optimum size of the population: the development of a 'criterion of judgement' and of a 'system of weighting' of humans needs and desires.

Hardin believed that the world's optimal population size would not be achieved unless '...we explicitly exorcise the spirit of Adam Smith' (Hardin, 1968: 130); in other words, abandon the assumption that individual choice promotes public welfare. If individuals failed to abandon this assumption, mankind and the commons would end in ruin. In Hardin's words, 'Freedom in a commons brings ruin to all' (Hardin, 1968: 132). The 'tragedy of the commons' develops because the commons are open to all in a world where population is rapidly growing. If each individual is free to maximise profit without end, she/he will do so, resulting in increasing depletion of the commons (limited resources). Society must therefore stop exploiting the commons. Hardin identified four

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[42]For further discussion on the adequacy of GNP indicators within environmental economics see for example: Ekins (1991), Goldsmith (1972) and Ekins, Hillman & Hutchinson (1993).

activities that must cease: a) food gathering (farmlands, hunting and fishing areas), b) pleasure pursuits (including national parks), c) waste and pollution disposal (including gas emissions from cars and factories, the use of fertilisers and nuclear energy plants), d) breeding (here people are asked to abandon their freedom to breed) (Hardin, 1968: 131-136, 141).[43]

Subsequently, Hardin outlined mechanisms for 'abandoning' the commons. Here, Hardin differs from other neo-Malthusians, in so far as he explores neo-classicist concepts, such as property rights and taxation (de Steiguer, 1997: 93). Hardin argued that in order to limit environmental degradation and misuse of the commons, it was required to 'sell them off as private property' (Hardin, 1968: 133). Alternatively, society could keep them as public property, but in this case, society would have to allocate permits to access the commons. Pollution and other kinds of resource depletion should be prevented either by imposing 'coercive laws' or taxes that encourage the polluters to treat their waste.[44] In the case of human procreation, Hardin categorically denied that population growth could be controlled by an appeal to conscience (for Hardin, this applies to all types of exploitation of the commons). He also encouraged society to 'openly deny' the validity of the UN Universal Declaration of Human Rights that states that 'any choice and decision with regard to the size of the family must irrevocably rest on the family itself, and cannot be made by someone else' (quoted in Hardin, 1968: 136).

Hardin's alternative involved 'mutual coercion, mutually agreed upon by the majority of the people affected' (Hardin, 1968: 140). Through this mechanism the majority of people rule and establish their own limited access to the commons through the imposition of coercive laws, taxes or penalties. Society thus relinquishes its freedom to procreate and pollute even if the 'enclosure of the commons involves the infringement of somebody's personal liberty' but, for Hardin, 'Injustice is preferable to ruin' (Hardin, 1968: 140-141).

Discussion of the private property of the commons undoubtedly stimulated debate among members of the academic community. Hardin raised a central question for environmentalists regarding the management of the commons. Hardin's essay was also the subject of much criticism (see, Pepper, 1984: 19). Hecht & Cockburn (1989: 404) points out that several critics suggested that Hardin had overlooked the fact that

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[43] *The Tragedy of the Commons* has been widely discussed; see, for example, McCormick (1989: 73-74), de Steiguer (1997: 91-103), Pepper (1984: 19) and Porter & Brown (1991: 29). For an interesting analysis of democracy and the limits of natural resources including Hardin's ecological authoritarian ideas see: Altvater (1999).

[44] Hardin's neo-classical views on environmental policy and pollution taxes influenced some of the elements of the dominant schools of thought of SD discourse of the 1980s and the 1990s (namely, EsD and Corporate-Environmentalism). Hardin's ideas continued to be explored particularly within environmental economics perspectives and where environmental incentives such as 'command-and-control' had been put into place. See, for example, Pearce et al (1989) & Turner (1993).

transforming the commons into private property might accelerate its exploitation, because individual owners would seek to maximise profit, to the point of resource destruction, in order to remain competitive in the market (see also Clark, 1974). Hardin's paper also provoked a negative response from believers in scientific and technological solutions to environmental degradation (see also Crowe, 1997; Simon, 1994). Simon & Kahn (1984:51) disagreed with Hardin's pessimistic ideas and argued that whilst it is true that mankind has the ability to deplete environmental resources, humans' ability to repair such disturbances is increasing.

Also in 1968, the American entomologist Paul R. Ehrlich published a book entitled *The Population Boom,* which dealt in a passionate, sometimes apocalyptic manner with world overpopulation. Ehrlich's book soon gained a wide audience among the American public and subsequently became one of the best-selling environmental works, selling around three million copies (de Steiguer, 1997: 80; McCormick, 1989: 70). Ehrlich's book stimulated the modern debate about the environmental perils of world overpopulation. As McCormick (1989: 70) puts it: 'Ehrlich was an unashamed neo-Malthusian.' He calculated that if population growth was not halted by the late 1970s or 1980s the world would face acute food shortages and hundreds of millions of people would die from starvation (particularly in developing countries, where the situation was much worse than in the developed world). Any attempt to increase food production would fail; the use of more pesticides and fertilisers would cause natural resource depletion reducing the Earth's capacity to produce food (Ehrlich, 1968: 18). His central argument was that to avoid starvation and the subsequent environmental deterioration the world should strive to achieve total control over the size of its population.

Ehrlich argued that there are no technical solutions to the problem of population growth, and that the best way to solve it was to introduce powerful and effective methods of birth control, including abortion and sterilisation.[45] Not surprisingly, Ehrlich condemned the contraception method (rhythm method) promoted by the Roman Catholic Church and recommended the creation of a Department of Population and Environment in the US (Ehrlich, 1968: 82,140). This new federal agency would become a 'powerful policeman' responsible for maintaining the population size and protecting the environment. Despite

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[45] The Chinese government has carried out coercive birth control and sterilisation policies throughout the country since the early 1970s. Since then the Chinese government has implemented its family-planning policies as a means of ensuring a steady growth in its population, improving the quality of minorities and eliminating economic inequalities. The results of Chinese fertility control policies are well documented. Zhenming (2000: 51-53) reports that the gross birth rate dropped from 33.43 per thousand in 1970 to 17.12 per thousand in 1995 and estimates that the total number of births averted due to family planning in China over the past 25 years may be more than 250 million. The Chinese birth control and sterilisation policies have been subject of severe criticism by various groups, particularly of human rights groups. For an in-depth analysis of China's demographic conditions and the process of their development during the 1970s and the Malthusian theories behind China's population control policies see for example: Song, Tuan & Yu (1985) and Neurath (1994: 155-180).

the popularity of *The Population Boom,* Ehrlich's book also encountered strong criticisms, particularly regarding the book's position on social issues. Bookchin (1990: 45) argued that the book's popularity gave '... birth to an army of population bombers...' and noted that Ehrlich, when calling for a global population decrease, assumed that all humans were equal, and overlooked important social problems such as hierarchy and domination, class exploitation, and ethnic discrimination.

Ehrlich's critics accused him of being a pessimistic extremist, of overlooking the political implications of the remedies he proposed, and for his lack of faith in technological innovation (Young, 1990: 11). Simon (1994: 22), on the optimistic extreme, stated that neo-Malthusian (or 'doomsayer') views about a '...crisis of our environment [are] wrong...' and declared that 'the ultimate resource is people ...In the longer run, more people equals more wealth, more resources, a healthier environment.' Despite criticisms of Ehrlich and other neo-Malthusians, their concern about population growth and environment influenced some international organisations. Williams (1996: 159) noted that since the late 1960s, the World Bank has identified rapid population growth as one of the main causes of environmental degradation in developing countries.[46]

In his 1971 book *The Closing Circle: Nature, Man and Technology,* the biologist Barry Commoner contested Ehrlich's and Hardin's thesis that rapid population growth is the central cause of environmental degradation. Commoner argued that blaming the environmental crisis on rising levels of affluence and population was simplistic and failed to account for the massive rise in pollution levels (Commoner, 1971: 132,134). He noted that even though population growth and affluence had intensified since the mid-1940s, this could hardly account for an increase in pollution levels from 200 percent in 1946 to 2,000 percent in the early 1970s. Commoner believed that 'we must look elsewhere" (Commoner, 1971: 140). Elsewhere was the technology factor.[47]

Commoner argued, in a politically leftward fashion (Commoner, 1971; Pepper, 1984: 20-21), that to evaluate the environmental effects of economic growth (pollution), one should not focus solely on the fact that GNP has increased; one should ask how it has grown (Commoner, 1971: 141). He noted that production technology had changed dramatically since the Second World War. He traced the technological transformation of the US farm, where new technology (or agribusiness) had been regarded as an

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[46] During the 1970s and 1980s the number of developing countries with population control policies rose from around six to more than 70. The UN International Conference on Population was held in Bucharest in 1974, in Mexico City in 1984, and Cairo in 1994. Through the years the population-environment relationship has attained recognition; it was included in the Mexico Declaration on Population Development in 1984. Article 8 of the Declaration states that 'development policies, plans and programmes must reflect the inextricable links between population, resource, environment and development' (cited in Caldwell, 1990: 246).
[47] The Ehrlich-Commoner debate is discussed in McCormick (1989: 70- 73) and de Steiguer (1997: 105-115).

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economic success when, in fact, it 'has been an ecological disaster' (Commoner 1971: 147-148). He noted that since 1946, population growth had accounted for twelve to twenty percent of the total rise in pollution levels; the affluence factor accounted for about one to five percent; whilst the introduction of modern technologies accounted for more than 90 percent of the total rise in pollution levels (Commoner, 1971: 176).

Commoner (like Boulding) conceived the biosphere as a 'closed circle' or a complex whole where humans had once interacted in equilibrium with the environment. This 'closed circle' would collapse if humans destroyed any part of it. By the 1970s, the circle had been broken because of humans' destruction of nature, resulting in an unprecedented environmental crisis. According to Commoner:

> ...we can trace the origin of the environmental crisis through the following sequence. Environmental degradation largely results from the introduction of new industrial and agricultural production technologies. These technologies are ecologically faulty because they are designed to solve singular, separate problems and fail to take into account the inevitable 'side-effects' that arise because, in nature, no part is isolated from the whole ecological fabric. In turn, the fragmented design of technology reflects its scientific foundation, for science is divided into disciplines that are largely governed by the notion that complex systems can be understood only if they are first broken into their separate component parts. This reductionism bias has also tended to shield basic science from a concern for real-life problems, such as environmental degradation (Commoner, 1971: 193)

For Commoner, then, the introduction of new technology is the root cause of the environmental crisis. Moreover, the narrowness both of scientific method and technologists' work overlooked their responsibility to society.[48] For Commoner, though, human society is also centrally responsible for the environmental crisis, in as much as it was industrial society itself that elected a pattern of growth based on modern technologies (Commoner, 1971: 178). But was the environmental crisis a 'question of survival'? For Commoner it was, as he used the phrase for the title of one of the last chapters of his book. He argued that if environmental degradation continued unabated, the capacity of the environment to support humans could be destroyed (Commoner, 1971: 217). These beliefs form the basis for other questions in Commoner's work regarding the relationship between economic growth and environmental conservation – a topic that dominated the 1980s. Could human society close the circle again to achieve equilibrium with nature? In other words, how can environmental degradation be reversed? How can human society change its present pattern of growth? These questions dominated SD discourse in the 1980s, whilst Ecologism faded. The issue of

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[48] In explaining the causes of the environmental crisis, Commoner, referring to K. Boulding's work, raised the issue of entropy and the second law of thermodynamics. He also thought that these concepts were vital for the survival of mankind (Commoner, 1971; de Steiguer, 1997: 111).

economic growth influenced the EsD that loomed so large in 1980s SD discourse, illustrated by the Brundtland Commission's attempt to bring the economic and environmental issues together in one concept.

Commoner, looking for solutions to the ecological crisis, explores modern technology as the central link between environmental pollution and the economics of the private enterprise system. The private enterprise system introduces modern technologies to increase profits. The environmental cost of pollution ('externalities'), though, is not paid by private enterprise but by society as a whole. He argued that if the environmental crisis is to be reversed, environmental costs should be introduced in the production process by changing the private enterprise system. (Commoner, 1971: 268-269). He noted, however, that the internalisation of the cost of 'externalities' could result in the lowering of wages by the enterprise in order to maintain its profits. The present private enterprise system is thus 'inappropriate and ineffective' in managing the environmental crisis (Commoner, 1971: 284-287, 297).

> ...we are in an environmental crisis because the means by which we use the ecosphere to produce wealth are destructive of the ecosphere itself. The present system of production is self-destructive; the present course of human civilisation is suicidal (Commoner, 1971: 294).

According to Commoner, the solution to the ecological crisis should be global in scale, while ecological concerns must guide social, economic and political action. He called for fundamental changes to an economic system that maximises GNP rather than social and environmental improvements.

The Limits to Growth, 1972.

In 1972, four Massachusetts Institute of Technology (MIT) researchers and members of The Club of Rome (Dennis and Donella Meadows, Jørgen Randers and William Behrens) published a book entitled *The Limits to Growth*.[49] The Volkswagen Foundation granted the MIT team $250,000 US dollars for its study and *The Limits to Growth* was its first report. This was followed within three years by a whole series of books and papers. *The Limits to Growth* was written in non-technical language and introduced a novel approach to the study of population growth and its devastating effects on the world's environmental resources. Soon after its publication, the book

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[49] Aurelio Pecci created the Club of Rome in 1968. An Italian industrialist, Pecci brought together a group of 30 international researchers from different disciplines (educators, economists, statesmen, scientists and businessmen) to discuss and foster the understanding of the world system and its economic, social, natural and political components (de Steiguer, 1997: 128; McCormick, 1989: 74).

became a bestseller, selling more than four million copies (Neurath, 1994: 64; de Steiguer, 1997: 132).

The book strove to better understand the global system and its interdependent components, in particular its economic, political, social and natural aspects. The MIT team created a computerised world system dynamic model that could identify the factors limiting the growth of human society. With the world system computer model the MIT group could simulate exponential growth, apply both positive and negative feedback to any growth process, and above all analyse different processes by linking them together (Meadows, et al, 1972: ix-xi; de Steiguer, 1997: 130).

The MIT group examined five basic factors (population, agricultural production, natural resources, industrial production, and pollution) that in their view determined the growth (or the limits) of human society. They argued that the five basic factors selected were common characteristics of the global system and that they occurred to some extent in all countries (Meadows, et. al, 1972: ix-xi). The researchers fed the computer model several future scenarios, then analysed the resulting projections to the year 2100.

The first scenario assumed no great changes in population or economic growth in the future compared with the previous 100 years (Meadows, et. al, 1972: 130-131). The world model calculated that if present rates of population and economic growth continued, natural resources would become more scarce, the industrial base would collapse (including services and the agricultural system), and finally there would be an unprecedented decline in population, due to the lack of food and health services (Meadows, et. al, 1972: 132). The MIT team fed the computer with more optimistic future scenarios where they assumed, for example, that technological innovations could double the natural resource stock available. The results were practically the same. The world would face disaster, in this case due to an unprecedented rise in pollution levels, and sharp population decreases from pollution and starvation. Natural resources would also be severely depleted due to the exponential growth of the industrial base, consuming more and more resources (Meadows, et. al, 1972: 133-134). The MIT team, like Hardin, Ehrlich and Commoner, had no faith in technological solutions. The MIT team pointed out that 'technological optimism is the most common and the most dangerous.... Faith in technology...can thus divert our attention from the...fundamental problem of growth in a finite system...and prevent us from taking action to solve it' (Meadows, et. al, 1972: 159).

The researchers fed the computer model alternative scenarios, but the projection was always the same: the world would face catastrophe over the following hundred years. Global disaster could be avoided, according to the computer model, only if population and economic growth were halted. The conclusion of the MIT study was that if the present rates of population growth, resource depletion, agricultural and industrial production continued, the limits to growth would be reached sometime in the twenty-first century. The solution, so the MIT team argued, was to revert such trends into other directions and set limits to both population and economic growth. This would achieve ecological and economic stability and thus reach an equilibrium state. The MIT group called on the global community to take action in order to achieve a new equilibrium state (Meadows, 1992: 14; McCormick, 1989: 76).

> In a long-term equilibrium state, the relative levels of population and capital, and their relationships to fixed constraints such as land, fresh water, and mineral resources, would have to be set so that there would be enough food and material production to maintain everyone at (at least) a subsistence level (Meadows, et. al, 1971: 183).

The MIT researchers' conclusions proved to be as controversial as they were popular. Some green activists welcomed the fatalistic and neo-Malthusian projections of *The Limits to Growth*. The 'zero growth' perspective and its claim that economic growth could not increase forever, was shared by some radical greens and became an issue central to their demands (Naess, 1997: 62; Jacobs, 1991: 53). However, what radical greens perceived as accurate, others saw as the report's main weakness.[50] Critics attacked the MIT report, together with other neo-Malthusian works, on a number of grounds. Hettne (1990: 181) claimed that the main weakness of the report was its '...obsession with physical limits, implying a sudden apocalyptic end of the Earth...' Technological optimists accused the authors, along with Malthus, Mill and Ehrlich, of pessimism, doom mongering and alarmism. The MIT team were criticised for ignoring how the capitalist system makes use of the environment and its central role in exacerbating the plight of the poor. Critics also argued that the team had neglected distributive factors in natural resource depletion and the increasing gap between Northern and Southern countries (Redclift, 1987: 51-55; Hettne, 1990: 182; Gorz, 1980: 77-87; Bookchin, 1990: 30-48). Redclift (1987: 49) points out that the MIT team was composed of 'top industrialists and urban bureaucrats who were also concerned at the cost to the quality of their life, posed by pollution, industrial waste and human decay.'

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[50] For example, *Blueprint for Survival* (Goldsmith, et. al, 1972) was also published in 1972. This book argued that population growth should stop and that low impact technologies should be introduced in order to maintain a stable economic system and a constant natural resource base. Although Goldsmith's book is no less important than *The Limits to Growth*, it will not be discussed in depth in this thesis, mainly because of space restrictions. However, both publications have been subject of considerable discussion. See, for example, (among many): Adams (1990: 66-68); Gandy (1992: 42); O'Riordan (1981: 52-65); Jacobs (1991: 53), and Young (1990: 4-8).

The report argued that political solutions would be required to prevent world disaster. Technocrats responded critically, believing that solutions to the world's ecological crisis would emerge from technological innovations (Neurath, 1994: 60).

Dobson (1990: 78), for example, draws attention to one of the most common criticisms of *The Limits to Growth* report: its assumptions regarding the potential exhaustion of natural resources had been proved wrong and the model is unrealistic, pessimistic, and deploys defective data (also see Pepper, 1984: 23). Neo-Malthusian theses were also criticised for being naïve and for failing to consider the economic and social impact of limiting economic growth, in particular for the less developed countries (Adams, 1996: 68; Gandy, 1992: 43). Despite its unrealistic and pessimistic views *The Limits to Growth*, together with other neo-Malthusian perspectives, underpinned an important thread of SD discourse in the 1970s.[51]

Section 2
SD discourse of the 1970s and 1980s

SD discourse tends to rest on apocalyptic beliefs. Notions such as technological pessimism, ecological authoritarianism, technological determinism, population control theories, ideas regarding the limited carrying capacity of the Earth, environmental economics and development continued to influence Ecologism and EsD in the 1970s and 1980s. As concern mounted about the state of the global environment and the perception arose that urgent action was required to avoid catastrophe, governments from developed and developing countries prepared over two years for the UN Conference on Human Environment and Development held in Stockholm in 1972. The conference was supposed to enable governments to evaluate and discuss environmental issues and agree on how to deal with them. The Conference was a milestone both in the growth of SD discourse in the 1970s and in Ecologism's rise to prominence in that decade.

The UN Conference on Human Environment, Stockholm 1972

As the previous section makes clear, international negotiations, research and legislation had grappled with specific environmental issues, but it was not until the Stockholm Conference that such issues were perceived holistically as a single, global crisis. The

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[51] In 1992, twenty years after the publication of *The Limits to Growth*, Meadows et al., published a second book entitled *Beyond the limits*, but this had much less impact, largely due to the changes in SD discourse analysed in this thesis.

conference, and 1970s SD discourse in general, demonstrated an awareness that environmental problems affect all or most nations (transnational pollution) and popularised the concept of collective responsibility.

On 5th June 1972, after two years of intensive negotiations, the United Nations Conference on Human Environment opened in Stockholm, Sweden. The conference secretary general Maurice Strong hosted 114 countries and 19 intergovernmental organisations (Caldwell, 1990: 65). This was the first time that both industrialised and less developed countries had participated in a multilateral forum to discuss solutions to environmental problems (McCormick, 1989: 97).[52] The conference put environmental and development issues high on the international agenda and ultimately led to the creation of the UN Environmental Programme (UNEP). It called for global action to protect the environment and recognised the links between environmental and developmental problems (Sands, 1993).[53] The conference concluded with the Stockholm Declaration, consisting of 26 principles and an Action Plan with specific recommendations to the UN as a whole. The conference recommendations were divided into five areas related to environmental degradation: a) human settlements b) human health c) environment and development d) natural disasters and e) oceans and terrestrial ecosystems (Caldwell, 1990: 69; Porter & Brown, 1991: 28; Sands, 1995: 34).

The contrasting environmental concerns of developed and developing countries are perhaps the most interesting aspect of the Stockholm Conference. Immediately after the opening of its plenary session, the conference faced a division between the two groups that influenced the outcome of the conference and characterised SD discourse in the 1970s. Two conflicting perspectives dominated the negotiations. The governments of developed countries (North) were more concerned about the human impact on the world's natural resources, and emphasised pollution control and natural resource conservation. The governments of developing countries (South), meanwhile, were more concerned about social and economic development issues and viewed development and poverty as the central issues (Caldwell, 1990: 64).

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[52] In 1969, more than 30 member-states of the Organisation of African Unity signed a convention, which recognised that conservation should be based on prevention in order to 'achieve a sustainable quality of life'. The conference was funded and promoted by the International Union for the Conservation of Nature (IUCN) and is another, but less influential, example of the roots of SD discourse. (McManus, 1996: 50; O'Riordan, 1981: 49).

[53] The UNEP headquarters are based in Nairobi, Kenya. The mandate of the UNEP was to promote international environmental co-operation, provide the guidelines for the development of the environmental programmes put forward within the UNEP, and co-ordinate and assess the development of environmental policies. It was not established as a funding institution, however it created a voluntary fund to which all nations could contribute. The UNEP played an important role in stimulating international co-operation and promoting environmental programmes. Its main weakness has always been however, the lack of funds to provide the necessary technical assistance to back its projects. For a more detailed discussion see, for example, McCormick (1989: 106-107), Caldwell (1990), Sands (1993, 1994) and Suskind (1994).

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Whilst governments of developed nations focused on global environmental threats such as global warming, depletion of the ozone layer or deforestation, governments of developing countries focused their concerns on basic social and economic needs of their population and development-related issues, such as poverty and the increasing gaps between North and Southern countries. The concerns of the developing countries promoted a shift in SD discourse. The 'zero growth' perspectives were clearly not viable or desirable for developing countries that faced the hideous reality of daily hunger, poverty and disease. Hettne (1990: 180), however, suggests that problems related to the scarcity of natural resources within the limits-to-growth debate should not be overlooked. He argued that questions about these issues must be posed in a different manner. The question that must be answered is: 'What limits, to what kind of growth, and in what time perspective?' One thing was clear. The new discourse would have to link development and environmental problems.

Crucially, the fact that humankind sat at the centre of this version of SD discourse (the anthropocentric EsD) undermined the claims of ecological egalitarianism and deep ecology (Sachs, 1993: 10). It was not until the 1980s, though, that a backlash battered the radical ecologist movement and Ecologism. According to Naess (1997: 62-64) in the 1980s a 'swarm of organisations, mostly far right politically...' savaged the green movement and tried to ditch or weaken environmental regulations and green policies. A more robust counter-movement that rejected the ecological movement of the late 1960s and 1970s emerged with the election of Ronald Reagan and Margaret Thatcher.

Southern countries feared, particularly during negotiations on the Stockholm Declaration, that some of the measures proposed by their northern counterparts to tackle environmental degradation would undermine their development (in a broader sense than mere economic growth) and the quality of life of their populations. Environmental policies, they feared, could result in a reduction of the international assistance provided for economic growth. Developing countries argued that development issues, above all poverty, were the most immediate threats to the environment of their nations and that of the rest of the world (McCormick, 1989: 93; Porter & Brown, 1991: 46). Southern countries insisted on their right to develop and decide the how to use their natural resources, and demanded financial and technical assistance (Caldwell, 1990; Sands, 1995: 7-8). They also stressed that high-levels of consumption and pollution were problems largely associated with the industrialised economies. Several authors have provided a variety of examples to support this point.

Troyer (1990: 9), for example, points out that 'Consumers in the industrial nations use 160 times more energy, per person, than those in the developing countries.'[54]

The conference outcomes clearly reflected the different meanings that development and environmental issues had for developed and developing countries. Principles 21 and 22 of the Stockholm Declaration are good examples. Principle 21 had special significance for the developing countries: it established the sovereign right of each nation to use its natural resources and to determine its own environmental policies and standards. Principle 11 was also relevant for such countries, stating that all countries' environmental laws and policies should encourage and not undermine their future development. Principle 22, in contrast, exhorts states to develop international environmental laws. In particular, it highlights laws related to responsibility and indemnity for the victims of pollution, or other environmental damages, caused by activities carried out within a state's territory to the detriment of areas outside that state's jurisdiction. Developed countries pushed principle 22, since they were concerned about weak environmental laws in developing countries and the need to regulate transboundary environmental problems (Caldwell, 1990: 73-76, McCormick, 1989; Porter & Brown, 1991: 28; Sands, 1995: 35-37). Most of the industrialised countries opposed the notion that they had a responsibility to provide financial aid and technology transfer to developing countries. Developing countries continued to emphasise this issue during the 1980s and early 1990s.

Public awareness about environmental issues was growing worldwide; this became evident during the Stockholm Conference. An unprecedented number of NGO representatives gathered in Stockholm in an unofficial parallel conference known as the Environment Forum. NGOs had attended UN international conferences before; the large and varied group that gathered in Stockholm was, however, exceptional (Caldwell, 1990: 66). NGO representatives attempted to shape the results of the conference, but they failed to greatly influence government officials. Many Northern NGOs expressed radical conservationist views (Ecologism). The radical ecological movement gained momentum in the early 1970s and remained the dominant proponents of Ecologism, marginalising to EsD and Corporate-Environmentalism (sceptical environmentalists, technological optimists and environmental economists) until the early- to mid-1980s.

The Stockholm Conference undoubtedly influenced the development of international environmental laws and the emergence of a new trend in SD discourse. After the

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[54] The rich countries of the world historically have emitted most of the anthropogenic greenhouse gases since the start of the industrial revolution. The UNEP (2001) report points out that the US emissions of greenhouse gases account for 19.6 tonnes per capita, while in India the emission of greenhouse gases accounts only for 0.9 tonnes per capita.

Stockholm Conference, the increasing relevance of national and international institutions and governments within SD discourse became evident. The conference stimulated an awareness of environment-related issues affecting all nations and promoted the international political recognition of common responsibility and transboundary pollution. The influence of science on environmental policy making also became evident during the conference. Significantly, new ideological and theoretical debate emerged around SD discourse, which encouraged new actors (such as business groups and scientific organisations) to find common ground between development and environmental issues and between Ecologism and EsD (McCormick, 1989: 104).

Western publics and governments thought more and more about the global dimension of environmental degradation in the mid-1970s and the 1980s. Yearley (1996:143) argues that there are multiple interacting issues underlying the globalisation of environmental awareness. In his view, economic factors are not the only cause of this awareness, but they are a dominant part of SD discourse. People and organisations have constructed the environment as 'a world-wide phenomenon' (Yearley, 1996: 145). This has important connections with the Corporate-Environmentalism dominant in the 1990s since it rejects the idea of one ecological/social crisis and instead assumes an *environmental problematique.*

Scientific organisations are part of this construction in as much as scientific evidence continues to inform and modify environmental policy making. Scientific expertise can be contested and may create a great deal of controversy; it has nonetheless succeeded in generating environmental awareness. New scientific evidence alerts the international community to the possibly dangerous effects that climate change, the depletion of the ozone layer, the loss of biodiversity or 'acid rain' on human health and the environment. Such evidence has led to international agreements and the development of new environmental regulations. In 1985, the Vienna Convention for the Protection of the Ozone Layer was signed, followed by the Montreal Protocol on Substances that Deplete the Ozone Layer signed in 1987 (Benedick, 1998). Global environmental concern also grew during this period, bringing new actors into play. Multilateral organisations, governments and business groups rapidly immersed themselves in SD discourse and adopted different elements of it.[55] Governments from both developed and developing countries, for example, formulated their environmental agendas. It was clear, however, that the developed and developing nations were at odds. Although this antagonism had

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[55] For a sociological discussion on the globalisation of environmental problems and environmentalism see for example, Yearley (1996).

prevailed since the negotiations at the Stockholm Conference, the North-South debate gained momentum in the late 1970s and early 1980s.

SD discourse of the 1980s: The Brundtland Report, 1987

In 1983, the UN General Assembly created the World Commission on Environment and Development (WCED), chaired by Gro Harlem Brundtland, then Prime Minister of Norway. The Commission had 23 members from both developed and developing countries (WCED, 1987: 353-356). The WCED had three main objectives: to address the critical environmental and development questions and come up with realistic proposals for dealing with them; recommend long-term common objectives, new forms of international co-operation, and long-term strategies to the international community and define shared perspectives that would make environmental policies more effective; and bolster the understanding and commitment of individuals, NGOs, business groups, government institutions, and international organisations (WCED, 1987: ix). In 1987, after years of discussion, the WCED published its final report entitled *Our Common Future* (also known as The Brundtland Report).

The WCED focused its attention on a wide variety of environment-related policy issues such as population, food security, loss of bio-diversity, energy, industry and human settlements. The report made recommendations for international co-operation and institutional reform on economic issues, management of natural resources and the commons, legal and institutional change, peace and security and the relationship between environment and development (Sands, 1995: 46). The Brundtland Report stressed that all these issues are connected and cannot be dealt with in isolation. It recognised both the need to enhance co-operation and the importance of getting different interest groups including industry, NGOs and the scientific community involved in national and international policy making. The commission proposed that business groups, states and governments needed to extend NGOs' right to know and provide access to information on the state of the environment (WCED, 1987: 326-330). As will become clear in the following section, the commission's proposal for a wider participation of NGOs and industry in policy making came to fruition in the early 1990s at the Earth Summit in Rio, where both NGOs and business groups influenced the Summit negotiations and its results.

The report viewed the future of the global community, and the global environment, more optimistically than previous studies such as *The Limits to Growth* (Meadows, et al, 1972). The chair of the commission made this point clear: 'Our report, entitled, Our

Common Future, is not a prophecy of doom, but a positive vision of the future' (WCED, 1990: 29). The Brundtland Report envisioned the world's future as a '...more prosperous, more just, and more secure one' and saw the '...possibility of new era of economic growth' (WCED, 1987: 1).

The report began by identifying the main causes and symptoms of environmental degradation. The WCED identified poverty as the main cause and effect of environmental degradation and emphasised that it would be unacceptable to '...even suggest that the poor must remain in poverty in order to protect the environment!' (WCSD, 1987: 29). Instead, the report stressed the need to formulate national and international strategies offering real options to the poorest, and helping to secure better incomes, better quality of life and a better environment at the local, national and international level. 'Poverty itself pollutes the environment,' said the commission. The commission claimed that poor people in developing countries would destroy their environmental resources (cutting down forest, overusing marginal lands or migrating to urban areas) in order to survive, which leads to more poverty. The report also stated that developing countries' worsening finances limited their access to new technologies, making poverty alleviation more difficult (WCED, 1987: 27-31).

The WCED also argued that present patterns of economic growth, particularly in the rich countries, could not be allowed to continue: high rates of economic development in the North have generated national and global imbalances and threaten the global environment. The WCED emphasised that whilst economic growth greatly improved the living standards in industrialised countries, it also caused severe environmental degradation. This pattern of economic growth had increased pollution levels and contributed to environmental threats such as global warming and the depletion of the ozone layer.

The Commission concluded that most countries must strengthen their environmental policies. This alone, however, would not suffice: all nations must urgently adopt a new approach to environmental problems. This new approach would pursue a new form of development that 'integrates production with resource conservation' and enhancement of living standards (WCED, 1987: 39). This new form of SD would be inextricably linked to environmental issues. SD, according to the commission, constituted the conceptual framework within which development strategies and environmental policies would be integrated.

The Brundtland Report defined its central political concept, 'sustainable development', as:

> ...The development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987: 43).

The commission underlined two key concepts within their definition of SD. The first key point was the concept of 'needs', which referred to the basic needs (food, clothing, shelter, jobs) of the poorest in the world. The second was the concept of 'limits of the environment's capacity' to meet the needs of future generations (WCED, 1987: 43). The central objective of SD, as defined by the Brundtland Commission, is thus to satisfy people's basic needs and desire for better living standards through increasing economic growth (a growth that integrates development and sustainability principles) and by enhancing equal opportunities for all. In doing so, the commission stressed that the environmental and economic dimensions should be given equal weight. The concept of SD was thus compatible with future as well as present needs. Production processes should be modernised; technologies must become more clean and efficient. Whilst recognising that the use of non-renewable resources reduces the stocks available for future generations - for example of fossil fuels - the commission stated that this does not mean that such resources should not be used. Instead, we should look at the potential of new and improved technologies and possible substitutes.

Following the publication of *Our Common Future*, a great variety of groups reacted in many different ways. Most of them, though, agreed that it was vital to discuss and redefine development and environmental concerns. Environmental, peace, human rights and other organisations, academic researchers, business corporations, banks and governments around the world commented on the report. Academics, journalists and environmental NGOs formulated and discussed a slew of new SD definitions (Pearce et al, 1989: 173-185). SD became the cornerstone of the EsD discourse that loomed so large in the 1980s, replacing the doom saying and the North-South debate of the 1970s. Yearley suggests that SD refers to:

> ...a form of socio-economic advancement which can continue indefinitely without exhausting the world's resources or overburdening the ability of natural systems to cope with pollution (Yearley, 1996: 131).

For Yearley, SD is development that could, in principle, continue indefinitely since it would maintain the planet's natural capital. Whilst many critics claim that the ambiguity of the Brundtland definition of SD is one of its main weaknesses, Yearley suggests that such ambiguity arises from attempts to define it (Yearley, 1996: 131). If SD, though,

lacks a widely accepted definition, disagreements about how to put it into practice appear inevitable. The debate on the definition of SD included a variety of views on how to achieve it.

The 1980s discussion of the Brundtland definition of SD was a confused affair so, inevitably, the WCED and its definition of SD were also the object of numerous criticisms. Critics have noted that no environmentalists or development theorists contributed to the Brundtland Report;[56]'experienced, elderly, elitist politicians' dominated (Timberlake, 1992 quoted in McManus, 1996: 51-52). These critics point out that most of the Commission's members spent most of their political lives promoting the development policies that caused present environmental degradation. Others complain that the Report restricts development to improving the efficiency of growth via a better use of natural resources. According to the WCED, SD can achieve higher economic growth without 'significant' environmental damage. Just what 'significant damage' to the natural environment means within the context of economic progress remains unclear (Adams, 1990; McManus, 1996; Daly, 1992).

Critics have also attacked the concept of 'needs' - the second core concept within the Brundtland definition of SD - for its lack of precision. The WCED does not clarify what 'basic needs' mean and what kind of living standards poor people might hope to achieve. Criticisms highlighted more than just lack of precision. Middleton, et al. (1993: 21) argue that *Our Common Future* began to limit 'contemporary thinking about development' and cemented the relationship between environment and development at the same time that the WCED was attempting to secure the dominance of 'preservation of the environment' within the debate. The authors conclude with the following remarks:

> So we end with a report, which although bowing in the direction of serious developmental issues, is fundamentally environmental and economistic. Social justice has become a matter only to be approached through humanising the workings of the market (Middleton, et al 1993: 21-22).

Such criticisms and analyses of *Our Common Future* are germane to the argument of this thesis, since they emerge from a social development perspective. This thesis argues that despite the attempts to bring together development and environment in one concept (namely, sustainable development), the 'rational management of natural resources' has dominated (or has been privileged) over equity and social development issues (Yearley, 1996: 140). Since the late 1980s, but especially during the 1990s,

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[56] See list of the WCED members in WCED (1987: 353-356).

development-related issues such as quality of life, equity, social justice and poverty eradication have been in retreat. Environmental and economic views, according to Middleton, et al. (1993), began to dominate the debate of the late 1980s, and came to dominate the Corporate-Environmentalism so prominent in the 1990s. In the 1990s, more people began to accept that global capitalism and free trade were compatible with solving the *environmental problematique* (proposed by Corporate-Environmentalism) that pushed the ecological crisis to the sidelines of the public and academic debate.

The SD concept put forward by the Brundtland Commission did not, some might argue, focus exclusively on either the concept of sustainability, or on the concept of development; the concern was rather with a *new* form of vaguely defined *economic growth* that remains, in my view, inextricable from the widespread belief that a better quality of life equals ever-increasing levels of production and consumption, or 'growthmania' to borrow Daly's term (Daly, 1990). For the Brundtland Commission, economic growth was not only desirable but also necessary for the well being of the global environment. Many questions have been raised about the meaning of sustainability and development within the Brundtland definition. The commission seems to have focused on the efficient management of natural resources in order to maintain natural capital; it is not clear, though, what *new* pattern of development would help the poorest communities protect their environment, meet their basic needs and improve their quality of life. Lélé (1991: 618) notes that the WCED placed the 'revival of growth' at the top of its list of operational objectives for achieving SD; one of the first conclusions in her analysis of SD is thus that proponents and analysts of SD discourse need to 'reject the attempts to focus on economic growth as a means to poverty removal and/or environmental sustainability.'

In the 1990s, however, attempts to reject the focus on economic growth as the driving force of SD discourse appeared to have failed. SD discourse of the 1990s increasingly embraced economic, market-oriented, managerial views (Corporate-Environmentalism); this has influenced the SD practices of a variety of groups. The empirical research on the region of Juarez/El Paso, discussed in the following chapters, underscores this conclusion.

Porter & Brown (1991: 30) suggest that the Brundtland Commission popularised SD. But it 'globalised' it as well. From the early 1990s, SD discourse rapidly became a global principle, a global environmental criterion or global value system, which governments, business groups, and NGOs internalised due to the gaps within the Brundtland definition of SD. Different groups deployed the catch-all term SD in line with their particular

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interests. SD discourse became one more element of global capitalism. Lélé (1991: 607) believes that the term SD is in 'real danger of becoming a cliché'.

> Suddenly, everyone was quoting the Brundtland Report...But as with those two other revered best-sellers, Shakespeare and the Bible, it often seemed that there were environmental theologians and scholars appearing everywhere, prepared to interpret a book they hadn't actually read (Troyer, 1990: xii).

Despite all the criticisms, the Brundtland Commission greatly influenced the SD discourse and practice of business groups, governments, local government and NGOs in the 1980s and 1990s. The relationship between environment and development was framed by the Brundtland definition of SD. By the end of the 1980s, business groups, NGOs and governments had co-operated to promote SD and deal with the global ecological crisis.[57] Business groups, NGOs and the scientific community acquired new roles in the formulation of environmental policies as the commission recommended. Business groups expanded their voluntary compliance programmes to subsidiaries in Asia, Africa and Latin America and became 'greener'. NGOs participated in SD projects at the local, national and international levels and governments implemented legislative and institutional changes to integrate different elements of SD discourse (Osborn, 1997; Plant, 1992; Rubio, 1988; Utting et al., 2002;). As a consequence, however, as this thesis lays bare, the radical ecological movement suffered a strong backlash and lost support. Conservationist organisations and activists regarded the Brundtland Report and its definition of SD as anthropocentric and accused it of neglecting ecosystems, animals, and the global environment as a whole, marginalizing elements of Ecologism (Naess, 1997: 62-64).

In 1989, the UN General Assembly, inspired by the Brundtland Report, passed resolution 44/228 for a UN International Conference on Environment and Development (UNCED). The purpose of the Conference was to formulate strategies to halt and reverse environmental degradation and promote SD in all countries (Sands, 1995: 48). Both NGOs and industry participated and shaped the outcome of the conference. The following section shows how the conference initiated a new period in the history of SD discourse, the 1990s, during which the role of business groups, NGOs and governments as well as their SD practices changed considerably. A second key event in the evolution of SD discourse in the 1990s was the creation of the World Business Council for Sustainable Development (WBCSD) in 1995, which adopted the SD definition put forward by the Brundtland Commission, but prioritised rational environmental management over equity, future generations and social development issues.

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[57] Local government in Mexico began to introduce different elements of the SD discourse in 1990s, mainly as a result of the NAFTA negotiations. These issues are discussed in chapters 4 and 5 of this thesis.

Section 3

SD discourse in the 1990s

The Earth Summit, Rio de Janeiro 1992

In the 1990s, the SD debate remained high on the international political agenda. In 1991, Maurice Strong (Secretary General of the UN Conference on Environment and Development) stated that SD issues had moved from the 'margins to the centre of the international agenda' (Willums & Golüke, 1991: 50). The basis for such shift in the international agenda was the Brundtland Commission. In 1992, almost ten years after the establishment of WCED and twenty years after the Stockholm Conference, the UN Conference on Environment and Development (UNCED) was held in Rio de Janeiro, Brazil. Whilst UNCED was inspired by the Brundtland Report, its results moved away from the Report's core concepts, notably in relation to the 'needs' of the poor.

In June 1992, after two years of preparatory meetings, the UNCED, or *Earth Summit*, brought together 178 delegations, of which 114 were led by heads of State or government. The UNCED also attracted numerous NGOs, business groups, scientists and academics. Nearly 700 NGOs gathered in Rio and held a parallel meeting, known as the Global Forum (Rowlands, 1992: 1).

The Earth Summit's central objective was, according to Maurice Strong, to translate SD from concept to actions and this, Strong stated, could only be achieved by expanding the environmental regulatory system to every sector of economic activity in all nations (Willums & Golüke, 1991: 50-52). Strong called for 'environmentally-sound and sustainable (economic) development'; the environmental dimension should thus guide all policy fields in the future. The meagre results of the Earth Summit, and lack of agreement on important issues (such as biodiversity and climate change, see below), though, reflected ongoing antagonism between Northern and Southern countries. More fundamentally, the disappointing outcome reflected the deep differences, but also some similarities, among groups from both developed and developing countries, such as business groups, NGOs and governments. In the case of the Conventions on Climate Change and Biodiversity, for instance, the US, together with certain other countries, opposed the adoption of a legally binding charter for the convention and tried to safeguard the economic interests of domestic business groups. Business groups (notably transnational corporations), however, also have investments and links with a

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variety of actors in developing countries, and their interests were also at stake. This thesis focuses on examining how and why Corporate-Environmentalism came to dominate SD discourse in the 1990s, and must therefore examine the legacy of the Earth Summit: its objectives and the changes and debates that took place there directly influenced the SD discourse of the last decade of the 20th century.

UNCED stressed shared responsibility for finding common solutions to common problems. Some have argued, though, that the Earth Summit's agenda grew mainly out of the concerns of the industrialised countries. Critics feel that the conference focused on finding political and economic solutions to the world's developmental and environmental problems via the 'very methods which led to them in the first place and tries to deal piecemeal with malpractice' (Middleton, et al, 1993:24). Whilst this claim is correct, this thesis argues that the interests represented in such an agenda are not simply those of the Northern countries but of different groups in both developed and developing countries. Business groups, governments and/or political and economic elites from both developed and developing countries pushed their own economic interests and perspectives at Rio. The following sections of this thesis make clear that business groups dominated 1990s SD discourse and that since the Earth Summit they have attempted to convince people that their economic, market-oriented, and managerial environmental approach is credible. As Hoedeman (2002: 40) points out:

> Industry learned much from the Earth Summit, and the meeting marked a critical turning point for the involvement of corporations in the global debate about environment and sustainable development. Corporate lobby groups saw the Earth Summit as a prominent platform from which to redefine their role, and more importantly, from which to shape the emerging debate on environment and development.

Business groups participated actively in the negotiations at Rio and beyond; their influence was particularly evident in relation to voluntary compliance and self-regulation. Business groups emerged from the Earth Summit with no significant binding regulations governing their environment-related activities. The Rio Declaration on Environment and Development, a Statement on Forest Principles, and Agenda 21 were the main agreements reached at the Earth Summit. The conference was also the setting for the development and signing of two treaty frameworks: the UN Framework Convention on Climate Change and the Convention[58] on Biological Diversity. Both treaties had been

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[58] Five years later, on 11 December 1997 member governments of the UN Framework Convention on Climate Change (which was not legally binding) took a step further and adopted the landmark Kyoto Protocol. The Kyoto Protocol was a breakthrough since it sets legally binding constraints on greenhouse gas emissions. The Kyoto Protocol was ratified by 186 countries (including the European Union), which are now Parties to the Convention (see: United Nations Framework Convention on Climate Change, http://unfccc.int/, 14 June 2002). The negotiation process since the adoption of the Kyoto Protocol has seen a lot of ups and downs. In March 2001 the US abandoned the Kyoto Protocol negotiation process and

negotiated separately before the Earth Summit. During the preparatory meetings, all the states and governments represented in the UNCED agreed on several concrete objectives to be further discussed at Rio (Caldwell, 1996: 104). These included reaching general agreement on four issues: basic principles for all human beings and nations (an Earth Charter), a plan for action (Agenda 21), climate change and bio-diversity, and resource and technology transfer.

(1) An *Earth Charter* outlining the basic principles guiding the actions both of human beings and nations towards each other and towards nature (similar to the Human Rights Charter). Unfortunately, no agreement was reached; an ambitious Earth Charter was a step too far for the participants. Almost all countries agreed instead to the *Rio Declaration on Environment and Development*. The Rio Declaration was a non-binding document shaped by 27 principles that reflect the compromises reached by the governments of developed and developing countries (Caldwell, 1996; Rowlands, 1992; Sands, 1993, 1995).

The Rio Declaration differs only slightly from the 1972 Stockholm Declaration. Rio is mainly a reaffirmation of the agreements in the previous Declaration, although some new issues were introduced. According to Middleton et al (1993: 24), the Rio Declaration deals with issues of development 'almost with indecent haste' only in three of the 27 principles. These three principles are:

(i)   **Principle 3** asserts the 'right to development' (see Stockholm Declaration's principle 21).

(ii)   **Principle 4** states that in order to achieve SD, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

(iii)   **Principle 5** establishes that the eradication of poverty is an indispensable requisite to achieve SD (www.unep.org/Documents/, 16 June 2001).

The rest of the brief Rio Declaration deals with SD merely as an environmental protection issue. For instance, principles 15 (polluters pay principle), 16 (precaution principle), 17 (environmental impact assessment) and 19 (transboundary environmental damage notification) are specifically related to environmental protection. Principle 16 is the most interesting of the above and is worth quoting in full:

President Bush openly stated that he opposed the Protocol because it would exempt developing countries from emission cuts and it was detrimental to the US economy. The Bonn Agreement was reached in 2001 despite the US decision to reject the Protocol, which set binding targets for developed countries to reduce their emissions of carbon dioxide and other greenhouse gases by 2010 (Ott, 2001: 286; Porter, 2001). Business groups' lobbying (particularly in the US) also undermined the Kyoto Protocol negotiations (Hoedeman, 2002: 40).

Principle 16
National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment (www.unep.org/Documents/, 16 June 2001).

Principle 16 is the conditioning clause. It clearly establishes the polluter pays principle on the condition that international trade and investment is not distorted (which undermines the principle itself). It opens the door to the business groups and market forces that eventually dominated SD discourse in the 1990s. The excitement about the growing global dimension of trade was not new. What was novel was the conditioning frame under which development (and the EsD discourse) was marginalised, a trend that increased throughout the 1990s.

Principle 7 is also relevant since it refers, for the first time since the Stockholm Conference, to the historical responsibility for environmental degradation, and establishes that developed countries must accept greater responsibility in the search for solutions to environmental problems and in pursuing SD at a global level than their developing counterparts (Sands, 1993, 1995; Rowlands, 1992).

(2) *Agenda 21* resulted in an 800-page document outlining a plan of action on environment and development for the year 2000. It proposed the creation of a Commission on Sustainable Development (CSD) at the UN. The CSD came into being just after the Earth Summit ended; its remit was to review the implementation of Agenda 21, by reporting on the actions of governments, international organisations, business groups and local communities. It was also tasked with promoting new strategies when necessary (Flander, 1997: 391-392).

(3) *The UN Framework Convention on Climate Change and Convention on Biodiversity.* The former strove to reduce the emission of greenhouse gases by the year 2000 to 1990 levels. Germany and the Netherlands pushed this target, while the US delegation strongly opposed it. Rowlands (1992: 3) states that the US government argued that it was supporting its 'national economic interests'.[59]

Biodiversity met a similar fate. Although the Convention on Biodiversity is a binding document and was signed by 153 countries at Rio, it remained unclear whether it would

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[59] The position of the US government on this issue has remained practically unchanged since President Clinton signed the two treaties finalised in Rio to slow climate change and the loss of biological diversity. The U.S. Senate has never ratified these treaties. Moreover, the US remains among the few countries that have not ratified the Kyoto Protocol (Hahn, et al, 2003: 27-29, 40).

work in practice. The debate on biodiversity was primarily a North-South one. Rowlands (1992: 3) notes that the Southern countries feared that developed countries, which possess the resources and technology to take advantage of their genetic resources, would attempt to patent them; the US meanwhile refused to sign the agreement in order to protect the access of its biotechnology industry to the genetic material they required.

(4) *Resource and technology transfer.* Developing countries clearly required more financial and technological help to achieve the implementation of Agenda 21 and the climate change and bio-diversity conventions. The developed countries, however, promised to increase their financial support by only US$2.5 billion, far short of the US$5 billion the South had hoped for (Rowlands, 1992: 5). Developed countries accepted, in the Rio Declaration, a higher degree of responsibility than developing nations (see Principle 7 of the Rio Declaration) for achieving SD at the global level, but it is unclear what 'higher degree of responsibility' meant in terms of money and technology transfer.

Flanders (1997) a member of the Division for Sustainable Development of the UN Commission on Sustainable Development (CSD), stated that progress towards the Earth Summit goals agreed in 1992 appeared very slow and uneven by the late 1990s. During the first quarter of 1998, the CSD held its annual meeting in New York, bringing together governments, multilateral organisations, NGOs, local communities and business corporations. These groups had only just begun to behave in more 'sustainable' ways – despite having adopted SD discourse much earlier. For instance, in 1994 the Confederation of Zimbabwe Industries created a 'Clean, Green and Profitable (CGP)' programme to help national industries improve their environmental operations by developing greener managerial and technological capacities (Flander, 1997). Despite claims of progress in implementing Agenda 21 by many countries, Osborn (1998: 4) shows that environmental degradation continued unabated and the gaps between rich and poor got wider. He points out that each year more than 5 million die from diseases related to the contamination of drinking water and poor sanitation. Meeting the challenges laid down at the Rio Summit by the 21st century would, it appeared, require an urgent mobilisation of financial resources and political will.

Ten years after Rio, the UN held a third international meeting to review the progress made. The World Summit on Sustainable Development (WSSD) or Johannesburg Summit was held in South Africa in August 2002. It brought together, for the third time, heads of state and government, national delegates and NGO leaders, business groups and others to focus the world's attention on dealing with the vexed issues of energy, poverty, natural resources conservation, bio-diversity, and new technologies

(www.johannesburgsummit.org, 15 September 2002).[60] Space does not permit a thorough examination of the WSSD. However, one of the criticisms during and after the negotiations - strongly supported by some academics and NGOs – was that the WSSD had been taken over by World Trade Organisation (WTO) interests (Cifuentes-Villaroel, 2002; Hoedeman, 2002). [61] A UK development campaigner for the World Development Movement put it like this in August 2002: 'the WTO is the single biggest threat to sustainable development.'[62] The director of the World Development Movement, Barry Coates claimed that:

> The iron fist of the WTO is stopping any progress on shaping economics to promote sustainable development. Instead, the WTO is undermining efforts for poverty reduction and environmental sustainability. The WSSD must accord priority to the urgent needs of the world's poor and the planet, not the corporate interests that dominate the WTO.[63]

This point is critical for the argument of this thesis: it highlights how business groups gained control over SD discourse in the 1990s at the international and national (and local) levels.

The creation of the World Business Council for SD (WBCSD)

The creation of the World Business Council for Sustainable Development (WBCSD), in January 1995, is the second event that significantly influenced SD discourse of the 1990s. The WBCSD is a coalition of senior executives and chairs of one hundred and sixty of the largest transnational companies from more than 30 countries and 20 major industrial sectors. The WBCSD includes a Global Network of 40 national and regional business councils and partner organisations involving nearly 1000 business leaders globally (DeSimone, 1997: xii; www.wbcsd.com). It was formed through a merger of the Business Council for Sustainable Development (BCSD) and the World Industry Council for the Environment (WICE) in the mid-1990s; its creation was closely connected with the Rio process.[64] The BCSD was set up by the Swiss industrialist Stephan Schmidheiny in response to the UN request for business inputs to Rio and with the

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[60] President George W. Bush's absence from the WSSD and lack of cooperation with the world community was widely condemned in Johannesburg.
[61] EsD appears to have regained ground by the end of the 1990s. Particularly during the Sustainable Development Summit (Johannesburg, 2002), developing countries attempted to bring development issues back into the SD debate; the division between rich and poor countries captured the Summit's attention. Poverty became a high priority in the Summit's agenda for developing countries. Other issues such as technology development and transfer to the Third World, environmental health, GM products, and biotechnology also gained a high priority. This remains a fruitful research area.
[62] See: http://www.wdm.org.uk/presrel/current/wssd_threat.htm/ and http://www.foodfirst.org/media/printformat.php?id=176/. Also see Friends of the Earth e-bulleting of October 2002 in: http://www.foei.org/wssd/implement2.html/.
[63] See: Fondo Nestle para la Nutricion, http://www.fondonestlenutricion.org.mx, 12 October 2002.
[64] The World Industry Council for the Environment (WICE) based in Paris was an initiative of the International Chamber of Commerce (ICC) to provide business inputs to the implementation of Agenda 21 (DeSimone, 1997: xii).

objective of encouraging big business corporations to improve their environmental performance (DeSimone, 1997: xii; Bright, 1991: 19).

On the fifth anniversary of the Earth Summit, chairman of the WBCSD Livio DeSimone claimed: 'a paradigm shift has clearly taken place. Business...used to be depicted as a primary source of the world's environmental problems. Today it is increasingly viewed as a vital contributor to solving those problems and securing a sustainable future for the planet' (quoted in Karliner, 1997: 31; also see Schmidheiny, et al, 1997: 4). Since its creation, the WBCSD claims to have become the 'business voice on sustainable development issues' and to have played a key role in shaping business's resistance to claims about the ecological crisis during the 1990s (www.wbcsd.com).

The WBCSD has supported, encouraged and publicised business groups' response to the ecological crisis. This response consists mainly of environmental management practices, adoption of technological and process innovations, best practice and changes introduced by corporate environmental and social policies. Business associations like the WBCSD have understood that environmental and social responsibility policies create a green image, offering a competitive advantage to individual companies and the business community as a whole (Dasgupta, et al, 1998). The WBCSD pre-supposes that as more and more industrial groups in developed countries subscribe to such practices and policies, they will 'trickle down' to business affiliates and supply companies in developing countries (Utting, 2002: 4-5).

The introduction of elements of SD discourse into business groups' policies and practices is known as the 'greening of corporations'. The increase in foreign direct investment since the 1980s and technology transfer have paved the way for the greening of industry in the South, or at least that is how one story goes. Big business, with the support of international associations like the International Chamber of Commerce (ICC) and WBCSD continues to promote environmental management and technology innovations among affiliates and other supply companies. Chapter 7, though, highlights empirical evidence that the adoption of SD discourse by big business affiliates and other partner companies has failed to go beyond rhetoric. Chapter 7 demonstrates that the SD discourse of most industries in the region of Juarez/El Paso has not been matched by meaningful SD practices. This finding supports, to a degree, one of the most common criticisms of the greening of corporations made by authors such as Bruno & Greer (1996). They argue that the greening of business is a mere public relations exercise and the portrayal of environmentally and socially responsible businesses is false. Big business, they argue, continues to pose a threat to the

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environment. In the case of the region of Juarez/El Paso, the political, social and economic reality - particularly of Juarez -has proved a great obstacle to meaningful SD and social corporate responsibility within *maquiladoras* (see chapter 7 below).

Whilst many business groups in the North have introduced significant changes in their processes, production and product standards to enhance SD and corporate social responsibility, the business community and the WBCSD have very little to say about the need for fundamental economic, political or social change (Utting, 2002: 4). They largely ignore issues such as consumption patterns, concentration of economic power and wealth in the most influential business groups, and the growing gap between rich and poor. During the 1990s, development-related issues (namely, EsD) appear to have been subordinated to market forces and the 'sustainable profits' of economic and political elites.

Section 4
Summary and conclusions

This chapter began by examining the seminal concepts and events of modern SD discourse, from Rachel Carson's *Silent Spring* to Meadows et al's publication of *The Limits to Growth*. The chapter then analysed modern SD discourse over three periods:

- 1970s: Stockholm Conference, 1972
- 1980s: Brundtland Report, 1987
- 1990s: Rio Summit, 1992 and WBCSD, 1995.

The chapter reveals one of the main characteristics of the dominant SD discourse of the 1990s: in contrast to previous decades, social development and radical conservationist issues (Ecologism and EsD) including quality of life, social justice, equity, ethics and poverty eradication have lost much ground. SD discourse of the 1990s is dominated by Corporate-Environmentalism (including managerialist, market-oriented and economistic threads). Business groups exercise the greatest influence upon this discourse.

The dominance of Corporate-Environmentalism within SD discourse in the 1990s is imbricated with social and environmental change bound up with global capitalism. One attempt to theorise this -global system theory- considers global environmental issues and their relationship to capitalism and its leading actors (see Sklair, 1994, 1995 & 2001). This theory posits a global environmentalist system made up of environmental NGOs, environmental elites, and the ideology of green consumerism: these may oppose

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the ideology of capitalism. Global system theory also argues, though, that some parts of the environmental movement have been co-opted by corporate interests, creating a 'sustainable development historical bloc.' According to global system theory, this 'bloc' has been successful in resisting the radical ecologists and their conviction that a global ecological crisis poses a serious threat to the global capitalist system (Sklair, 2001: 198-199).[65] This approach is useful and in chapter 6 these issues are investigated with reference to business groups in the region of Juarez/El Paso.

By the 1990s, SD discourse had transcended politics and become one more element in the global capitalist system led mainly by business groups and their associates from NGOs and governments around the world. The central question for international business during the 1980s was: how can international trade organisations incorporate the environmental dimension into their policies and operations in order to promote SD? As Schmidheiny, et al (1997) explain, business groups performed a three-hundred and sixty degree turn, airbrushing out their polluting image and depicting themselves as greener than green. Whilst this environmental management has had same positive impacts within the geographical area in which particular firms are located, in terms of recycling, waste management, air emissions and water pollution, it is unlikely that it will solve the ecological crisis. With the introduction of environmental management and social responsibility policies, a new notion of discrete, manageable (under control) environmental problems or *environmental problematique* has displaced that of a global (holistic) ecological and social crisis. The following chapter presents the categorisation proposed to analyse the SD discourse and practice of business groups, local government and NGOs in the region of Juarez/El Paso in the 1990s.

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[65] Other social theorists of the reflexive modernisation school have considered the relationship between capitalism and global environmental degradation, notably Giddens (1990) and Beck (1992; 1995). Some theorists acknowledge that environmental degradation is inherent in the capitalist system, emphasising industrialisation and modernity, but also emphasise environmental threats as a process that inspires environmental awareness and green activism. The risk society theory, for example, argues that expert knowledge becomes increasingly important as risks increase, particularly at the end of the 20th century, insofar as science and experts define them (Adams, 1996; Beck, 1995).

Chapter 3

Categorising SD discourse: Ecologism, Ecologically-sustainable-Development and Corporate-Environmentalism

SD discourse has permeated a number of academic disciplines. Almost every branch of the natural and social sciences, including biology, physics, economics, geography, sociology, and law has investigated SD (Leff, 1981). The previous chapter examined how Corporate-Environmentalism - environmental management, self-regulation, technological determinism, and market-oriented environmentalism - came to dominate SD discourse in the 1990s. These prevailing notions differentiate SD discourse of the 1990s from both the dominant and marginalised discursive strands of previous decades. Meanwhile, conservationism and social development (Ecologism and Ecologically–sustainable-Development) waned. This chapter critically examines previous categorisations (or typologies) that have identified the overall direction and conceptual frameworks of SD discourse; this is crucial if we wish to fathom the varieties of SD discourse in the 1990s. Based on this analysis, the chapter showcases a tripartite categorisation of SD discourse. This model serves as a framework for analysing the relationship between SD discourse and business groups, local government and NGOs in the region of Juarez/El Paso (and other parts of the world).

Section 1 begins by examining previous classificatory schemes and the conceptual areas they cover.[66] It also introduces the three schools of thought that constitute SD discourse categorisation proposed in this study: *Ecologism, Ecologically-sustainable-Development (EsD), and Corporate-Environmentalism.* Section 2 analyses *Ecologism*, section 3 *Ecologically-sustainable-Development (EsD)* and section 4 *Corporate-Environmentalism.*[67] Finally, section 5 summarises the chapter's core issues and makes some concluding remarks.

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[66] This section critically engages with the work of Dobson (1990), McManus (1996), Dion (1998) and Lélé (1991).

[67] At first glance the analysis of Corporate-Environmentalism and the concepts that this school of thought integrates (see section 3 of this chapter), may appear similar to the points made in the previous chapter. The purpose of chapter 2, however, was to point out the significance of key events and texts associated with Corporate-Environmentalism in order to understand how concepts such as continuous improvement and self-regulation became dominant ideas of SD discourse in the 1990s. Section 3 of this chapter goes beyond the historical analysis and critically engages with the work of Pearce et al (1989), Simon & Kahn (1984), Hajer (1995), and Lomborg (2001) and different theories that constitute Corporate-Environmentalism.

Section 1

Categorisations of SD discourse

SD discourse has been characterised by its global, regional and local reach and by its interrelationship with assorted groups. Business groups, governments and NGOs have adopted elements of SD discourse; they have also influenced its development. Hajer (1995: 1) argues that SD discourse is formed by a '...collection of claims and concerns brought together by a great variety of actors....' Redclift (1992: 395) remarks that the discussion around SD discourse has 'frequently proved confusing' and that the term SD 'is subject of considerable interpretation.'[68] Indeed, SD literature abounds with competing definitions, interpretations and positions. The numerous disciplines and actors engaged with SD discourse make it essential to examine categorisations that have attempted to identify the general direction of SD discourse (see for example Dion, 1998; McManus, 1996 and Lélé, 1991). This section does not explore the multitude of interpretations put forward since the 1970s. It turns the spotlight rather on previous SD discourse categorisations and their conceptual fundaments in order to show why the development of a new categorisation is the sine qua non for the analysis of SD discourse in the 1990s.

One of the first categorisations within the social sciences was the distinction between radical ecology and moderate environmentalism (Dobson, 1990). Radical ecology presupposes, according to Dobson (1990: 39-71), a political ideology that injects radical views into SD discourse and promotes radical changes in values, consumption patterns and production, humans' relationship with nature and non-human organisms, and social and political structures. Dobson called radical ecology *ecologism*.[69] Moderate environmentalism, in contrast, supposes that natural resource management and technical adjustments can solve environmental problems; it excludes changes, radical or moderate, in values and social or political structures, while its concern about nature derives from the possible negative effects of environmental degradation on human beings (Dobson 1990: 2-13, 198).

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[68] It is impossible to review all the definitions and categorisations that have been proposed, particularly since the Brundtland Report defined SD in the 1980s. Brooks (1992: 408) points out that at least 40 working definitions of SD appeared in the five years after Brundtland. This chapter focuses on the main definitions and categorisations made within the social sciences.

[69] I build on Dobson's (1990) categorisation of radical ecologists and borrow his term ecologism, as the term for one of the three schools of thought of SD discourse categorisation proposed in this chapter.

McManus (1996) furnishes us with one of the most comprehensive categorisations of SD discourse. His typology incorporates components of SD discourse omitted or excluded in other typologies, including eco-Marxism and social ecology. McManus identified, in addition to the Brundtland Report, eight broad approaches to sustainability: free-market environmentalism, market interventionism, steady-state theory, smaller-scale advocacy, eco-feminism, eco-Marxism, 'mirror nature' (Deep Ecology) and constant capital stocks criterion.

These nine categories point up the contested nature of SD discourse, both in terms of concepts and definitions. Free-market environmentalism, as defined by McManus (1996: 58), often deploys the term SD and embraces Harding's (1968)[70] idea that conservation of species or resources is best achieved through private ownership; it makes much of the material (technological) success of capitalist nations and the ecological disasters of Eastern Europe. Free-market environmentalism is closely related to Corporate-Environmentalism - the third strand of the SD discourse categorisation that the present work delineates - in as much as it assumes that economic and technological growth can tackle global environmental problems. McManus' mirror image and constant capital stocks criteria, meanwhile, are related to Ecologism and Ecologically-sustainable-Development (marginalised in the 1990s). McManus, though, does not discuss the nine categories of his typology in terms of their dominance or marginalisation within SD discourse at different times; this thesis fills that lacuna.

McManus concludes that sustainability needs to be rethought. Rather than focusing on sustainability in absolute terms, he posits the need to develop clear and meaningful 'sustainability principles'; 'development' should mean qualitative changes towards sustainability. McManus' typology is more flexible and less linear than other typologies, and hence closer to reality. He argues that whilst different groups share common concerns with regards to sustainability, they also tend to show disagreement on other issues (McManus, 1996: 57-63).

In the 1990s, a number of academics focused on businesses groups' role in environmental protection. Public pressure for businesses to assume responsibility for environmental and social problems produced some proactive initiatives. Dion (1998: 151) presents four categories to explain corporate environmental policies. During the 1990s, he argues, business groups both large and small claimed to have introduced

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[70] For a detailed discussion of Hardin's work see chapter 2 above.

social and environmental corporate responsibility policies.[71] However, environmental policies vary according to business size and sector and whether they focus on technological changes or the rational use of natural resources. Dion's (1998: 152-156) four categories help illuminate corporate environmental and SD policies:

1) *Neo-technocratic enterprise* (dominates and exploits nature without any environmental concern)

2) *Techno-environmentalist enterprise* (develops mechanisms of self-regulation that help to protect the environment and increase profitability)

3) *Pseudo-environmentalist enterprise* (develops a set of preventive mechanisms and management methods for products and raw materials in order to use natural resources in a socially responsible way)

4) *Quasi-environmentalist enterprise* (committed to ecological ideals; supports research and development into environmental protection)

Business groups introduced environmental policies as their new role -as dominant actors of the SD discourse- in 1990s evolved. Dion's typology sheds light on business groups' rhetoric and on the main elements of SD discourse such groups have incorporated into their policies, principles and mission statements. His typology does not, however, analyse in detail the differences and similarities between business groups' SD discourse and practice.[72] As Dion (1998: 152) points out: 'I present a typology of corporate environmental policies...[that] also has some limitations, since the policy (theory) cannot warrant the corporate practices, as is true for every ethical issue covered by ethical codes.' Nevertheless, his typology does provide a useful theoretical and analytical guide for the analysis of various actors' SD discourse and practice, since it discusses in detail key elements of business groups' SD discourse in the 1990s.

Lélé (1991) provides another pertinent analysis and categorisation of SD discourse. Lélé (1991: 608) divides the interpretation of SD into two groups:

a) 'Sustainability' that refers to 'ecological sustainability'

b) Conceptualisation of SD as a 'process of change' that has (ecological) sustainability added to its list of development objectives.

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[71] Robbins (2001: 43-46) analyses corporate environmental policies as part of the response of business groups to the ecological crisis and points out that corporate environmental and SD policies indicate a corporation's commitment to improve environmental performance. Corporate environmental and SD policies include protection of natural resources, pollution reduction, waste management, and continuous improvement. SD discourse and the environmental corporate responsibility policies of business groups in the region of Juarez/El Paso are examined and analysed in chapter 6 of this thesis. Also see Appendix VI, VII and VII for some examples of corporate environmental policies and principles.
[72] SD discourse and practice of business groups in the region of Juarez/El Paso are examined in detail in chapter 6 of the thesis, where Dion's typology is further explored.

Her analysis is linked to that of Dobson (1990), who presents two categories of SD discourse, and associates ecological sustainability with radical conservationism. Lélé claims that her two general interpretations are more useful than other interpretations that use the term SD interchangeably with 'sustained growth,' 'sustained change,' or 'successful development.' Lélé (1991: 618) concludes that SD proponents must reject attempts to privilege economic growth if SD discourse is to survive as a development paradigm. She examines key elements of Ecologism (radical ecologists) and Ecologically-sustainable-Development (environmental development-related issues) and calls for the re-insertion of development issues as a dominant element of SD discourse.[73]

Building on these contributions, the present work proposes the following as the most useful categorisation for the analysis of SD discourse and practice of diverse groups, particularly in the region of Juarez/El Paso:

1. Ecologism

2. Ecologically-sustainable-Development

3. Corporate-Environmentalism

These categories emerged from probing the dominant views of both powerful and marginalised groups, the background of their proponents, the anthropocentric or non-anthropocentric nature of their approach, their awareness of global, regional and local environmental problems and the role of technology, economic growth, social development and ecological conservation. Each school of thought is now defined and analysed in detail.

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[73] Whilst Lélé focuses on development issues within SD discourse, other authors have classified SD in terms of the sustainability of natural capital (environmental and ecological economics). Turner (1993) for instance identifies three different types of sustainability: 1) very weak sustainability (substitution of human produced capital for natural capital); 2) weak sustainability and 3) strong sustainability (natural capital is not substituted by human produced capital). Turner's typology has been criticised for its linear and narrow framework, which focuses only on environmental and ecological economics (McManus, 1996: 56). Jacobs (1991, 1995; Jacobs et al, 1997), also concerned with environmental economics, presents six different approaches based on neo-classical economics. Three of Jacob's approaches within his typology are of particular interest: 1) property rights (free-market environmentalism) 2) environmental democracy and 3) ethics of sustainability of institutions and processes. Jacob's types focus on institutional reform and exclude important views within SD discourse such as radical ecology. [73] Whilst Jacobs' typology proves helpful to explaining SD discourse in the 1980s, when major institutional changes related to the environment were introduced in developed and developing countries, his classification has become dated in as much as it does not include the actors and ideas that became dominant during the 1990s. McManus points out that Turner (1993) and Jacobs et al (1997) fail to consider other political and cultural influences on SD discourse and that social ecology and eco-Marxism were excluded from previous typologies.

Section 2

Ecologism

Ecologism integrates radical conservationist and non-anthropocentric views. Its proponents believe in bio-diversity conservation, animal rights, limits to economic and population growth, local political autonomy, decentralisation and environmental ethics. Ecologism proposes radical changes in humans' engagement with nature and in social, economic and political values.

This school of thought is associated with the dominant SD discourse of the 1970s and the work of authors such as Naess (1973), Devall & Sessions (1985), and Lovelock (1979, 1988). Ecologism rejects almost any human-related effect on the natural environment. Global environmental problems are regarded holistically as a single ecological crisis. This ecological crisis demands an urgent response. According to this school of thought, industrial society and human values must both change radically to preserve and restore the world's natural resources.

Proponents: mainly green NGOs and local activists (in the developed world). Earth First!, an international conservationist NGO well known for its radical strategies and civil disobedience campaigns around the world, is an example. Earth First!'s most successful and well-known campaigns took place up until the early 1980s.[74] An example of an organisation espousing Ecologism in the region of Juarez/El Paso is the South West Environmental Centre (SWEC), devoted exclusively to the restoration of rivers, biological diversity and other resources.[75]

Deep Ecology

Philosophical and ethical questions about the relationship between man and nature are central to the deep ecology movement. Naess (1973: 242-243), a leading proponent of deep ecology, raised fundamental questions about the world ecological crisis. He points out that environmental concerns divided into two different movements, in his words: 'A shallow, but presently rather powerful movement, and a deep, but less influential

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[74] In the late 1970s and early 1980s the radical portion of Earth Firstlers, together with some local activists, campaigned against a timber company logging in the Middle Santiam Cathedral Forest in Willamette National Forest in Oregon, US. Earth Firstlers' opposition continued for some time in the form of civil disobedience. On one occasion the activists sat on dynamite boxes that were going to be used on a hillside to open a road into the National Park. Five were arrested. Frustrated by their lack of success, activists searched for more efficient and radical methods to stop the Willamette Industries clear-cutting an area of old trees. They sneaked into the logging area and put spikes in the trees, climbed the old trees and sat on branches for long vigils (tree sitting) (Manes, 1990: 100-103 & 175-190).
[75] SD discourse and practice of NGOs in the region of Juarez/El Paso, such as the SWEC, are examined in chapter 8 of the thesis.

movement, compete for our attention.'[76] The former is concerned with curbing pollution and resource depletion, in order to maintain the affluence of rich countries. The deep ecology movement has deeper and broader concerns. Naess (1973: 243-247) outlines the seven main concerns and principles of the deep ecology movement:

(1) Deep ecology rejects the shallow image of 'man-in-environment' and replaces it with a 'total-field' image, where all organisms are equal, interrelated to the ecosystem and have intrinsic value.

(2) Biospherical egalitarianism: All ways or forms of life have an 'equal right to live and blossom'.

(3) Diversity and symbiosis: the rich diversity of forms must 'co-exist' and 'co-operate in complex relationships...Live and let live' (Naess, 1973: 244).

(4) Anti-class posture: No organism should exploit or suppress another; this extends to the relationship between developed and underdeveloped countries.

(5) The fight against pollution and resource depletion; this principle is shared with the 'shallow' movement. Naess states that deep ecologists must consider the seven principles together, not point by point.

(6) Complexity–no-complication: Complexity is a good and natural feature of the biosphere, where all organisms and forms of life interact in a complex manner. Thus, 'complexity-no-complication' should be extended to human thinking (Naess, 1973: 245-246).

(7) Local autonomy and decentralisation. Supports local political autonomy and decentralisation, encourages local self-government and mental autonomy.

As Naess (1973: 247) himself notes the seven principles undergirding the deep ecology movement are 'vague generalisations.' The normative characteristics of the deep ecology principles, however, provide them with high 'political potential' that go beyond pollution and resource depletion (Naess, 1973: 247). Finally, he states that the deep ecology movement's contributions derive from eco-philosophy and scientific facts. 'Ecosophy' is defined by Naess as the philosophy or wisdom of ecological equilibrium. Naess states that the seven principles are meant to form the framework for other 'ecosophical systems.' Naess named his own version of deep ecology 'Ecosophy 'T'. Naess emphasised that each person can make his or her own 'Ecosophy': all it takes is a deep questioning and meditative thinking process (Devall & Sessions, 1985: 225-228).

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[76] In the 1970s, the Norwegian philosopher and activist Arne Naess (1973) published an article entitled 'The Shallow and the Deep, Long-Range Ecology Movement.'

Two of Naess' followers, Devall & Sessions (1985:65), expand on his view that deep ecology goes beyond the 'shallow' approach.[77] Deep ecology instead attempts to provide a comprehensive religious-philosophical view of the world, which involves an ecological consciousness. This ecological consciousness rejects the shallow worldview that characterises technocratic-industrial societies - one that privileges humans, separates them from the rest of nature, and believes them superior to other species. In contrast, for deep ecology '...the search for deep ecological consciousness is the search for a more objective consciousness and state of being through an active deep questioning and meditative process and way of life' (Devall & Sessions, 1985: 66).

The deep ecology movement is based on two basic norms or values. The first is that of 'Self-realisation.' For deep ecologists Self-realisation means, as Naess puts it, a 'universal self ...that identifies not only with the ecosphere but with the entire universe.' Self-realisation can be reached only through a deep meditative questioning process as mentioned above (Devall & Sessions, 1985: 66-67, 226-227).[78]The second norm of deep ecology is called 'bio-centric equality' or ecological egalitarianism. Devall & Sessions expand on principles (1) and (2) of deep ecology, described by Naess in his essay of 1973. Bio-centric equality means that '...all things in the biosphere have an equal right to live and blossom and to reach their own individual forms of unfolding and self-realisation within the larger Self-realisation' (Devall & Sessions, 1985: 67). It follows that all organisms are interrelated, form part of the ecosystem and have an equal and intrinsic value.

These two norms formed the deep ecologists' framework for living. However, Devall & Sessions (1985) also encourage readers to develop their own 'Ecosophy' or further elaborate on these basic norms. They outline eight points that serve as a framework for deep ecologists (Devall & Sessions, 1985: 69; Naess, 1997: 65). This framework was a new version of the deep ecology principles proposed by Naess in 1973. However, some new formulations on important issues were introduced into the latest version. For example, principle (4) argues that the development of human and non-human life requires a substantial decrease in human population; principle (5) stresses that human interference with the non-human world is excessive, and the situation is rapidly worsening; principle (6) calls for deep changes in future economic, technological and ideological policies; principle (7) states that attaining a better quality of life should be elevated above the idea of achieving high standards of living; and finally, principle (8)

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[77] Bill Devall and George Sessions (1985) published a book entitled *Deep Ecology*. Together with Naess' original article (1973), this continues to be amongst the most cited sources within SD literature.
[78] See 'Ecosophy T' by A. Naess, reprinted in Devall & Sessions (1985: 225-228).

states that all those who support the deep ecology platform have an obligation to promote the implementation of the changes required (Naess, 1997: 65).

Many of the green parties and radical environmental organisations formed in the 1970s adopted the ethics and philosophy of deep ecology.[79] Green parties and activists, though, sympathise with deep ecology in a range of ways. The deep ecology philosophy, in particular the concept of ecological egalitarianism, was also subject to criticism: social ecologists, ecofeminists and the reformist environmentalists (or shallow environmental movement), were the leading critics. Zimmerman (1994: 150) noted, however, that some social ecologists, such as Bookchin, share common ground with deep ecology ideas, particularly on issues related to the conservation of non-human diversity and decentralised self-reliance communities.

Although deep ecology was the main influence on Ecologism, it was not the only one. Lovelock's (1979) Gaia theory also influenced the Ecologism dominant in the 1970s (and marginalised in the 1990s). According to the Gaia theory, the Earth is, in some sense, alive. Neo-Darwinists criticised the theory, arguing that the earth could not be alive, since it cannot reproduce itself. This theory inevitably raises deep philosophical questions as to whether non-human (genetic and evolutionary beings) processes have any sort of purpose and what that might mean. [80]

Section 3
Ecologically-sustainable-Development (EsD)

Ecologically-sustainable-Development (hereafter EsD) argues that important development issues, such as quality of life, poverty, local autonomy, environmental health and social justice need to be re-introduced at the centre of SD discourse. This school of thought also includes radical anarchist and social ecology. EsD is largely anthropocentric and evokes a single, holistic ecological and social crisis. If not urgently addressed, millions will continue to live in poverty while their natural resources are degraded.

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[79] I referred to the formation of some of these parties and organisations in chapter 2 above.
[80] For a detailed analysis of ecology, philosophy and ethics see, for example, Attfield & Belsey (1994), Jonas (1991), Young (1990) and Zimmerman (1994).

This school of thought includes SD ideas of the 1980s, which supporters of Ecologism,[81] and especially Corporate-Environmentalism, have little time for. EsD assumes that the ecological crisis arises from present economic and social structures. The widening gap between rich and poor is a major concern of EsD; poverty is regarded as a cause and effect of the ecological crisis. EsD integrates development related issues such as poverty eradication, social justice, quality of life, environmental health, development (other than capitalist growth) and the introduction of alternative technologies. Moreover, EsD wants development issues, environmental and social justice, and ethics to prevail within SD discourse at global, regional and local level.

Proponents: NGOs, grassroots organisations and governments in developing countries are the main proponents of EsD (see Redclift, 1987; 1992). International NGOs include Greenpeace and the radical faction of Friends of the Earth, which together with a growing number of NGOs are becoming more and more sceptical of self-regulatory and related SD policies and ideas pushed by business groups and governments around the world. Organisations like Greenpeace have become increasingly aware of the importance of looking for solutions to development-related issues in tackling the ecological crisis.[82] Some good examples of this kind of NGO in the region of Juarez/El Paso (to be discussed in chapter 8) are *Federacion Mexicana de Asociaciones Privadas de Salud y Desarrollo Comunitario* (FEMAP) and Centro de Asesoria y Promocion Juvenil (CASA); both organisations have a holistic approach to environmental and social development problems and work closely with local communities.

Ecological Economics

Ecological economics and its proponents argue that modern society is focused on increasing GNP and overall economic growth, at high environmental and social cost. Various authors have developed varieties of ecological economics that reject traditional economic practices as unsustainable, polluting and inequitable. One of the leading theories is that of the steady-state-economy (Daly, 1977).

Daly advocates a steady-state economy as the solution to the ecological crisis.[83] The roots of the concept, as Daly himself points out, are in the writings of J. S. Mill more

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[81] Most proponents of Ecologism are more concerned about the conservation of natural resources and animal rights than social development issues. See for example: Naess (1973).
[82] Greenpeace was closely associated with the deep ecology movement and Ecologism in the 1970s. It has expanded its actions worldwide and now also embraces elements of EsD. Greenpeace is dedicated to non-violent illegal disobedience and directs its actions toward capturing world media interest, shaping public opinion and consequently influencing political and business groups' policy making (de Steiguer, 1997: 150).
[83] In the early 1970s, Daly (1977) published an essay entitled 'The Steady-State Economy: Toward a Political Economy of Biophysical Equilibrium and Moral Growth.'

than a century ago (Daly, 1977: 331). In the first pages of his essay Daly argues that for centuries people lived on earth in conditions that were very close to equilibrium. Over the last 200 years, and particularly over the last 50 years, 'growthmania' has, Daly states, become a world wide epidemic. For Daly, 'growthmania' is a central phenomenon of modern society, an obsession with economic growth and increasing GNP. Economic growth has become the central goal for all nations. But 'Growth is an aberration, not the norm,' he said, and 'Development can continue without growth...under a steady-state economy' (Daly, 1977: 331). His views are intrinsically connected to one of the central questions of EsD: what kind of development can stop environmental degradation and eradicate poverty.

Daly defined the steady-state economy as one where population and the stock of physical wealth are held constant, and where the rate of throughput (or resource consumption) is reduced or minimised to its lowest levels. This provides a good quality of life for present generations and maintains sufficient ecologically sustainable stocks for the future (Daly, 1977: 326-326). Daly argued that the main problem of modern society and its obsession with increasing the GNP is the resulting scarcity of resources, the reduced availability of such resources for future generations and the decline in the ecosystem's ability to support life. At the same time, Daly says that maximising GNP is an inappropriate social goal. GNP fails to account for the services provided by environmental resources, and, moreover, the costs of repairing the effects of pollution are counted as benefits. Thus, for Daly the best '...thing to do with the GNP is to forget it' (Daly, 1977: 330). Instead, he proposed two separate social mechanisms, one that measures the benefits (value of the service) and another that measures the cost (the value of the throughput) (Daly, 1977: 330).[84] Finally, Daly states that although the above changes are necessary, they are insufficient. He maintains that human morality and values must also evolve. He argued that if '...we give our first attention to the evils of the day, we will have moral growth though not so much economic growth' (Daly, 1977: 355-356).[85] Although, Daly's work did not became a best seller, his ideas regarding the integration of economy and ecology set a new framework for the development of new

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[84] Paul Ekins (1986) also rejects both the traditional assumptions of economic growth and the idea of steady-state economics. He also notes the inadequacy of GNP indicators, which in his view fail to account for 'any benefit to the quality of life and of the environment' (Ekins, 1986: 163). Like Daly, he argues that whilst some 'patterns of economic growth' might be sustainable within a finite system, traditional economic practices are unsustainable, polluting and inequitable. Ekins posed three crucial questions with regards to economic growth patterns: 'growth for what? Growth for whom? Growth with what side effects?' (Ekins, 1986: 161-2).
[85] In 1991, Daly published a book entitled *Steady-State Economics,* where he further discusses the steady-state economy and the SD-economic growth debate. The central arguments of his book are essentially the same as before. Daly has also published other interesting essays; see, for example, Daly (1995: 108-124). For further discussion on Daly's work see, for example, de Steiguer (1997: 116-127), Adams (1990: 67-68).

approaches to the ecological crisis. Daly's attempt to introduce environmental issues into economics greatly influenced the growth of SD discourse.[86]

Neo-Marxist ecology

Neo-Marxist ecologists have contributed key elements of EsD (see for example Redclift, 1987; Hecht & Cockburn, 1989; and Hettne, 1990). Neo-Marxist views on the environment and SD are based on a critique of capitalism as a system of exploitation, emphasising the conflict of interests between social groups and between those who own the resources (developed countries/North) and those who struggle to gain access to them (developing countries/South) (Pepper, 1984: 32). Michael Redclift (1987; 1992) discusses the debate over environmental degradation and SD from a structuralist approach (derived from dependency theory). Redclift emphasises the inequality that prevails within the global economic system between developed and developing countries. Accordingly, the environmental crisis in the South has been the result of an 'economic, structuralist crisis' (Redclift, 1987: 2) He argues that the global economic system requires drastic structural changes in order to halt environmental degradation. He calls for radical changes in economic and social structures, and particularly in the way the ownership and control of resources are distributed. One of his central arguments is that development must be subjected to redefinition in order to break with the present economic system of growth and accumulation and its detrimental effects on the environment (Redclift, 1987: 3). In his view, the definition of SD put forward by the Brundtland Commission has been useful: it introduced a focus on environment and development as a key element of EsD and ultimately of SD discourse. However, he points out that there are two important contradictions within the Brundtland SD definition. The first is the emphasis on sustainability within the Brundtland definition, which can be interpreted as a means to avoid the constraints that environmental degradation could place on human economic activities. The second is that the Brundtland SD concept does not acknowledge the contradictions inherent in the structural inequalities between North and South. In the South, environmental concerns are usually related to more basic issues of survival, while the North is more concerned with improving its people's standard of living and quality of life (Redclift, 1992: 399).

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[86] Later, Daly (1991) distinguishes between the term SD and sustainable growth. He argues that sustainable growth is quantitative and that refers to the increase in material and physical dimensions, and that because human economy is a component of a 'finite global ecosystem,' sustainable growth cannot be achieved over prolonged periods and should therefore be rejected (Daly, 1991: 1). In contrast, SD is qualitative and refers to the development or improvement of both natural and physical capital, which can be maintained over longer periods of time (Daly, 1991: 2-5). Daly's ideas (as well as those of other ecological economists) are central to EsD, in as much as he emphasises development over economic growth as a prerequisite for tackling the ecological crisis.

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In sum, according to Redclift, the Brundtland Commission definition of SD is founded on these contradictions; development will remain unsustainable and environmental degradation will increase, unless development is redefined (Redclift, 1987: 204). Although, Redclift's argument has been criticised for being too general and for overlooking the complex relationships between and within social classes at the global level, governments and researchers from developing countries sympathise with some aspects of his work (Hewitt et al, 1992; Provencio & Carabias, 1992).

Social environmentalism

Social environmentalism generally argues that the capitalist system encounters its limits in the ecological degradation it has brought about. André Gorz, for example, is considered a social utopian (or an unorthodox leftist), although his work remains linked to the political left. He believes we have 'followed the wrong path' and argues that industrial societies, economic growth, technology and consumption have deprived society of equity, harmony and appreciation of life (Gorz, 1980: 43- 44). Gorz also believes that human economic activity is encountering its physical limits in the ecological damage that capitalism has wrought. He is mainly concerned with the economic, social and political implications of the ecological crisis (Gorz, 1980: 11-13). Consequently, Gorz calls for a new pattern of growth, involving comprehensive restraint of capitalist economic growth. The search for a new pattern of growth was at the centre of the definition of SD provided by the Brundtland Report in the 1980s, and of the EsD school of thought of SD discourse.

Gorz's new pattern of growth is based on an alternative economy that requires not only the radical transformation of the economic system, patterns of production and consumption and institutions, but also radical changes to the dominant notions of wealth and well-being. He summarises the philosophical foundations of his alternative pattern of growth in three points:

(1) 'We shall work less,' but more efficiently and in different ways. The purpose of our economic activity must shift from the accumulation of capital to one that enables us to satisfy needs and provide a basic income to the entire population, regardless of whether they have a job.

(2) 'We must consume better': in the future envisioned by Gorz, production of goods would satisfy both those who consume them and those who produce them; in line with this, the bigger companies in each sector would become the property of society.

(3) 'We must re-integrate culture into the everyday life of all': here Gorz advocated a communitarian way of living, where communities would gain individual and social autonomy to organise their existence and their relationship with the environment (Gorz, 1980: 44-50).

Gorz's work clashes with the traditional positions of some socialists and orthodox Marxists; this has led to criticism in some quarters (Goldblatt, 1996: 75).[87]

Anarchist and social ecology

EsD also includes anarchist and social ecology ideas that are strongly anthropocentric. Anarchist and social ecology argues that only radical changes to social structures and to the present economic system can solve the ecological crisis and ultimately avert environmental catastrophe. According to these theories, radical changes to social structures should result in the establishment of non-hierarchical, non-authoritarian, decentralised and self-sufficient communities.

Rudolf Bahro, who was exiled from East to West Germany in the late 1970s, rapidly became involved in the green movement and became a founder member of the West German Green Party and a leading social ecologist. The party's central strategy was to gain access to Germany's parliamentary arena. It was successful in promoting reforms on pollution issues, captured more than eight percent in the national elections of 1987, and won more than 25 seats in the German Parliament (de Steiguer, 1997: 146-7; Young, 1990: 149).

However, Bahro's philosophy about the role of the party soon began to change, and he eventually resigned mainly due to the party's position on animal experimentation.[88] He believed that the environment should be placed above any economic interests. From that point onwards, he categorically opposed the 'parliamentary road,' the industrial system and traditional politics as a means to achieving 'true' green objectives. He advocated instead for the autonomous 'commune' as a political and social strategy and argued that to bring about radical changes an utter shift in human consciousness is required. Bahro (1986: 200) argues that this new commune type of organisation would avoid the alienating business corporations, provide a new and more 'domestic' economics where the economic dimension is subject to ecological principles and, more

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[87] Gorz (1980) discusses the parallels between environmental and social aspects in his book entitled *Ecology as Politics,* first published in 1975.
[88] The party opposed animal experimentation, except in cases where such experiments might save human lives (Bahro, 1986: 197).

importantly, to the 'self-development and transformation of individuals.' He underlines the parallels between the commune organisation and the Benedictine order of the middle Ages, and called for the establishment of a 'new Benedictine order' (Bahro, 1986: 202). This new order would be different from the old one in two ways. Firstly, it would break from patriarchy and de-link the new spiritual culture from Judeo-Christian traditions. Secondly, it would be de-linked from sexual oppression and the separation of sexes allowing the development of new ways of sensuality and sexuality (Bahro, 1986: 202).

Anarchists, on the other hand, argue that the roots of the present ecological crisis do not arise from the exploitation of nature by humans, but from the domination and exploitation of 'humans by humans, of women by men, of one ethnic group by another, of society by the state, as well as one economic class by another.' Murray Bookchin (1990: 99-100), American anarchist, warns that while hierarchical structures exist the exploitation of natural resources and the environment will continue. He argues that hierarchy and domination have arisen from the type of 'environmentalism' that aims to use existing social and political structures, value systems and technologies rather than promoting radical changes within them (Bookchin, 1991: 60). Bookchin envisioned the future as a free, non-hierarchical and non-authoritarian ecological society and called for communal action and social justice as a means to conciliate society and nature (Bookchin, 1991: 60-62). Anarchists have strongly criticised Ecologism, arguing that the idea of subjecting humans to the natural world resembles domination of nature by humans (Bookchin, 1990). Nevertheless, Bookchin's thought coincides in some respects with the distinction made by Naess between deep and shallow ecology, in as much as he distinguished between 'ecological sensibility' and 'superficial environmentalism' which supposes reforms, and not radical changes, to the capitalist system (Zimmerman, 1994: 153). Barho and Bookchin's ideas (although utopian) are also central to EsD, since both authors prioritise ecological conservation and human development over pure economic growth.

Section 4

Corporate-Environmentalism

The argument of this thesis is that Corporate-Environmentalism has had a stranglehold on SD discourse since in the 1990s. Corporate-environmentalism theories sustain that environmental management, eco-efficiency, continuous improvement, green taxation, technological solutions, free market economics, minimal government involvement, self-regulation mechanisms, voluntary initiatives, continuous improvement, and economic growth are necessary to solve the world's *environmental problematique* and ultimately to enhance SD (see for example Pearce et al, 1993 and Simon, 1994). This school of thought is mainly supported and promoted by business groups, governments (and local government), multilateral organisations, and (co-opted) NGOs. A good number of these groups have introduced different aspects of Corporate-Environmentalism into their principles, policies and decision-making processes. Corporate-Environmentalism promotes technological innovation, systematic methodologies[89] and adjustments to the market system as the tools for management of different environmental problems. Finally, business groups, governments and (co-opted) NGOs at the global, regional and local levels promote different elements of Corporate-Environmentalism. Supporters of this discourse tend to marginalise key issues of EsD, such as social justice, democracy, development (other than economic growth), poverty eradication, and environmental ethics. Its proponents believe in It assumes that environmental problems can be solved individually, as separate and unrelated problems. Those who support Corporate-Environmentalism reject the notion of a single ecological crisis and instead propose the existence of an *environmental problematique*: separate sets of problems that can be solved by a technological/managerial approach.

On this view, technological solutions provide a win-win scenario in which both economic growth and the environment benefit (Hajer, 1995). At the radical end of this school of thought is the doctrine of continued progress (sceptical environmentalism), which claims that the state of the environment has improved in the last decades thanks to continued economic growth and the fundamental organisation of the market economy. The 'continued progress' school believes world society has become richer and richer, will continue to do so and is able to make rational choices and prioritisations with regards to environmental protection (Lomborg, 2001). Its proponents reject the notions of strong

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[89] Including economic instruments (for example, green taxes and permits) and the efficient use of natural resources (for example recycling, waste management and emission control). See chapter 2 above.

conservationism, inter-generational environmental justice and equity supported by both Ecologism and EsD.[90] During the 1990s, Corporate-Environmentalism came to prominence within SD discourse, marginalizing Ecologism and Ecologically-sustainable-Development (EsD).[91]

Proponents: Business groups (mainly large transnational corporations and subsidiaries in developing countries) have become the leading proponents of Corporate-Environmentalism. This school of thought is also supported by some governments, multilateral organisations (for example agencies of the United Nations, World Bank and International Monetary Fund), and (co-opted) NGOs. Many of these groups have established partnerships with business groups (including WWF, WRI and a 'soft' segment of Friends of the Earth).[92] In the region of Juarez/El Paso this school of thought is strongly supported by organisations such as *Movimiento Ecologista Mexicano* (MEM-Mexican Environmental Movement) and PROGRESO (PROGRESS) and business associations such as AMAC (*Asociacion de Maquiladoras*, AC), as detailed in chapter 8.

Market Environmentalism and Neo-classical Environmental Economics

Market Environmentalism argues that environmental problems are merely economic problems. A more efficient management of natural resources, the introduction of economic instruments to internalise environmental costs (or externalities) into production and consumption processes are the best means, according to this theory, of preventing resource scarcity and environmental degradation. Pearce, et al (1989), for example, argue that the necessary condition of SD is maintenance of constant natural resource stocks; use of these resources for the development process must be sustainable throughout time. David Pearce et al (1993:21), one the main proponents of

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[90] Various authors have discussed elements of Corporate-Environmentalism including Eckersley (1996), Hajer (1995), Pearce et al (1993), Lomborg (2001), Simon & Kahn (1984), and Simon (1994).

[91] This point, central to my argument, was illustrated, for example, during the World Summit on Sustainable Development (WSSD) that took place in Johannesburg in August 2002. NGO representatives described the World Summit as the 'hijacking of the SD process by the World Trade Organisation (WTO) agenda.' Ray Faure of the Sunday Times reported that Remi Parmentier, a representative of Greenpeace at the World Summit, said the Summit had entered into an 'arm twisting mode' when the Japanese delegation appeared to have told ministers from developing countries that Japan and the US were willing to accept the targets on water and sanitation on the condition that the targets on renewable energy were removed. (http://www.sundaytimes.co.za/zones/sundaytimes/newsst/).

[92] Colby (1990: 19-20) points out that resource management, which is one of the basic themes of neo-classical environmental economics (and of Corporate-Environmentalism), is also a key topic within the publications of the World Watch Institute (WWI), Environmental Defence Fund (EDF), Probe International and World Resources Institute (WRI). However, this does not mean these organisations are not involved in other areas or do not have diverse views on particular issues. Yap (1990: 82) notes that population growth, conservation of natural resources and bio-diversity have also been major topics in the reports of WRI, WWI, Union for Conservation of Nature and Natural Resources (IUCN), and the WWF. She also points out that their perspective on population growth reflects a neo-Malthusian influence as they have argued that governments could implement policies that help to reduce fertility, including minimum age of marriage. The International Institute for Environment and Development (IIED) and Greenpeace, for example, do not share the same view in as much as they believe that higher levels of pollution come from countries where population growth rates are low (Yap, 1990: 85).

free market environmental economics, defines the term SD as 'economic development that endures over the long run...It must be undertaken in such a way as to minimise the effects of economic activity on the environment.'

Pearce argues that environmental degradation has been caused mainly by the failure of market systems to integrate the environmental dimension. The market, though, on this view, is capable of giving a value to everything including the environment. In order to maintain constant stocks of natural capital and minimise the effects of human economic activity on the environment, Pearce (1989: 69) recommends the incorporation of three economic mechanisms to internalise environmental 'externalities':

(1) *'Command and control,'* which sets maximum levels of pollution and requires polluters to comply;

(2) *'Pollution taxes'* or the polluters pay principle;

(3) *'Tradable permits,'* meaning that polluters are given permits to pollute up to the maximum level set, and have the option to trade such permits.

These instruments are intended to promote good environmental practice and maintain constant stocks of natural capital. According, to Pearce (1989) the central concept regarding environmental resource degradation is that of 'sustainability.' Sustainability, according to him, supposes that non-renewable resources are substituted by renewable ones (for example, solar or wind energy) and it also implies that stocks of natural resources be sustained to provide equal access to both present and future generations (Pearce et al, 1993: 5). Therefore, SD means economic development that is durable because it avoids negative changes in the stock of resources, developing green technologies and recycling. Pearce argues that the Brundtland definition of SD is consistent with his views on SD, in as much as it states that societies should enhance social and economic development so that environmental costs are minimised, thus meeting the needs of future generations recalling Brundtland (Pearce et al, 1993).

Critics attack Pearce's work, particularly on the grounds that his concern for the environment arises solely from the threat that scarcity of resources implies to economic growth (Redclift, 1987). Market environmentalism and neo-classical environmental economics nonetheless continue to play a major role in Corporate-Environmentalism. Some of the economic mechanisms proposed by Pearce, particularly the polluter pays principle, have already been put into practice in several developed and developing countries. The Organisation for Economic Co-operation and Development (OECD) established an Environment Committee in 1970s a forum for member countries to

discuss and make recommendations and policies on shared environmental concerns (Plant, 1992: 126).[93] The OECD was one of the first organisations to adopt the polluters pay principle. Environmental management, deregulation, voluntary initiatives, information, resource management for conservation and management have been consistently strong themes in OECD publications and in their recommendations to both developed and developing countries (Eröcal, 1991). These policies have been reinforced by the increasing adoption of proactive strategies within business groups and their involvement in policy-making processes, which blurs the line between governments and big businesses (Hanks, 2002: 187).

Technological determinism

Technological change concepts support the idea of rapid economic growth and tend to neglect environmental issues. Its proponents argue that rapid economic growth has brought more benefits than costs and that speaking of a global ecological crisis is an exaggeration. The increase in wealth has allowed the production of new technologies, which have resulted in a cleaner environment. Simon (1994) argues that new agricultural technologies have helped increase production and provide humans with better food. For Simon, population growth and the scarcity of natural resources are not a constraint on economic growth. The fact that population is rising is due to lower death rates. Simon (1994: 23) claims that life expectancy is higher due to innovations in the medical sector as well as in food production and asks: 'what greater event has humanity witnessed than this conquest of premature death in rich countries?' In his view, those who have exaggerated the dimensions of environmental problems have neglected the ability of humans and science to solve them. He concludes that those who have the power (that is the technology), to solve such problems have no reason to be pessimistic (Simon & Kahn, 1984).

Ecological Modernisation

Ecological Modernisation is a key element of Corporate-Environmentalism. Its proponents, within the sociological literature, see Ecological Modernisation as a new paradigm (Hajer, 1995; Hannigan, 1995; and Gouldson and Murphy, 1998). Ecological Modernisation has emerged since the late 1980s after the World Commission on Environment and Development (WCED) published its report *Our Common Future*.

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[93] The OECD Environment Committee was replaced by the Environment Policy Committee (EPOC) in 1992 (www.oecd.org).

Ecological Modernisation stresses the structural character of environmental problems and argues that they can only be solved through further economic growth.

The theory of Ecological Modernisation was first developed by Dutch sociologists G. Spaargaren and A. Mol (Hannigan, 1995: 182).[94] They explain Ecological Modernisation as a change in the industrialisation process (pre-Brundtland) so that it takes into consideration the maintenance of the existing natural capital or sustenance base (Mol & Spaargaren, 1993: 434). Ecological Modernisation thus encourages society to deal with environmental problems without stopping its industrial and technological modernisation process. The authors allocate a central role to technological innovations and economic growth. Hajer (1995: 25) argues that Ecological Modernisation stretches to many other domains such as environmental policy-making and defines it as:

> ...the discourse that recognises the structural character of the environmental problematic but none the less assumes that existing political, economic, and social institutions can internalise the care for the environment (Hajer, 1995: 25)

According to Hajer (1995:26) a key characteristic of Ecological Modernisation is the fact that environmental protection is a ' positive-sum game' where economic growth and the solutions to environmental problems can, in principle, be reconciled. On the other hand Ecological Modernisation is also concerned with providing new conceptual choices for understanding society, technology and nature - as Hajer (1995: 13-14) puts it - establishing 'new story lines' that provide the conceptual framework for social action.

Ecological Modernisation theorises the ways in which environmental concerns and economic growth merge or integrate at the same as opening the way for the continued development of industrialised societies. The Ecological Modernisation continued growth plan envisages economic growth with environmental responsibility (Robbins, 1999: 23). Ecological Modernisation perceives its relationship with groups that oppose this approach as a process of 'institutional learning' (Hajer, 1995: 277). On this view, supporters of Ecologism (radical ecologists) will be institutionalised, adopt Ecological Modernisation, establish a better relationship with business groups, and speak the same language of economic growth and environmental responsibility. Societies can design ways to measure environmental problems and thus make rational decisions to solve them.

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[94] Spaargaren and Mol's (1992) theory of Ecological Modernisation is based on the work of J. Huber, a German political scientist, who suggested that industrial society develops through three stages: 1) the industrial breakthrough 2) the construction of industrial society and 3) the ecological shift of the industrial system through technological innovations (Huber cited in Hannigan, 1995: 183; and Hajer, 1995: 25).

Some of its proponents claim that Ecological Modernisation was inspired by the Brundtland Report's definition of SD. The Brundtland Commission, however, tried to bring together environmental and development concerns. Ecological Modernisation, meanwhile, has marginalised EsD; most theories of Ecological Modernisation do not address the problems of the developing world.

Continued growth and progress (Sceptical Environmentalism)

Few subscribe to this optimistic view of the state of the environment. One well known proponent of these views, Lomborg, argues that the state of the environment is much better than it was a few decades ago and points out that 'Basically... our forests are not under threat. In a historical perspective, 20 percent of all forest has been lost, whilst about a third of the world's land mass is still covered by forest...' (Lomborg, 2001: 117).[95] This is just one example of the 'surprising improvements' this author claims have occurred. Lomborg applies his theory to water, food, health and other environmental problems. He declares that society has chosen the right path (global capitalism) and that we are going in the right direction:

> ... this book can lead to an appreciable change in the attitude to environmental problems. We can forget about our fear of imminent breakdown. We can see that the world is basically headed in the right direction and that we can help to steer this development process by focusing and insisting on reasonable prioritisation (Lomborg, 2001: 351).

In his view, the reason for such improvements is the increasing wealth that the present organisation of the market economy has generated and the reasonable and well-considered prioritisations and decision-making processes that governments, business groups and other groups have made with regards to the environment. In Lomborg's view, the state of the world's environment has improved due to market-based economies. He points out:

> We have become richer and richer primarily because of our fundamental organisation in a market economy... Some of the most significant recent progress in the area of pollution has been achieved through regulation, but the regulation has been right to the extent that it represented a reasonable prioritisation... (Lomborg, 2001: 351)

Lomborg argues that 'continued progress' is vital. He rejects EsD and the claims that only a small elite around the world has gotten richer and that the majority of the world's population is getting poorer, precisely as a result of the market economy's fundamentals. Lomborg's book has generated a furious response from proponents of

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[95] Lomborg's (2001) 515-page book, with 2,930 footnotes and a 69-page bibliography, entitled *The Skeptical Environmentalist* has risen to the top of the bestseller list for environmental subjects.

Ecologism and EsD. The web page of The Wall Street Journal quotes a few of the responses to Lomborg's ideas from academics, scientists and NGOs 'warning about the evils of Lomborg's book.'[96] Lomborg claims to have an optimistic view of the world's environment but bases his theory of continued progress on the manipulation (and misinterpretation) of statistical data and academic research. Lomborg has no time for Ecologism and EsD, which he regards as 'pessimistic'. His arguments have been subject to an avalanche of criticisms; they are widely thought to misinterpret scientific evidence and the work of numerous authors. Lomborg stands accused of propagating a dangerously misleading theory. 'Continued progress' represents an extreme view within Corporate-Environmentalism and as with extreme-right political parties, it can be considered a serious threat to the environmental movement, the world's environment and ultimately to SD.

Section 5
Summary and conclusions

This chapter has delved into SD discourse and its conceptual strands and identified three main categories or schools of thought, namely Ecologism, Ecologically-sustainable-Development and Corporate-Environmentalism. Such categorisation aids the analysis of 1990s SD discourse in terms of dominant and marginalised ideas. The chapter examined previous categorisations that have grappled with the diverse conceptual areas of SD discourse. Section 1 argues that such categorisations fail to examine SD discourse in terms of dominant and marginalised views and have become dated in light of the new actors and ideas prominent within 1990s SD discourse. The categorisation presented here expands upon previous approaches and borrows those elements that still useful for the analysis of the Corporate-Environmentalism dominant in the 1990s.

As will be shown in the next chapter, Corporate-Environmentalism has gradually transcended the political arena. It has been incorporated into the debate on the international capitalist system. Corporate-Environmentalism is based on the policies of the World Bank and other institutions intended to control pollution, manage resources, and so on, and on the premise that these policies will undergo institutional reform. Such

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[96] See: The Opinion Journal of The Wall Street Journal on the 20th November 2002 (http://www.opinionjournal.com/columnists/tbray/?id=100001698, 3rd February 2002). Lomborg's has his own web page where he responds to critics of his book, including the World Wildlife Fund (WWF) and the Scientific American, which devoted 11 pages of its January 2002 issue to attacking Lomborg's thesis (http://www.lomborg.com/critique.htm, 3rd February 2002).

policies are shared by the IMF, the General Agreement on Tariffs and Trade (GATT), the *World Trade Organisation* (WTO), and became a central theme during the negotiations on the North American Free Trade Agreement (NAFTA) during the late 1980s and throughout the 1990s. Most of these trade organisations and agreements clearly share and prioritise the view that economic growth and free trade contribute to environmental protection and can achieve SD (in other words Corporate-Environmentalism) (Esty, 1994; Sands, 1994; Shaw & Cosbey, 1994). Whilst these finance and trade organisations have recognised that trade and economic growth without environmental safeguards lead to depletion of resources and pollution, their underlying search is for a means to increase growth without overusing the natural resources they depend on. Growth comes first, together with increasing profits. Proponents of EsD question how to redirect the path of development, through problematising what development and sustainability mean within the present global capitalist system; such matters have been pushed to the sidelines. If Corporate-Environmentalism continues to rule the roost discursively, the term SD simply means economic growth that requires incorporation of one more (environmental, not developmental) variable. Table 3.1 outlines the SD categorisation presented in this chapter.

Table 3.1   SD discourse categorisation: Ecologism, Ecologically-sustainable-Development, and Corporate-Environmentalism
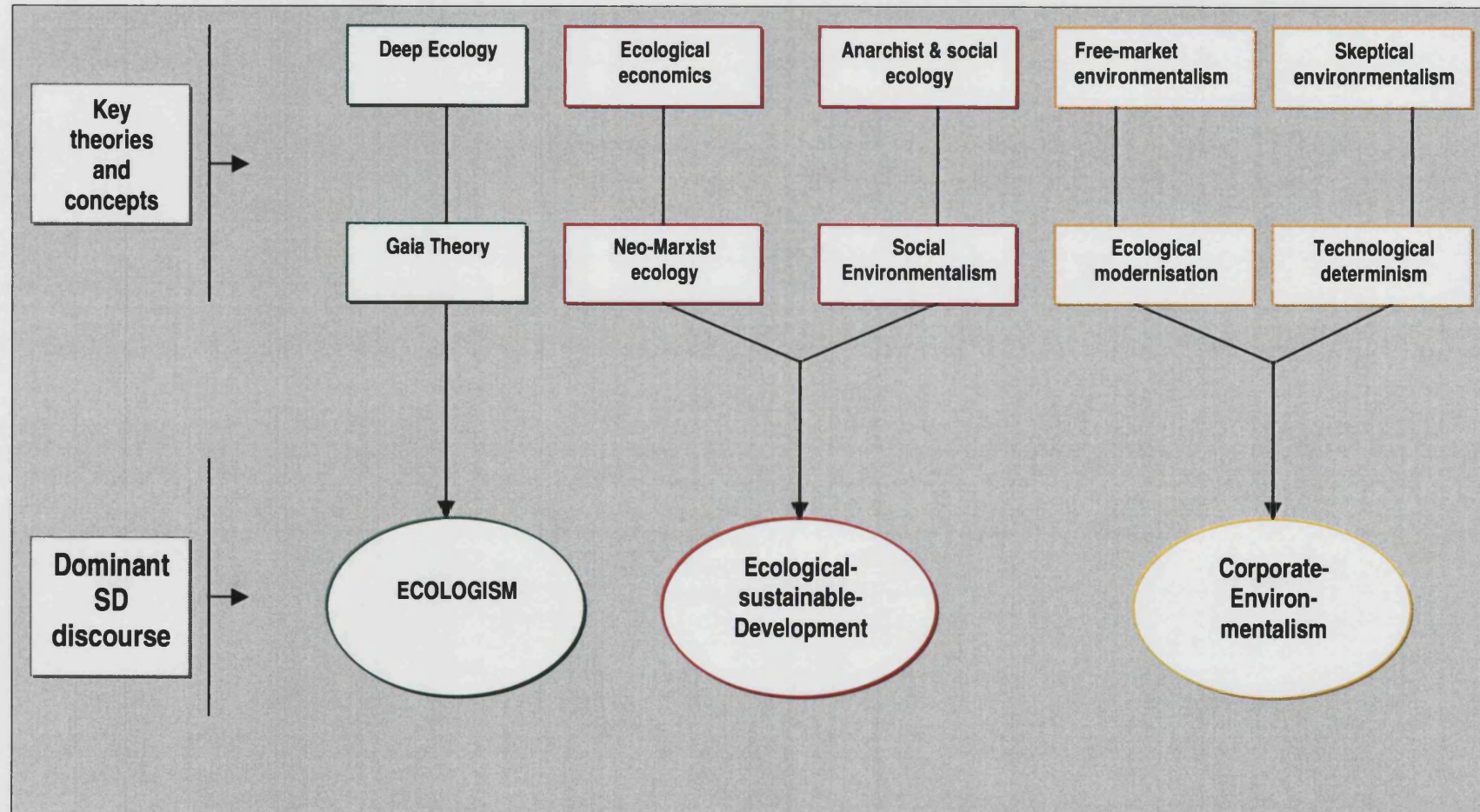
Chapter 4

Environmental policy and sustainable development in the Mexico-US border region.

This chapter examines the development of environment and SD policy along the Mexico-US border and points out key events and processes that influenced the rise to prominence of Corporate-Environmentalism as the dominant view of SD discourse in the region. To do this effectively, it is essential to begin by analysing the social, economic, environmental and political contexts in which environmental and SD policy has developed both in Mexico and the US, before examining the SD discourse and practice along the Mexico-US border -- particularly in the region of Juarez/El Paso. Section one investigates the development of US and Mexican environmental policy as well as other national issues such as the decentralisation process in Mexico and its relationship with SD discourse in the 1990s.

Section two examines bi-lateral co-operation mechanisms and their effectiveness in halting environmental degradation in the border region. It is worthwhile mentioning again that this thesis does not set out to develop or analyse SD indicators; other academics, international organisations, and government agencies have done so and continue to do so (EPA, 1996, 1998; OECD, 1991; EPA & SEMARNAP, 1998; Karas, 1995; Potvin, 1991). This research is primarily concerned not with examining the degree to which environmental and SD policies have been implemented or not. Rather, it explains how and why Corporate-Environmentalism emerged as the dominant SD discourse in the 1990s and how environmental policies evolved and have been practised. The SD discourse categorisation (Ecologism, Ecologically-sustainable-Development and Corporate-environmentalism) proposed and developed in chapter 3 provides the framework for the analysis in this chapter. Particular attention is given, in sections three and four, to the debate that surrounded the North American Free Trade Agreement (NAFTA) and its influence on the SD discourse of the US-Mexico border region. Finally, section five provides a summary and conclusions on the issues discussed in this chapter.

Section 1

US and Mexico: the growth of SD and environmental policy

US Institutional Framework for Environmental Protection

The legal and administrative environmental protection framework of the US is rooted in the late1960s.[97] Since then, environmental awareness and public participation on environmental issues has pushed the US government to respond to national and global environmental problems.[98] Yet successive US leaders rejected the chance to lead a global response to the ecological crisis, mainly because they did not believe such a crisis existed. In the 1980s, under President Reagan's administration, SD and environmental issues were marginalized. Nester (1997:101) reports that Reagan's Interior Secretary, James Watt, expanded logging in the US forests and succeeded in giving away 63 million acres of forests and land to oil corporations along with 100 million acres of Alaskan lands. In the early 1990s, President Bush declared himself, 'an environmental president,' but in policy terms he supported neither Ecologism nor Ecologically-sustainable-Development. According to Nester (1997: 101) Bush's policy 'was no different from Reagan's, it just had a less destructive image.' Later, SD and environmental issues (and the public awareness of the ecological crisis) turned into one of the central political differences between Democrats and the Republicans. Democrat Al Gore (1992: 174) blamed President Bush for not delivering on environmental issues, in his words: 'After standing in front of Boston Harbour, pledging to be the 'the environmental president' and promising to confront the greenhouse effect the White House refused for the first two years of his presidency to take action on global warming.'

The George Bush Sr Administration (1989-1992).

The argument of Bush's Administration was that no action on global warming and other environmental issues was necessary until there was scientific proof that such a problem

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[97] Most environmental or conservation responsibilities within the US federal government fall under the remit of the Council on Environmental Quality (CEQ), the Environmental Protection Agency (EPA), the Department of Justice (DOJ), and the Department of the Interior (DOI). Narrower environmental responsibilities can be found in virtually every other government agency, including the Department of Agriculture (USDA), the Department of Transportation (DOT), the Department of Energy (DOE), the Department of Commerce (DOC), the Department of State, the U.S. Agency for International Development (AID), and the Agency for Toxic Substance and Disease Registry (ATSDR). Prior to the 1970s, US federal government played a limited role in shaping environmental and SD policy and most responsibilities lay with the 50 American states and their governments. It was not until the rise of the modern environmental movement that environmental issues became federal matters (Nester, 1997; Kraft, 2001; see Appendix V for US Executive Branch Environmental Agencies).

[98] Between the 1960s and the 1970s American public awareness on environmental issues grew considerably. Kraft (2001: 90) reported that The Sierra Club saw its membership increase from 15,000 in the 1960s to over 113,000 in the 1970s. By the 1990s Sierra Club had 630,000 members (www.sierraclub.org, July 2003).

existed. Under his administration, environmental policy and protection was based on market-based environmentalism and emphasis was given to command-and-control instruments such as 'polluters pay' and tradable emission permits (key elements of Corporate-Environmentalism). Despite its lack of real action on environmental matters, the President and his administration maintained their environmentally friendly rhetoric via symbolic actions that generally kept public opinion at ease (Nester, 1997). In the 1990s, Bush designated the Environmental Protection Agency (EPA) as a cabinet-level department and helped Congress to enact amendments to the Clean Air Act (CAA) and the Pollution Prevention Act (www.epa.gov).[99] Whilst these two actions are considered real accomplishments of Bush's administration, critics have argued that these efforts were 'diluted' by the White House interference with EPA's implementation of the Clean Air Act, insisting that all mention of global warming should be taken out (The Stockholm Environmental Institute, 1999; Nester, 1997: 123-133).[100]

The Clinton Administration (January 1993- January 2001)

Throughout the 1990s, the SD discourse at all levels of government remained dominated by regulatory reforms and by the debate on how to balance environmental policy actions and their economic costs (Kraft, 2002). The Clinton Administration is widely regarded as prioritising environmental quality and protection of resources, and to have been less supportive of a purely economic approach, in comparison with the previous George Bush Administration (and indeed with the present George W. Bush Administration). However, Clinton's environmental policy was characterised both by continuity and change. The emphasis on market-based instruments for environmental protection, particularly on command-and-control, cross-sectoral partnerships,[101] self-regulation, and tradable permit systems - central elements of Corporate-Environmentalism – grew in both the Bush Administration and the Clinton Administration (Hahn, et al, 2003: 1-6). However, since the late 1980s critics (mainly from business groups) have kicked up a fuss about the high costs of complying with command-and-

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[99] In the late 1970s, President Nixon created the EPA by executive order, transferring most of the existing pollution control programmes (air & water pollution, solid and hazardous wastes management, re-mediating contaminated sites, and regulation of pesticides and toxic substances) to the agency. The EPA was established as an independent agency, and the Senate nominated its administrator and senior officials. The EPA did not have cabinet rank until the early 1990s, which meant that it had no congressional charter or organic law to define its mission and priorities (Kraft, 2002: 33; Nester, 1997: 41).
[100] The 1970 Clean Air Act (CAA) is a US Federal Law that regulates the emissions from area, stationary and mobile sources. Until its amendment in the 1990s, the Clean Air Act neglected issues such as acid rain, ground-level ozone, stratospheric ozone depletion and air toxins. (The Stockholm Institute, 1999: 27).
[101] One of many examples of voluntary initiatives and cross-sectoral partnerships is the Clean Transportation Programme, based on criteria such as projected results, partnerships, innovation and costs (www.epa.gov).

control policies.[102] According to Kraft (2002: 40), critics argued that 'reliance on a policy strategy of command-and-control regulation to achieve environmental goals was too costly, inflexible, and intrusive.' Kraft also highlights how these critics suggested that the use of economic incentives, voluntary and self-regulation instruments that would result in lower costs for industry were the best way to achieve such goals.

During the Clinton years, air pollution regulation was strengthened and new targets were set with the amendment of the 1997 National Air Quality Standards (NAAQS) for ozone and particulate matter. In 1999, the administration launched four initiatives to help reduce greenhouse gas emissions in the US, including bio-energy, federal energy efficiency, and wind and solar energy. President Clinton also strengthened measures on drinking water protection under the Safe Drinking Water Act Amendments of 1996 and released US$775 million to states for low-interest loans to help communities upgrade their drinking water treatment systems and protect watersheds (Hahn, et al, 2003: 18-19; Kraft, 2002: 41-42; www.epa.gov).

The Clinton administration also took steps to protect the environment. In 1993, Clinton proposed to reduce subsidies for private logging in 62 of the 156 national forests by 1998, but Congress was not receptive to his initiative (Nester, 1997: 104-105). Nevertheless, his administration did change US Forests Service priorities from timber production to resource protection. In June 1993, Clinton approved US$1.3 billion to reduce logging on public lands and placed nearly 60 million acres of federal forests off-limits to road building (Nester, 1997: 104; Hahn, et al, 2003: 38-39). President Clinton also issued an executive order calling for all federal agencies to develop interagency strategies for achieving environmental justice and to identify adverse human health or environmental effects on minority and low-income groups (Kraft, 2002: 39). President Clinton put greater emphasis than previous administrations on expanding environmental information disclosure and voluntary programmes. In 1998, a new EPA Website was set up as part of the Clinton Administration's right-to-know programme, designed to provide Americans with information about local pollution (www.epa.gov). Whilst Clinton paid some attention to natural resource conservation, environmental health and environmental justice - elements of Ecologism and Ecologically-sustainable-Development - elements of Corporate-Environmentalism still took centre stage.

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[102] During the negotiations on the enactment of the Clean Air Act and its 1990 amendment, business groups in the US lobbied against the adoption of the Clean Air Act, arguing that the costs would be higher than the benefits, that it would damage the American economy and required the scientific proof of acid rain and ozone depletion (The Stockholm Institute, 1999: 28).

The George W. Bush Administration (20th January 2001-present)

From the beginning, the George W. Bush Administration has reversed many of the environmental commitments, both domestic and international, made by the Clinton Administration (and previous administrations). Bush's environmental policy has been and continues to be heavily criticized by environmental campaigners and NGOs, who claim that it has marginalized almost every aspect of SD discourse. Although the events of September 11 may have hampered the environmental policies in place before and since he took office Bush has shown no interest in Ecologism or Ecologically-sustainable-Development, and has prioritised economic growth (Corporate-Environmentalism). In the first years of his presidency, Bush made it clear that environmental issues would not be high on his agenda. Bush first caused deep concern among governments, academics and NGOs around the world when he failed to sign the Kyoto Protocol to reduce carbon dioxide emissions, stating that he is ambivalent about the language of the text since there is no sufficient scientific consensus concerning anthropocentric global warming. Another source of alarm and criticism from environmentalists and NGOs came with his proposal for oil drilling in the Arctic National Wildlife Refuge. Finally, he failed to attend the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, South Africa.[103]

Mexico's SD and environmental policy

Over the last decades Mexico has passed a number of legal and policy reforms in the area of the environment and SD.[104] The Mexican authorities have argued that to improve environmental performance and compliance and ultimately to develop an environmentally aware society, it is vital to provide localities with both political and administrative autonomy and financial and human resources, as well as stopping discretionary practices. It was not, however, until the mid-1980s that Mexico developed a comprehensive environmental, legal and policy framework and began to take the first steps toward decentralisation and devolution of local political and financial autonomy.

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[103] Whilst environmentalists around the world feared that all SD-related issues would be marginalized during the George W. Bush Administration, even before the events of September 11, the aftermath of the attacks leaves little hope for US (and world) environmentalists that SD discourse will re-emerge as a 'priority' policy area in the US.

[104] Environmental regulation in Mexico can be traced back to 1917, when article 27 was incorporated into the Mexican Constitution and with it the concept of national ownership of land and water resources. Article 27 establishes that the public interest can impose limits to the way private property is used. Therefore, the collective interest demands and imposes its values on the traditional legislative concept of property. In 1922 and 1937, under this legal framework the *Isla de Guadalupe* and *Isla Cajon del Diablo* were declared the first biosphere reserves in Mexico (Gonzalez-Marquez, 1994: 340). Article 27, however, can also be regarded as one of the legal instruments that have favoured what today are two central problems of Mexican environmental law and policy, namely centralisation and the favouring of certain social groups. Private sector, for instance, has always benefited more from its relationship to the federal regulations and programmes (PROFEPA, 1998:20).

De la Madrid Administration (1982-1988).

During the *sexenio* (six-year administration) of President De La Madrid, environmental issues became a real political concern. The administration turned its attention to environmental issues, particularly towards the end of its term. Two related developments caused this to happen. On the one hand, public awareness and criticism of the government's environmental performance was growing steadily. In the late 1980s, just after the nuclear disaster in Chernobyl, the construction of the first nuclear plant (*Laguna Verde*) in Mexico began in the state of Veracruz. The construction of *Laguna Verde* generated a more articulate protest against the government's decision than any previous environmental event. The mobilisation against *Laguna Verde* included different environmental NGOs from Mexico City and Veracruz, social organisations, housewives and students (Umlas, 1996: 244-245).[105] On the other hand, environmental issues were high on the agenda of the international community, as the environment and development debate among governments, business groups and NGOs in the run-up to the Rio Summit progressed.[106] According to Arts (1998: 69) the oil crises of the 1970s discouraged the environmental debate, but it re-emerged on the global political agenda on the back of world economic recovery in the late 1980s. However, it was not until the second half of his presidency that de la Madrid introduced a number of comprehensive legislative and administrative changes in Mexican environmental policy; these incorporated key elements of SD discourse.

Legislative Changes in the 1980s.

In 1987, important reforms were introduced to articles 27 and 73 of the Mexican Constitution. Reforms to article 27 established that it is the State's responsibility to maintain, protect and restore the ecological stability of the nation and asserts the link between environment and development. Moreover, the reform introduced to article 73 includes the participation of state and municipal governments in the development of environmental laws and other affairs (Gonzalez-Marquez, 1994:340). In the mid-1980s, President de la Madrid instituted what he named *foros de consulta popular* (public forums) with the intention of creating spaces for discussion on various political issues, including the environment. Some argue that such *public forums* stimulated the formation and association of environmental groups (Umlas, 1996: 244-245). Environmental

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[105]The *Laguna Verde* project was promoted since early 1972 as part of an ambitious plan to develop Mexico's technical capacity, provide energy for domestic consumption and free up oil exports. By 1987, the nuclear power project was reduced to only one plant, *Laguna Verde*, due to previous technical and political problems. The cost of the project had increased more than 2,500 percent, from an estimated cost of US$1.28 to US$3.5 billion (Simon, 1997: 171).
[106] The Rio Summit is examined in more detail in chapter 2 above.

issues, however, were not a top priority for the government, and the influence of environmental activists and NGOs on Mexico's environmental policy appears, during this period, to have been weak and inarticulate (Hogenboom, 1998: 61-65).

Decentralisation has been a hot topic in Mexican political debate since the early 1980s. Different political and social actors continue to push for changes to Mexico's highly centralised power and administrative structure. Unprecedented legal and administrative efforts have been made to provide state and municipal governments with financial and political autonomy. A clear example of this is the 1983 constitutional reform of Article 115. Through this reform, municipalities gained enough autonomy to establish their own environmental standards, urban planning regulations and participate in the creation of natural parks and/or reserves (Gutierrez-Najera, 1999; The Aspen Institute, 2000). More importantly, this constitutional reform aimed to strengthen the municipality's financial and political autonomy. By the end of 1991, 27 out of the 36 Mexican states had passed their own environmental laws (Hogenboom, 1998: 99). However, Rodriguez (1997: 15) argues that the decentralisation reforms had little impact on the distribution of federal funds: the *municipios* were provided with fresh investment resources through the Solidarity Programme (specifically the programme on Municipal Funds), but these revenues were still very limited.[107] However, the reality of decentralisation is contested.[108]

These reforms can be regarded as the first steps towards decentralisation and as the basis for the General Law for Ecological Equilibrium and Environmental Protection (LGEEPA) adopted by Congress in 1988.[109] The LGEEPA is divided into separate sections of specialised regulations covering a wide range of environmental issues, including environmental impact and risk assessment, hazardous wastes and its transport, and atmospheric pollution. Through this law, the government aimed to strengthen and improve the environmental impact assessments required for all public and private works or projects, emission standards, as well as fines on and even closures of polluting industries – the Polluter pays principle (Gonzalez-Marquez, 1994: 340-345; Hogenboom, 1998:95).

The 1988 ecological law differed significantly from previous environmental legislation. It provided mechanisms for public participation in environmental decision-making

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[107] The National Solidarity Programme was also highly publicised during the Salinas Administration (1988-1994) and it promised to contribute to the alleviation of poverty by providing federal grants to local groups who would organise themselves to solve social and infrastructure problems in their own locality. The Solidarity Programme includes local community's contribution in the form of time (hours of work) and money (Klesner, 1996: 279).
[108] For a general discussion on decentralisation in Mexico, see for example Rodriguez (1997: 73-76); on decentralisation and environmental issues see for example Mumme (2000: 101-127).
[109] This law incorporates two previous important environmental laws: the 1971 Law for the Control and Prevention of Environmental Pollution, and the Federal Law for Environmental Protection adopted in 1982 (Gonzalez-Marquez, 1994: 340-345).

processes. At the same time efforts were made to strengthen the autonomy of states and municipalities. However, Julia Carabias (former Minister for SEMARNAP, 1994-2000) pointed out that despite the decentralisation efforts made '... we still have not managed to separate correctly the responsibilities of the different levels of government' (federal, state and municipal) (Carabias, 1994: 88 -My translation). The emphasis on public participation in the formulation of environmental policy suggests that the new Mexican environmental law incorporated elements of Ecologically-sustainable-Development, which was king of the hill within SD discourse in the 1980s. However, it is vital to probe the gap between rhetoric and practice and examine the extent to which decentralisation and public access to information truly got off the ground during this period.[110]

The assertion made by Carabias in the mid-1990s still holds: Mexico's federal government remains the main authority in many areas, including the environment. Tax revenues are distributed unequally between federal, state and local governments. Most of the taxes generated by the *maquila* industry, located along the northern border of Mexico (through the use of utilities and some administrative fees[111]), have flowed to Mexico City; only a very small percentage remains in the locality.[112] According to the 1998 OECD Environmental Performance Review (OECD, 1998: 43) '...almost all taxes (about 99 per cent) are collected by the Federal Government, whose expenditure accounts for nearly four-fifths of total government expenditure.'[113]

Administrative Changes in the 1980s.

Shortly after de la Madrid took office in 1982, he created the Ministry of Urban Development and Ecology (SEDUE), which replaced the former Ministry of Human Settlements and Public Works (SAHOP). Under the new ministry, six units would deal with environmental issues: prevention and control of environmental policy; prevention and control of water contamination; ecological law and environmental impact; parks and protected ecological areas; ecological protection and restoration and wildlife. SEDUE, however, was not created as a specialised environmental agency; its role was to co-

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[110] These issues are discussed and examined in more detail in the case-study chapters (six, seven and eight) of the thesis.
[111] The maquila industry, located in the northern Mexican states, arrived under the Border Industrialisation Plan (BIP), which allowed foreign owned plants to relocate in border cities and to import components for processing in Mexico duty-free except for a 10 percent tax on the value added (Martinez, 1978: 131). The BIP is discussed in more detail in chapter 5.
[112] During my fieldwork I interviewed the Director for Urban Development and Ecology in Juárez, who claimed that 80 percent of tax generated by maquiladoras goes to the federal government, 16 percent goes to the state authorities and only four percent stays in the municipality (5-GO/J). Also see, for example, Pedraza-Reyes (1999: 8)
[113] Decentralisation and strengthening states' and municipalities' financial and political capacities are key to the implementation of environmental policy and ultimately to advancing a form of SD that takes into consideration social justice, ethics and basic needs of present and future generations, that is, Ecologically-sustainable-Development.

ordinate environmental issues in other ministries. Moreover, SEDUE still depended on other governmental agencies for policy implementation due its limited resources and low budget (Hogenboom, 1998:80). SEDUE's task was to co-ordinate the introduction of different elements of SD discourse in other policy areas.

Generally, Mexico's development and enforcement of environmental policy during the De la Madrid Administration was limited due to insufficient resources, weak government agencies and stretched budgets resulting from economic crises. Although environmental laws and commitments were put into place, their enforcement has always fallen short of formal government intentions. De La Madrid's environmental policy and legislative reforms are commonly regarded merely as a formal shift with very low levels of implementation (Hogenboom, 1998: 95). Nevertheless, it is important to acknowledge that environmental policy, and ultimately SD discourse, was integrated for the first time as an important component of Mexican politics.

The Salinas Administration (1988-1994).

In December 1988, after struggling throughout the presidential elections, Carlos Salinas de Gortari became the Mexican head of state with the lowest popular vote in the modern history of Mexico. The weak legitimacy of the state-party (*Partido Revolucionario Institucional* - PRI) and Salinas' debilitated relations with civil society pushed him to look for a renewed political agenda that would help him to establish better relations with the public and restore the PRI's legitimacy. Environmental issues became part of Salinas' strategy to regain popularity, both within the country and beyond its frontiers. In October 1989, in an address to the US Congress, Salinas alluded to four issues that would dominate bilateral relations in the 1990s: commerce, migration, drugs and the environment (Salinas de Gortari, 1989: 910).[114]

Salinas largely adhered to De la Madrid's environmental policy approach. Over the first two years of Salinas' administration, no new environmental policy strategies were put into place and environmental law enforcement continued to be weak. The lack of resources and the failure to prioritise the environment led Salinas' environmental policy to emphasise pollution control and environmental management policies and to concentrate on Mexico City.[115] This focus on Mexico City's environmental challenges,

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[114] For detailed analysis on Salinas' reforms see for example, Gates (1996) and Mayer-Serra (1996).
[115] Some of de la Madrid's policies such as garbage collection, reforestation and creating more green areas were continued. The new environmental programmes and plans included: *A day without a car*, Mexico City's air quality, and the Integral Programme of Combat against Contamination (Hogenboom, 1998:97-98).

and on solving them through command-and-control and environmental management mechanisms (key elements of Corporate-Environmentalism) pushed quality of life issues and conservation of natural resources and ecosystems to the margins of the national environmental and SD agenda. In sum, during the early Salinas' years, little was done to tackle environmental problems at a national level. Instead, government efforts were mainly concentrated on the capital. [116] Mexico City's pollution problem was at the time, and continues to be, one of the most important environmental concerns of the government.[117]

According to Hogenboom (1998: 100-109) it was only in 1991, with NAFTA, that the environment ceased to be merely a political football and became a genuine policy priority. Indeed, the debate generated by NGOs on the possible negative environmental effects of NAFTA strongly influenced the new approach of the Mexican government towards environmental problems during the 1990s. Even though the Mexican environmental movement and critical NGOs already existed, it was not until the NAFTA environmental debate that external actors turned a critical eye on Mexico.

Salinas' administration had managed to build a 'green image' in the international arena despite his domestic environmental policy deficiencies. Salinas emphasised the increased possibilities for popular participation. However, in the case of the *Laguna Verde* nuclear power plant, the most critical environmental organisations were pressured and marginalized, while the moderate ones were co-opted. According to Hogenboom (1997: 101), between July and December 1988 (when Salinas inaugurated his administration), radical NGOs campaigning against *Laguna Verde* were intentionally marginalized by the government. This author argues that the major co-option strategies included the recruitment of leading environmentalists into government agencies, divide and rule, violent attacks, and censorship. Moreover, just after the PRI won the elections of 1988, the *Laguna Verde* nuclear power plant began to operate despite the opposition to it and technical problems.[118] It was NAFTA, though, that marked the start of a new period, by inserting Mexico more directly into the global capitalist economy, influencing

[116] Salinas ordered the closure of more than 60 factories. One of the most spectacular examples of Salinas' *'new commitment'* to environmental protection was his decision to close one of the biggest oil refineries on the periphery of Mexico City, at a cost of more than US$500 million and 5,000 jobs. It is important to note that this event was even reported overseas. (The Economist, 13th November 1993).

[117] Levy & Bruhn (2001: 17-19) point out that 88 percent of days in Mexico City had air quality below the acceptable levels and that Mexico City alone produces 83 thousand tons of rubbish daily. The situation in Mexico City caught the attention of national and international NGOs, which put pressure on the Mexican government to respond. In the 1980s, unleaded petrol was introduced as well as the controversial programme, *A day without a car (Hoy no circula)*. For further discussion on *Hoy no circula* Programme and other environmental issues in Mexico, City see for example, Ulmas, (1996: 246), Beristain (1996: 391-395), and Goddard, 1996: 213-216).

[118] Simon (1997: 171) reports that in the late 1970s a report from the US Atomic Energy Commission, leaked in 1978, expressed concerns about flaws in a water reactor and in 1987, for example, the reactor vessel at *Laguna Verde* was dropped from a crane during construction and sea water entered the reactor during operation tests, contributing to corrosion.

the growth of the modern Mexican environmental movement and establishing Corporate-Environmentalism as the dominant view of SD discourse underpinning policymaking. As will become clear in the following sections, under this new framework the government aimed to re-invent (and radically change) its relationship with business groups, local authorities, and NGOs.

Institutional changes in the 1990s.

In 1992, SEDUE was replaced by the Ministry of Social Development (SEDESOL). The new Ministry, however, did not deal with SEDUE's environmental programmes. The CONADE (National Ecology Commission) was created in 1995, together with two other agencies (both autonomous from SEDESOL). The National Institute for Ecology (INE) was responsible for executing environmental policy. The other agency, PROFEPA (Office of the Attorney General for Protection of the Environment), was responsible for the enforcement of Mexico's environmental policy and for penalising and collecting the fines from those who did not comply with the regulations (PROFEPA, 1998: 17). These two decentralised agencies were also subject to strong criticisms. In both cases, due to the lack of environmental professionals and specialists, a good number of the officials that had been criticised in the past for their inefficiency were employed by both INE and PROFEPA (Ulmas, 1996: 246).

Whilst it is true that Mexican environmental law enforcement had to tackle problems such as centralisation, corruption and a lack of human resources; it is (still) also true that the institutions created to implement and enforce environmental law and policy were ill equipped, both politically and financially. INE was unable to force private and public sectors to comply with environmental regulations and PROFEPA (the 'environmental police'), so critics claimed, had mainly conciliatory and recommendatory powers (Hogenboom, 1998:229-230; Gutierrez-Najera, 1999: 2). The new SEDESOL was intended to be more receptive to environmental organisations than past institutions: PROFEPA created the *comites mixtos* (mixed committees) to inspect private sector's practices and ensure compliance with official policy. The committees were the institutional spaces where NGOs, industry, local government and political party representatives could participate in PROFEPA's decision making (PROFEPA, 1998: 29). These committees, however, integrated only moderate NGOs and meetings took place only a few times over the first years of their creation (Hogenboom, 1998: 230). The apparent emphasis given by the Mexican government to elements of Ecologically-

sustainable-Development, such as public participation, remained largely rhetorical. The *comites mixtos* are an example of the gap between policy rhetoric and practice.

Zedillo's Administration (1994 –2000).

Environmental issues were consolidated as a central issue in the political agenda soon after Zedillo took office. Zedillo created a cabinet-level environmental agency to replace SEDESOL. In 1994, the Ministry of Environment, Natural Resources and Fisheries (SEMARNAP) was established, and that same year SEMARNAP published the *Environmental Programme 1995-2000*, as a set of guidelines and objectives.[119] This interpretation of the term SD derives from the Brundtland definition, and reads as follows:

> Sustainable Development is development that makes the social needs and aspirations of today compatible with the maintenance of ecological equilibrium...[SD] is a new paradigm that articulates a gradual process of transition to more rational ways of natural resource use (SEMARNAP, 1995: 1. My translation)

This interpretation of the term SD incorporates key elements of Ecologically-sustainable-Development, such as social needs. However, policies and programmes remained formal or symbolic. 'Green' rhetoric held sway rather than practical steps (Hogenboom, 1998; Mumme, 2000).[120] On the other hand, it would be unfair to overlook the significance of the formal changes introduced by Zedillo's administration (and those preceding it). It was during the Zedillo administration that the different elements promoting the SD discourse were elevated to a cabinet or ministerial level making them a 'priority' area of government policy. Table 4.1 shows that the SEMARNAP budget increased US$ 5421,945,284.42 from US$ 658,856,797.29 in 1995 to US$ 1,201,802, 082.67 in 1999.

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[119] In the year 2000, SEMARNAP was replaced by the Ministry of Environment and Natural Resources (SEMARNAT), since Fisheries pass under the jurisdiction of the a new Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food (*Secretaría de Agricultura, Ganadería, Desarrollo Rural, Pesca y Alimentación* - SAGARPA) (www.semarnat.gob.mx, July 2003).
[120] Evidence for this claim is provided and critically analysed in chapter eight of this thesis.

Table 4.1 SEMARNAP Budgets, 1995-1999

Fiscal Year	SEMARNAP Budget (US dollars)	% of Total Federal Budget
1995	658, 856, 797.29	4.18
1996	884, 975, 682.29	5.06
1997	1, 161, 680, 873.90	5.40
1998	1, 504, 963, 149.21	6.01
1999	1, 201, 802, 082.67*	5.98

* To calculate the dollar amount for the 1999 fiscal year, the peso amount for SEMARNAPs budget was divided by an average exchange rate of 11.08 pesos to the dollar, which was used was used by the Mexican government to calculate certain catefories in the 1999 fiscal year budget (See: Secretaria de Hacienda y Credito Publico-SHCP, www.schp.gob.mx)

Source: Lodsdon & Husted (2000: 380)

Mexican federal authorities' total budget for the border environment is almost four times less than in that of the US border cities. Despite the efforts made in recent years to decentralise the Mexican government and give Mexican states financial and political autonomy, the federal funds have failed to keep pace; municipalities in particular have received meagre fiscal support (Rodriguez, 1997; Mumme, 2000). Table 4.2 below shows the differences in the federal budgets of Mexico and US, destined by each country to improve the border environment.

Table 4.2 Environmental expenditure in border areas, 1995-97 (in millions of US$)

		1995	1996	1997a
US (EPA)	Water	152	152	152
	Air	5	5	5
	Waste management + Emergency preparedness	3	9	8
	Law enforcement	4	4	2
	International activities	8	10	8
	Other	3	4	4
	Total	**175**	**184**	**179**
Mexico	Water	22	53	..
	Law enforcement	1.5	1.5	1.5
	Nature	0.1	0.8	1.0
	Emergencies	0.4	0.9	0.9
	Other	1	1.8	2
	Total	**25**	**58**	..

Source: OECD (1998: 178)

PROFEPA is responsible for enforcing environmental laws and regulations, conducting environmental impact assessments and ensuring compliance with international agreements. PROFEPA created *Eco-audits* or environmental audits, as part of its strategy to promote business groups' compliance with environmental law. Between 1992 and 1997, PROFEPA undertook 886 environmental audits (in 1997, 217 were concluded and 69 were still in process) but only 88 audits resulted in action plans to improve performance (PROFEPA, 1998: 59). Industries that develop action plans can be certified as 'clean industries'. PROFEPA created, in connection with the *Eco-audits,* the *Clean Industry Certificate Programme* intended to encourage business groups to protect the environment and develop an entrepreneurial environmental culture (OECD, 1998: 136-137; SEMARNAP, 1995: 82-83). This and other government agencies stressed key elements of the Corporate-Environmentalism that dominated SD discourse in the 1990s, including self-regulatory mechanisms and voluntary initiatives for industry.

Through the 1990s, after important legal and administrative changes took hold, it became clear that Corporate-Environmentalism underpinned the government's environmental policy. SEMARNAP, INE and PROFEPA had a new approach: they promoted a co-operative atmosphere with business groups and helped provide information about new laws and regulations in order to promote compliance. Self-regulation is one of the central elements of the policy outlined in national programmes on the environment since the late 1980s. Through the promotion of self-regulation and the development of voluntary programmes, the Mexican authorities aimed to stimulate good SD practices such as waste reduction and recycling, improvement of industrial processes and the introduction of clean technologies. The Voluntary Audit Programme (VAP) put forward by PROFEPA integrates key elements of Corporate-Environmentalism. Under the VAP, a firm agrees that an independent environmental consultancy firm to conduct an environmental audit. These audits must be undertaken by one of the consultancy firms that have been certified by SEMARNAP and PROFEPA to conduct environmental audits (SEMARNAP, 1995: 83).

Industry as a whole favoured the general idea of self-regulation. However, a good number of firms remain suspicious of the intentions of the government and fear that partial or total closure would result from voluntary audits. The majority of the environmental managers interviewed during my fieldwork in the region of Juarez/El Paso are still suspicious of the extent to which the government 'trusts' industry, since it is still the government who selects the consultancy firms that can carry out the audits. In addition, PROFEPA is in charge of enforcing international agreements including the Border XXI Programme and the Border Environmental Co-operation Commission

(BECC). The latter was established under NAFTA's environmental side agreement and is analysed in detail later in this chapter.

This section has examined the development of SD and environmental policy in Mexico and the US. Whilst in the US environmental policymaking began in the 1960s, in Mexico it only emerged as a real political and policy issue in the mid-1980s. In Mexico, the development of SD and environmental policy was triggered by global trends and the direct insertion of the country into the capitalist world economy through NAFTA. In the 1990s, with a few partial exceptions, such as Cuba and China,[121] the majority of the governments of developing and developed countries tried to integrate themselves into the global market-oriented economy. The European Union (EU) and its single market were formally established in 1993,[122] economic co-operation mechanisms were put into place between Asia Pacific countries (including Canada, the US and Mexico)[123] and free-trade agreements were signed between developed and developing countries. The critical analysis of the environmental debate on NAFTA and its impact on SD discourse in Mexico and the US is central to the examination of the SD discourse and practice of business groups, local governments and NGOs along the Mexico-US border region. However, it is also important to analyse the development of SD discourse and bi-lateral environmental agreements between Mexico and the US in the pre-NAFTA era.

Section 2
The Mexico-US border: SD discourse and bi-lateral co-operation

Mexico and the US began to address transboundary environmental issues more than a century ago. In 1889, the two governments established the International Boundary Commission (IBC) to allocate equitably the waters of the Upper Rio Grande between the US and Mexico. In 1944, a Water Treaty was signed by the two countries to deal with the utilisation of the waters of the Rio Grande and the Colorado River and to provide a framework within which to carry out bilateral negotiations on water pollution control

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[121] However, since the 1980s Cuba and China have increasingly opened themselves to the global economy. Cuba is still not fully integrated and China just recently joined the World Trade Organisation (WTO). Trade ministers from across the world have officially approved China's entry into the World Trade Organization (WTO) after 15 years of negotiations (http://www.cnn.com/2001/WORLD/asiapcf/central/11/10/china.WTO/).

[122] For a chronology of events on the European Union, see: http://europa.eu.int. For a good analysis and introduction on European integration, see for example: Dinan (1999). For environmental and SD policies of European Union countries see for example European Commission (2002).

[123] Two examples are the Asia Pacific Economic Co-operation mechanism (APEC) and the Pacific Economic Co-operation Commission (PECC). At the same time Latin American countries established the 'Common Market of the South' - (MERCOSUR), constituted by the governments of the Argentine Republic, the Federative Republic of Brazil, the Paraguayan Republic and the Orient Republic of Uruguay, established in March 1991 under the Treaty of Asunción (www.mercosur-comisec.gub.uy).

(House, 1982; Utton, 1981).[124] The 1944 Water Treaty, which has been in effect ever since, expanded the powers of the IBC, and renamed it the International Boundary and Water Commission (IBWC). The IBCW is an international body composed of sections on each side of the border. Both the Mexican Section (*Comisión Internacional de Límites y Aguas* - CILA) and the US Section are headed by an Engineer-Commissioner who acts as representative of each country. The Mexican Section is headquartered in Juarez and the US Section in El Paso. [125] The IBWC, however, worked originally only on water management and distribution; it did not deal until the end of the 1990s with issues such as water quality and quantity.[126]

Under the terms of the North American Agreement on Environmental Co-operation (NAAEC) the two IBWC Commissioners are part of the Border Environmental Co-operation Commission (BECC) Board of Directors and work with the SD certification criteria developed by the BECC. The Strategic Plan (1999) of the US Section of the IBWC, however, does not explicitly mention the term SD in any way. The IBWC recognises that 'increased attention to the region by other federal agencies ...are compelling the IBWC to move into areas outside of its traditional role (for example, assuming a leadership role in community development)' (IBWC, 1999: 4). It is unclear, however, which new elements of SD discourse the Commission is planning to incorporate into its mandate.

For years, Mexico City and Washington DC were interested in the border region's environment only as it related to water management and distribution. It was not until the early 1980s that an agreement on the protection of the border environment was signed between the two countries in La Paz, Baja California. Both the 1944 Water Treaty and the 1983 Agreement on Co-operation for the Protection and Improvement of the Border

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[124] The 1994 Water Treaty established that the US should deliver from the Imperial Reservoir in California 850 million cubic metres to Mexico annually and in return Mexico should deliver from the Amistad (Coahuila) and Falcon (Tamaulipas) Reservoirs 431 million cubic metres to Texas farmers over a five year period. The treaty also establishes that in case of extreme draught conditions or problems in the water systems Mexico or the US can pay its water debt over the next five-year period. Since 1993, however, northern Mexican states have been experiencing severe droughts, which prevented the country from complying with the delivery of its annual share of water from the Rio Grande for almost five years. Water disputes between Mexico and the US re-emerged in 2001. As water resources in the area become scarce, Mexico and the US had to negotiate the payment of its water debt to the US. The US required Mexico to pay its water debt, which accounts for four 4,094 million cubic metres. After a long negotiating process between the countries on 9th January 2003 they agreed that Mexico is obliged to deliver, over the new five year period, at least the amount established in the 1944 treaty if the weather conditions permit (Sanchez, 2002; Millan, 2002a; Millan, 2002b; Cervera, 2003). The scarcity of water in the region is a clear example of the critical environmental problems of the region of Juarez/El Paso.
[125] For a thorough discussion on the IBCW see: Enriquez (1975) and Sepulveda (1983).
[126] The most common criticisms made of the IBWC are its old fashioned structure, its engineering approach and its focus on capital-intensive infrastructure projects. The IBWC has also been criticised for its lack of transparency, for being centralised and highly dependent on the respective national governments, and as a result very slow and ineffective in getting funds for its costly projects (Spalding, 2000: 8; Mumme, 1993: 87; Land, 1993: 108-109). As the border region grew in population and industrial activities the need for water treatment facilities and other environmental infrastructure became evident throughout the border region (IBWC, 1996).

Environment (also known as the La Paz Agreement) form the roots of bi-national co-operation on environmental protection and management.

The La Paz Agreement, 1983.

The second pillar of environmental protection along the border region is the Agreement between the US and Mexico for the Protection and Improvement of the Environment in the Border Area, signed by President Reagan and President de la Madrid in La Paz, Baja California, in 1983. The agreement was a response of the governments of Mexico and the US to the IBWC's limited ability to solve transboundary environmental disputes. The agreement, also known as the La Paz Agreement, focused on the search for and implementation of solutions to border environmental problems, particularly air, water and land pollution. The agreement is supervised by two National Co-ordinators, the Environmental Protection Agency (EPA) in the US and SEMARNAP (before SEDESOL) in Mexico.

The agreement has been subject to criticism by local NGOs and academics. The most common criticisms are its narrow scope, weak enforcement provisions, lack of transparency and poor public participation and access to information (Land, 1993: 109; Mumme, 1993: 89-91). The La Paz Agreement was instrumental, nevertheless, in addressing the most controversial transboundary pollution issues. Regular annual meetings can be carried out to discuss problems and to generate policy proposals. The two countries reached executive agreements through an Annex mechanism. The La Paz Agreement has five annexes that deal with water treatment facilities, joint planning and emergency response in case of hazardous substance spills, cross-border shipment of hazardous waste, copper smelters' emissions (in Arizona, New Mexico, Texas, and Sonora), and air pollution control in border cities (Székely, 1993). The La Paz Agreement emphasised aspects of Corporate-Environmentalism and concentrated on command-and-control and environmental management instruments for controlling pollutant emissions. The conservation of natural resources (Ecologism) and other environment and development issues such as poverty eradication and quality of life (Ecologically-sustainable-Development) were marginalized. One of the few elements of Ecologically-sustainable-Development adopted in the Agreement was environmental health, which continues to be an acute problem on both sides of the border.

The Integrated Border Environmental Plan (IBEP), (1992-1994).

In the early 1990s, the growing discontent of border communities and NGOs fused with the new challenges introduced by NAFTA. The Bush and Salinas administrations came under public pressure to find new solutions to aid the border environment.[127] In February 1992, the Environmental Protection Agency (EPA) and the *Secretaría de Desarrollo Urbano y Ecología* (SEDUE)[128] announced the establishment of the Integrated Border Environmental Plan (IBEP) which was intended to be a more comprehensive approach to the environmental management of the region. Its objectives were: to strengthen the enforcement of existing environmental laws; reduce pollution through joint initiatives; expand planning, training, and education programmes and to improve the mutual understanding of environmental conditions along the border. The IBEP operates under the frameworks of the IBWC and the La Paz Agreement and does not add to their extant dispute resolution mechanisms and environmental managerial approach to border issues (Mumme, 1993: 90).

Ironically, many members of the public took part in the 1991 parallel meetings on the draft of the IBEP. Border environmental organisations quickly pointed out the IBEP's failure to address important issues, such as the lack of financial and technical assistance, public health, generation and disposition of hazardous wastes, lack of public participation mechanisms and its vague voluntary enforcement programme (Land, 1993: 106).

Border XXI Programme.

In October 1996, following the IBEP, the two federal governments established a five year programme with the goal of promoting SD in the border region 'through the protection of human health and the environment and proper management of natural resources in both countries' (EPA, 1996: 1). The programme, named *Border XXI Programme* has three objectives:

1) To ensure public participation in the programme implementation and development;

2) To build state and local environmental capacity and promote decentralisation;

3) To ensure interagency co-operation to avoid duplicating efforts.

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[127] For concrete examples and further explanations on NGOs and NAFTA see section 4 of chapter 5 below.
[128] SEDUE was replaced by the Ministry of Environment and Natural Resources (SEMARNAP) in 1994. Information on the history of the development of the SEMARNAT is available on: www.semarnat.gob.mx (20th May 2003).

The three main working areas of the programme incorporate key strands of Ecologically-sustainable-Development such as a focus on public opinion and decentralisation. However, as discussed above, public participation mechanisms have not been very successful and there are still questions over the extent to which decentralisation is really happening.

The programme established nine bilateral working groups that deal with the most acute environmental problems along the border (water, air, hazardous and solid waste, pollution prevention, contingency planning and emergency response, co-operative enforcement and compliance, environmental information, natural resources and environmental health). The environmental problems along the Mexico-US border affect the environment and development of communities on both sides of the border and throughout the region. Table 4.3 below summarises the main environmental problems along the Mexico-US border.

Table 4.3   Border Environment

Environmental Categories	Problem characteristics
Water	- *Quantity*: If current growth and consumption rates are not halted it will result in a severe scarcity of water resources and supply throughout the region in less than 25 years. Lack of water conservation programmes and water treatment infrastructure. Aquifer depletion and deficient supply of drinking water. - *Quality*: Significant pollution of groundwater and surface water resources. US failures to maintain and improve waste water treatment. No water saving and conservation culture on either side of the border (usage). Mexico's deficient provision of sewage collection for a rapidly growing population. Industrial dumping of solid and toxic waste into the water.
Air Pollution	- Poor management in air shed particularly in Juarez/El Paso. - Increasing number of cross-border crossings and traffic. Increasing number of vehicles (old and polluting US vehicles bought by Mexicans) due to the inefficient public transport system mainly on the Mexican side and insufficient in the US. - Lax enforcement of environmental air pollution laws (lack of financial resources for introducing a good public transport system). - Brick makers and the burning car tires at open air
Toxic Waste	- Dumping of heavy metals and toxic chemicals on land. - Improper disposal of waste. - Lack of information on the amount of toxic waste produced by maquiladora plants. - Lax enforcement of environmental law in Mexico - Limited facilities for recycling waste from the maquiladoras and waste by-products.
Solid Waste	- Lack of adequate disposal and treatment facilities - Inefficient collection system - Lack of recycling facilities - Limited environmental awareness and culture
Environmental Health (causes)	- Absence of pipelines and limited access to drinking water in the colonias - Lack of drainage is substituted by 'letrinas' in highly populated areas. - Faecal material exposed, increasing the risk of disease - Lack of pavements in the colonias increases the transport of pathogens - Poor quality of life and lack of information and education on environmental health risks.
Enforcement and Compliance	- Limited number of environmental specialists - Lack of resources for training and raising salaries within government agencies. - Corruption - Slow process of decentralisation and limited municipal capacities - Mobility of environmental professionals and lack of continuity of environmental programmes.
Infrastructure	- More than 30 years of backwardness in paving the '*colonias*' in Mexico - Absence of pipelines to deliver drinking water and sewage for excreta removal. - Inefficient public transport system - Insufficient solid and toxic waste disposal and treatment facilities. - Limited water pre- and treatment facilities.
Bio-diversity Loss & Habitat/Ecosystems degradation	- Uncontrolled waste dumping on land and into rivers. - Alteration and overuse of natural ecosystems including coastal areas, groundwater resources, river basins - Endangered plant and animal species on both sides of the border - Lax protection and limited conservation programmes of habitat and bio-diversity - Lack of financial resources for administration of already existing protected areas. - Lack of bi-national mechanisms for protection and conservation of habitat and bio-diversity - Use of fertilisers and other chemicals in agricultural practices. Soil degradation and erosion

Sources: Spalding (2000: 78-79), EPA & SEMARNAP (1998), Hill (2000: 132-133), and fieldwork notes and interviews.

The working groups established by Border XXI meet annually to identify the federal funding available to carry out projects that will contribute to the achievement of Border XXI long-term goals. There is a big gap between environmental funding and expenditure in the US and Mexico. The financial resources currently available in Mexico fall way short of what is required to implement the ambitious Border XII Programme (EPA, 1998; OECD, 1998:178).[129]

The Border XXI Programme strongly promoted the dominant version of SD discourse (Corporate-Environmentalism) in the border region and elements of Ecologically-sustainable-Development, which appear progressive on paper, yet remain mainly political rhetoric. The Border XXI Programme proposes a 'longer term' plan and, as will become clear in the following section, expands its scope beyond other border institutions like the Border Environmental Co-operation Commission (BECC) or the North American Development Bank (NADBank). The programme and its decision making process remain tied to both countries' federal governments, while the decentralisation process in Mexico is critical for the protection of the border environment (Mumme, 2000). The implementation of Border XXI also depends on the financial access of border cities to federal funds in both countries.

Section 3
NAFTA and the environment

By the 1990s, shortly after Salinas came into office, it became clear that his policies would consolidate the neo-liberal policy started by De la Madrid. Economic integration with the US became one of Salinas' priorities. In 1991, President Salinas and President Bush declared their advocacy of a free trade agreement between the two countries. At the same time, however, domestic and foreign pressure made it clear that environmental issues could not be excluded from the free trade negotiations. In December 1992, the governments of Mexico, Canada and the US signed the North American Free Trade Agreement (NAFTA). NAFTA's potential environmental impact

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[129] Mexico applied for financial resources from the World Bank, which provided a credit line of US$368 million over five years under the Environmental Programme for the Northern Border and a credit of US$60 million for waste management. However, Mexico's economic crises and bureaucratic delays have hindered the utilisation of such credits (OECD, 1998: 179).

throughout the region stimulated an intense debate among NGOs in both Mexico and the US.[130]

Opposition to NAFTA

Environmentalists centred their criticisms on three main topics:

1) Border environment (including pollution, infrastructure and management).

2) Downward harmonisation of environmental laws and standards.

3) Relocation of industries throughout Mexico and the consequent industrial pollution.

Influential NGOs from Mexico and the US, such as the National Wildlife Fund, the National Resources Defence Fund, *El Grupo de los 100* (Group of 100) and others pushed for the passage of an environmental agreement parallel to NAFTA. Other groups were created specifically to fight against the possible environmental effects of the trade agreement, for example, the *Red Mexicana de Accion Frente al Libre Comercio* (National Network Against Free Trade - RMALC).

The NAFTA met powerful opposition from NGOs, which argued that it would encourage uncontrolled economic growth based on environmentally damaging practices and promote a downward harmonisation of environmental laws and enforcement in the region, particularly in Mexico. Enforcement has been a central problem for Mexican environmental agencies. For years Mexico lacked a comprehensive environmental law, and issues such as industrial pollution were neglected. In the 1980s, when environmental agencies were created, the country was immersed in an economic crisis, and these agencies lacked financial, human and technical resources, which limited their performance; environment and SD policy remained mere political rhetoric. In contrast to the Mexican situation, the US environmental agencies, whilst far from perfect, had many more resources at all levels of government (federal, state and local). Consequently, NAFTA critics feared that the gap between environmental law standards and enforcement between the countries would force the US and Canada to soften their own environmental standards, favouring trade over the environment (Sanchez, 1994: 96; Bugeda, 1999:1591-1592).

Environmental groups and other NAFTA critics were well aware of the environmental concerns about industrial activities along the US-Mexico border. The state of the

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[130] Other issues such as the NAFTA's economic effects and labour and migration, among others, were also subject of intense discussion, analysis, and criticisms. Such issues, however, are not examined in this thesis. For a lengthy discussion on these issues see for example: Bulmer-Thomas et al (1994) and Baer (1994).

environment has been for years a matter of concern to local communities and local governments along the border region. It is on the border that US citizens experience first-hand the environmental degradation on the Mexican side. Moreover, the border region has a relatively long history of resource management and environmental co-operation between Mexico and the US (Sanchez, 1994; Baez-Flores et al, 1997; Anderson et al, 1993; Bulmer-Thomas et al, 1994; Mumme, 1999). Hence, when NAFTA was being negotiated, NGOs raised voices of alarm and pushed for substantial environmental safeguards regarding the border environment to be included in the trade agreement. The main concerns were that border communities did not possess the necessary environmental infrastructure to deal with an intensified industrial migration of both workers and industrial plants. Since the 1960s, when the Border Industrialisation Plan (BIP) was put into place, the region (particularly the Mexican side) fell far behind in its provision of infrastructure. The lack of infrastructure meant inadequate waste (toxic and solid) treatment and inadequate disposal, poor housing and lack of access to drinking water and sewage for the majority of the population (Garza, 1996; Gilbreath, 1992).

Environmental activists and NGOs feared, in addition, that the acute environmental problems along the border would be reproduced in the rest of Mexico. On this view, NAFTA would promote the relocation of polluting industries and their operations throughout Mexico, with lax enforcement of environmental laws as an incentive to gain competitive advantage. The feared flow of industries into Mexico is known as *the maquilasation process*, named after the bad environmental reputation gained by hundreds of foreign-owned plants (*maquilas*) established on the Mexican side of border.

If the assumption of a *maquilasation process* was correct, this might ease the rapid flow of industries to the border area, reducing the burden on the region's environment. However, even if some firms have relocated in central Mexican states such as Queretaro or Guanajato, the geographical location of northern Mexican states and their proximity to the US continues to attract a growing number of industries to the Mexico-US border. Despite the acute environmental problems and the imminent water scarcity crisis menacing the region, the number of industries relocating along the border continued to grow after the agreement was signed, increasing pressure on the already huge deficit of environmental infrastructure and basic services in border cities.[131] In Juarez, twenty new industrial plants per year were opened between 1994 and 1999

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[131] According to the IMIP (*Instituto Municipal de Investigación y Planeación* - Municipal Institute of Research and Urban Planning) the natural environment of the region of Juarez-El Paso continues to deteriorate. A water crisis is expected by the year 2010 unless new resources are earmarked to solve the problem. IMIP (Municipal Institute for Research and Urban Planning (Unpublished) & City of El Paso (1999: 14).

according to IMIP (Municipal Institute for Research and Urban Planning & City of El Paso, 1999: 8).[132]

NAFTA came into force in 1994. By 1999, trade between Mexico and the US had risen from US$108 billion to nearly US$200 billion and between 1993 and 1998 Mexican manufacturing exports to the US increased 163.8 percent (Fernandez de Castro & Dominguez, 2001: 218).[133] This increased the volume of cross-border traffic, the amount of waste production, water consumption and the need for environmental infrastructure. The already stressed environment of the region now faces the intensification of old and new environmental challenges.[134] NAFTA's impact on environmental stress in the border region of Juarez/El Paso provides excellent material for the analysis of the contradictions of global environmental and economic processes at the local level, the competing notions of ecological crisis and *environmental problematique*, and the SD discourse and practice of business groups, local governments and NGOs.

The growing pressure from environmental groups to include environmental safeguards in the NAFTA drove the governments of the US, Canada and Mexico to commit themselves to protecting the North American environment. The three governments signed the North American Agreement on Environmental Co-operation (NAAEC) in 1993, thereby including the environmental concerns of civil society under the framework of an international trade agreement for the first time.[135] Moreover, a clear commitment to achieve SD was also included in the preamble of the NAAEC (Spalding, 2000: 77):

> CONVINCED of the importance of the conservation, protection and enhancement of the environment in their territories and the essential role of co-operation in these areas in achieving sustainable development for the well-being of present and future generations (www.cec.org).

The preamble sets out a formal commitment to bi-lateral co-operation on SD-related issues. Whilst it takes the intergenerational responsibility concept from the Brundtland

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[132] Carreno-Figueras (2003: www.diario.com.mx) reports that the number of maquila plants along the border is declining and that between 2000 and 2002 nearly 290 thousand maquila jobs were lost. Carrasco-Soto (2002) reports that according to a survey conducted by the AMAC (*Asociacion de Maquiladoras AC*) in Juarez shows that only from the 133 maquila plants surveyed 5,780 jobs were lost during June 2003. According to these observers the economic situation in the US and competition with China's cheap labour are the main causes for this decline.

[133] In 1998, the three main manufacturing export products to the US were auto-parts, TVs and electric cables. Maquilas in the automobile and electronic sectors are a major presence on the border area (Fernandez de Castro & Dominguez, 2001: 219).

[134] For an overview of the main environmental problems along the Mexican-US border see table 4.3 in the previous section.

[135] NAFTA environmental provisions prohibit reducing environmental standards to attract investment (Art. 104, 906, 1114) and promote the upward harmonisation of environmental laws and standards (Art. 713, 714, 905, 906) (quoted in Spalding, 2000: 86). The disparity between the degrees of environmental enforcement between the US and Mexico was one of the major criticisms. Spalding (2000: 87) reports that, pushed by these complaints, the US government conducted a review of Mexico-US environmental issues. The review concluded that Mexico did have severe environmental enforcement problems, but the country had good laws; the Mexican government on the other hand lacks sufficient human and financial resources to improve its level of enforcement. However, with NAFTA, the economy would be stimulated and new resources could be directed to environmental agencies. Spalding points out correctly that what this reasoning failed to take into account were the possible negative impacts of the treaty on the Mexican economy.

definition of SD, it is not clear how will this be achieved. Other than this short statement, the NAAEC was primarily created under a trade agreement; trade rather than SD or the environment is ultimately the priority. The preamble continues by reconfirming 'the importance of the environmental goals and objectives of the NAFTA, including enhanced levels of environmental protection'; its objectives are to 'promote sustainable development based on co-operation and mutually supportive environmental and economic policies, to support the environmental goals and objectives of the NAFTA and avoid creating trade distortions or new trade barriers.'[136] Throughout the text of the agreement, Corporate-Environmentalism predominates. However, the NAAEC also incorporates aspects of the second version of SD discourse (Ecologically-sustainable-Development), as will become clear in the following section.

NAFTA Environmental Institutions

Under the NAAEC, three new environmental institutions were created. A trilateral Commission for Environmental Co-operation (CEC), based in Montreal, Canada, was established to implement the agreement; the Border Environmental Co-operation Commission (BECC) headquartered in Juarez; and the North American Development Bank (NADBank) based in San Antonio, Texas. The last two are bilateral institutions established to develop, finance and evaluate environmental infrastructure in the Mexico-US border region.

Commission for Environmental Co-operation (CEC). The remit of the CEC, created in 1994, was to promote co-operation for the protection and improvement of the North American region's environment, to prevent potential trade and environmental conflicts and differences that may arise between the parties, promote the enforcement and harmonisation of environmental legislation and prepare an annual report. The CEC's annual report would be made public and would include views and information submitted by NGOs and/or individual citizens (Arts. 14 & 15) (Bugeda, 1999: 1593-94; Spalding, 2000: 90-93).[137]

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[136] The full text of the NAAEC is available on the web: www.cec.org, July 2003.
[137] The CEC is composed of three different bodies: The Council, the Secretariat, and the Joint Public Advisory Committee (JPAC). See: www.cec.org for the original text of NAAEC.

The most interesting mechanisms created under the NAAEC are those that promote and enable public organisations and individual citizens (with no specific affiliation) to demand the effective enforcement of environmental laws and publicly denounce their governments when environmental laws and regulations are not enforced (Bugeda, 1999).[138] Public access to information, a key element of Ecologically-sustainable-Development, is one of the central concepts underlining NAAEC's institutions. Through these mechanisms and the CEC's long-term perspective, the NAAEC appeared to have taken a step towards adopting Ecologically-sustainable-Development, however, the agreement had little time for most other aspects of Ecologism and Ecologically-sustainable-Development, including social justice, poverty or elevating the quality of life of the poorest.

NAFTA has been regarded as the first free-trade agreement to have 'successfully' included the environmental concerns of different groups from Canada, Mexico and the US (Barkin, 1999; Baez-Flores, Jedicka & Brown et al, 1997; Anderson et al, 1993; The Aspen Institute, 2000). The NAAEC, correspondingly, is the first trilateral 'greening' instrument of a free-trade agreement between two developed countries and a developing one. From a Corporate-Environmentalism perspective, NAAEC is an important example of how to make trade and environmental protection compatible. The NAAEC has successfully adopted a long-term perspective and developed an agenda named *A Shared Agenda for Action, 1998-2000*, including the use and development of long-term indicators and has promoted public participation in environmental decision-making. However, even this innovative instrument cannot escape the contradictions inherent in trade, environmental management and development (Hogenboom, 1998; Mumme, 1999). Figure 4.1 below provides a good graphic overview of the main environmental institutions created under NAFTA.

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[138] Bugeda (2000) discusses the potential of citizen's submission and dispute resolution mechanisms created under NAAEC to promote environmental law enforcement, particularly focusing on the Cozumel Submission. In 1997, the North American Commission for Environmental Cooperation (CEC) released its first ever factual record regarding a citizen submission under Article 14 of NAFTA's environmental side agreement. The submission allows citizens in member nations to charge their governments with failing to enforce national environmental laws. The petition addresses a pier that was being built within a marine-life refuge zone off Cozumel's west coast. Petitioners claim it will destroy the fragile area, a violation of existing Mexican laws that prohibit construction on coral reefs, and that the project should never have been considered for an environmental impact assessment (EIA) in the first place (see: www.cec.org).

Figure 4.1   Principal NAFTA environmental institutions

NAFTA	NAAEC	Alternative Representatives
		General Standing Committee
		Government Working Groups

Free Trade Commission

FTC

Ministerial Council

Free Trade Secretariat

Mexico-Canada-US

Commission for Environmental Co-operation

CEC

Commission for Environmental Co-operation
Council
Joint Public Advisory Committee

National Advisory Committees (NAC)

Government Advisory Committees (GAC)

Ad hoc committees and working groups

Committee on Standards-Related Measures **CSRM**	Committee on Sanitary & Phytosanitary Standards **CSPS**	Committee on Agricultural Trade **CAT**	Committee on Trade in Goods **CTG**

Automotive Standards Committee **ASC**

Technical Working Group on Pesticides

Seven WGs continued from the Canada/ US FTA

1. Meat, Poultry & Eggs inspection
2. Plant Health, seeds & Fertilisers
3. Dairy, Fruit, & Vegetable Inspection
4. Veterinary drugs & feeds
5. Food, Beverage, & Additives & unavoidable contaminants
6. Packaging & Labelling
7. Fish & Fishery products inspections

Land Transportation Standards Sub-committee **LTSS**

Source: Adapted from Mumme (1999: 3)

One of the first and most obvious signs that NAAEC's dominant philosophy is Corporate-Environmentalism is the very nature of the agreement and the fact that it was negotiated and conceived as part of a free-trade agreement and not as a separate treaty or agreement. The NAAEC, on the one hand, shows that the environment takes second place to trade and commercial interests. The environment in this case has become the insurance for non-discriminatory commercial competition in North American and world markets. And on the other hand, alternative types of SD discourse, such as Ecologism or Ecologically-sustainable-Development (such as social justice, ethics and poverty eradication) were marginalized in the NAFTA environmental instruments,

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negotiations and processes (with the exception of infrastructure and environmental health) and ultimately in the NAAEC.

The SD discourse promoted by NAFTA strongly emphasises pollution control, environmental management, self-regulation and law enforcement. [139] The dominant school of thought of the SD discourse-promotion of free trade could begin to look threadbare as people become poorer. Hence, the old dilemma remains unsolved: how to make development - and not trade - compatible with the protection of the environment This further entails asking what kind of development is required in order to maintain and protect natural resources. If SD discourse instead prioritised inequality and poverty, would NAAEC be regarded as the 'greenest' (sustainable) trade agreement in history? These questions highlight fruitful areas of research for the study and analysis of the impact of NAFTA on the border region and, more widely, the impact of the WTO all over the world.

The Border Environmental Co-operation Commission (BECC) and North American Development Bank (NADBank).

The deteriorating border environment caught the attention of many groups in Mexico and the US during the NAFTA process (Hogenboom, 1998: 91-94). The NAFTA debate also resulted in the establishment of stronger and more comprehensive networks among border NGOs and in a more dynamic participation of these groups in the trade negotiations (Land, 1993: 100; Lara, 2000: 160-162). The concerns of border environmentalists about the effects of NAFTA on the state of the border environment drove both Mexico and the US to establish two bilateral institutions. In November 1993, the Border Environmental Commission (BECC) and the North American Development Bank (NADBank) were created to assist border communities bolster border infrastructure.

The Border Environmental Co-operation Commission (BECC) was created to provide technical assistance to states, local communities and NGOs in the development of infrastructure projects. Its purpose is to protect, preserve and 'enhance the environment of the border in order to advance the well-being of people of the United States and Mexico and achieve sustainable development' (BECC, 1995: 1). The BECC would also

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[139] The gap between rich and poor in Mexico continues to grow. Jordan & Sullivan (2003: 33) report that whilst the percentage of poor Mexicans is about the same in 2003 as it was in the 1980s, the total population has grown over the same time period from 70 to 100 million. About 19 million more Mexicans are living in poverty than 20 years ago and about 24 million - almost one in four - are classified as extremely poor and unable to afford the minimum food requirements. Anderson & Cavanagh (2002) state that in 2002 the total number of Mexican poor comprised 58.4 percent of the total population, up from 50.9 percent in 1994.

evaluate and certify such projects. Once BECC certifies a project, its proponents could apply for financial resources to NADBank or other sources. The certification process is based on SD criteria developed by the BECC, which includes environmental, health, financial and public participation dimensions. The BECC should promote and enhance local public participation in the certification process. The BECC focuses mainly on the improvement of water supply, wastewater treatment and municipal solid waste disposal in communities located along the 2000 km border between the US and Mexico (NADBank, 1999: 3).

BECC's environmental criteria have been adopted by different government agencies on both sides of the border. BECC's SD criteria have greatly influenced the SD discourse of the border region, as it has been promoted by a number of cross-sectoral border environmental groups and initiatives, such as the Joint Advisory Committees (JAC) and the Air Quality Task Force of the region of Juarez/El Paso.[140] In the year 2000, BECC participated in *The Seven Principles of Environmental Stewardship for the 21st Century* initiative, which consists of a strategic alliance formed by business leaders and environmental authorities in Mexico and the US to promote SD on the Mexico-US border and throughout the two countries. The Seven Principles 'urged' business groups to go beyond environmental law enforcement and to participate in voluntary programmes developed by the public and private sectors (www.cec.org). The idea of 'going beyond environmental law enforcement and the development of voluntary programmes' had also been embraced by business groups around the world through the International Standardisation Organisation, particularly ISO 14000. Self-regulatory and voluntary mechanisms such as the ISO 14000 'family' are key elements of the dominant variant of SD discourse of the 1990s. Chapter 6 examines how ISO 14000 has become one of the key elements of Corporate-Environmentalism.

The Border Environmental Co-operation Commission (BECC) SD Criteria.

The BECC follows the Brundtland definition of SD (development which meets the needs of the present without compromising the ability of future generations to meet their own needs) and observes three SD principles, one of which states:

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[140] Fieldwork notes. See chapter 7 below.

Human needs are at the centre of concerns for sustainable development. Humans are entitled to a healthy and productive life in harmony with nature; the *right to development* must be fulfilled so as to equitably meet developmental and environmental needs of *present and future generations*; and, in order to achieve SD, *environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it* (BECC, 1995: 16- emphasis added).

Guided by this principle, the BECC developed a set of SD criteria to evaluate and certify the projects presented by states local communities and NGOs in the border region. The BECC's SD criteria can be broken down into six areas, namely, natural resource management, technical efficiency, natural resource preservation, environmental protection, benefits to low-income residents and community participation. At first glance, the SD criteria put forward by BECC appear to have been developed, at least formally, under the influence of Ecologically-sustainable-Development. The 'right to development', and its final criteria, 'benefits to low-income' population and community participation are key elements of Ecologically-sustainable-Development.

BECC's participatory mechanisms, however, have been subject to strong criticisms by academics and NGOs in the border region and beyond. Graves (1999:1) points out that when BECC became fully operational, in 1995-1996, a great deal of distrust permeated the relationship between BECC and NGOs. The distrust between BECC and NGOs originated in the adoption of the rules and procedures governing public participation and interactions with BECC, carried out at a meeting in 1994 that was not open to the public. Lynda Taylor, the US Public Representative at the meeting, voted against the rules despite strong pressure to support them. Graves (1999: 2) reports that in an interview Linda Taylor said that 'a State Department official warned her not to be a spoiler, since it took a lot of work to get to the point of negotiating such rules.'

The BECC was created separately from NADBank in large part to avoid BECC's certification process being shaped by financial considerations. It is important to note that public participation does not apply to NADBank activities, which still take place behind closed doors. The BECC's SD criteria are a good example of the organisation's attempt to incorporate a framework that includes the right to development, better quality of life for the poorest, democratisation, decentralisation and public awareness and participation. At the local level, BECC's certification process requires project sponsors to inform the public and seek their support through two formal public hearings. Requiring public participation and making the sponsors inform the public, as a requisite for certifying a project, represents an important political advance in the border region. But BECC's local consultation process has its limitations. Firstly, public participation comes

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at a late stage of project development and members of the public have little chance to discuss how and why a project is necessary and will benefit their communities. Secondly, sponsors and governments on both sides of the border do little to actively involve the public in the development, construction and operation of the project. As Graves (1999: 4) puts it, the public committees 'appeared to rubber-stamp the proposed project.' In practice, it is still unclear to what extent the urgent needs of poor communities and their right to development and a good quality of life are prioritised over trade in BECC's certified projects.

The North American Development Bank's (NADBank) primary role is to provide financial resources for the implementation of projects certified by the BECC. The aim is to provide financial and managerial expertise to the communities that require it. As an investment bank, it obtains funding from both public and private sources and provides affordable financial packages. The NADBank was capitalised by the US and Mexico, in equal shares, to provide a total of US$3 billion in new financing. Its work was reinforced, in 1997, by the creation of its Border Environment Infrastructure Fund (BEIF), which began with more than US$150 million available for water and wastewater projects. The NADBank also created the Institutional Development Co-operation Programme (IDCP) to work primarily on utility capacity building (NADBank, 1999: 3; Spalding, 2000: 92-93).

Both the BECC and the NADBank are innovative bilateral mechanisms. Spalding (2000:93), for example, points out that this is the first time the two countries have shared decision making and equal spending power. The BECC-NADBank Joint Report of 1998/99 indicates that the BECC has certified 26 projects, which represent a total investment of US$622 million. The BECC provided over US$1.7 million in technical assistance grants between 1998 and 1999 (www.becc.org). However, as shown in table 4.4, of the 26 projects certified by BECC and those funded by the NADBank, only 11 are on the Mexican side of the border.

Table 4.4 Distribution of projects certified and financed by NADBank (1998/99)

	Projects with NADBank loans	Projects w/ NADBank financing approved	Projects w/financing and under development	Projects in operation, being redefined & prepared. or undergoing development	Total
US	5	5	1	4	*15*
Mexico	2	2	4	3	*11*
					26

Source: NADBank (1999: 9-10)

It is clear that, at a formal level, the BECC and the NADBank successfully incorporated the various strands of SD discourse into policies and programmes in a more holistic manner. However, for some, BECC and NADBank's SD criteria and policies remain only formal institutional objectives (Land, 1993: 101- 106). Border environmental activists and NGOs remain doubtful of the capability of these institutions to solve the border region's environmental and human health problems (Public Citizen & RMALC, 1996). The Sierra Club, for instance, estimated that US$14 to US$21 billion is needed to cope with infrastructure demands, and to ensure adequate enforcement and administrative support.[141] The amount with which the NADBank was capitalised will always fall short of the funds needed to restore, protect and preserve the environment of the border (Mumme, 1999).

Section 4

Summary and conclusions

This chapter has examined the history of environmental policy and SD in Mexico and the US and has shown that Corporate-Environmentalism dominated legal and policy changes in both countries during the 1990s. Whilst Corporate-Environmentalism, may be better than nothing, it does not guarantee the protection or recovery of the environment or society of the Mexico-US border area. Those wishing to make

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[141] Hufbauer (1993: 98) reports that the National Wildlife Federation and the Environmental Defence Fund (EDF) estimate that US$7.6 billion is necessary between 1993 and 2004 for basic infrastructure needs, like sewage treatment plants, safe drinking water supplies, and solid waste disposal. The Institute for International Economics recommends US$5 billion over the next five years to clean up and improve sewage, water, and air conditions in the border region.

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Ecologically-sustainable-Development dominant within SD discourse will have a hard time doing so on such a basis.

Throughout the chapter it was argued that NAFTA and the environmental debate around it marked the start of a new period in Mexican SD and environmental policy and in bi-lateral environmental co-operation between Mexico and the US. Moreover, NAFTA introduced new, core elements of the SD discourse into the border area during the 1990s, emphasising eco-efficiency, self-regulation, voluntary programmes and environmental management. Business groups, environmental authorities, and NGOs established new partnerships within and between the two countries. At the same time, important political changes were undertaken by enabling different groups within the community to 'participate' in the decision-making process and by introducing mechanisms to increase public participation and greater access to environmental information. However, as discussed, the institutions and mechanisms created to promote public participation, particularly at the local level, have proved limited. It is nevertheless true to say that environmental public awareness and participation along the Mexico-US border has grown significantly since the late 1980s, particularly since the NAFTA negotiations.

Whilst it is true that aspects of Ecologically-sustainable-Development appear to have influenced the NAAEC, particularly the incorporation of long-term planning and public participation, overall NAFTA and NAAEC are dominated by Corporate-Environmentalism. For example, Barkin (1999: 15) underscores the response of Mexican business groups to the commitments undertaken by Mexico, Canada and the US with the NAAEC. The growing awareness of the business sector (particularly among larger corporations) of the need to respond more proactively to environmental issues in Mexico resulted in the creation of the *Centre for the Study of Sustainable Development* (CESPEDES). Barkin shows that CESPEDES was originally created by business groups to complement important institutional reforms and promote better SD practices. Barkin also points out that NAFTA, and indeed Corporate-Environmentalism, have been influential in Mexico, so that only a small portion of industry is directly involved with the introduction of green technology and the transformation of production processes. Most industries focus on eco-efficiency and are oriented towards end-of-the-pipe solutions. Eco-efficiency is at the centre of the Corporate-Environmentalism discourse.

The BECC variant of SD discourse has become one of the most influential in the Mexico-US border region. The national and bi-national initiatives formulated by BECC to improve the region's environment have generated dynamic and innovative bi-national

environmental co-operation at the local level. One example of this is the air quality project on the region of Juarez/El Paso (see: http://www.cocef.org/englishbecc.html, 16 September 2003). The project consists in the paving of a total surface of 560,000 square meters (m²) in the city of Juarez within a period of two years.[142] The innovative elements of this programme include its cross-border, multi-sectoral and local-level characteristics. However, one of the major impediments of both NAFTA environmental institutions, including the BECC, and the initiatives created under these institutions, is trade itself. Enhancing free trade in the North American region has always been the priority. The agreement and its institutions predictably favour trade over the environment. The SD discourse in the agreement, which appears to favour Ecologically-sustainable-Development, in practice promotes Corporate-Environmentalism.

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[142] The BECC reports that the city of Juarez counts with 3,620 kilometers of driveways, from which 47% are not paved with any kind of cover. This means that near 1,700 kilometers of the streets are merely dirt roads. The objective of the air quality project is to reduce the particle emissions (PM-10) in the air caused by the dust generated by the non paved streets within the urban zone of Ciudad Juarez and consequently contribute to improve the health quality in the Paso del Norte atmospheric basin.
(BECC, http://www.cocef.org/aproyectos/excomjuarez2002_12ing.htm, 16 September 2003).

Chapter 5

Environmental policy and SD discourse in the region of Juarez-El Paso

The previous chapter analysed the development of Mexican and US environmental policy at the national and bi-lateral levels. This chapter introduces the case study and scrutinises the development of environmental policy in the region of Juarez/El Paso and its relationship with the SD discourse and practice of business groups, local government and NGOs in the region.

Section one outlines the relevant geographical, socio-economic, political and environmental characteristics of the case study, namely the region of Juarez/El Paso on the US-Mexico border. Sections two, three and four examine, respectively, the ways in which business groups, local government and NGOs have incorporated (or failed to incorporate) SD discourse into their policies, practices and codes of conduct. These sections also investigate how the activities of business groups, local government and NGOs are connected to environmental degradation in the border region of Juarez/ El Paso, including air and water (quality and quantity), municipal solid waste, infrastructure and toxic waste. Section five draws these strands together and assesses their overall significance.

Section 1

The region of Juarez/El Paso: geographic, environmental, political and socio-economic dynamics

The cities of Juarez and El Paso (together with Sunland Park, Texas and New Mexico) form one of the most important urban-industrial centres in the US-Mexico border region. Juarez is located on the northern border of Mexico, in the state of Chihuahua. The Rio Bravo (or Rio Grande) marks the boundary between Chihuahua and Texas. Juarez looks across the river at its neighbour El Paso in Texas. In Texas, the border region ranges from the sister cities of El Paso and Juarez to the Gulf of Mexico, where four Mexican states border the state of Texas. El Paso is the 4th largest city in Texas and 19th largest in the United States, while Juarez is the largest city in Chihuahua and Mexico's 4th largest city (Hamlyn, 1998:22). The region is also known as El Paso de

Norte, as the Spaniards named the area where El Paso meets Juarez and Las Cruces in New Mexico in the 1500s (Moyano-Pahissa, 1996: 17-30). Map 5.1 shows a shaded relief map of the border area surrounding the region of El Paso/Juarez.

Map 5.1   Twin Cities on the US-Mexico Border
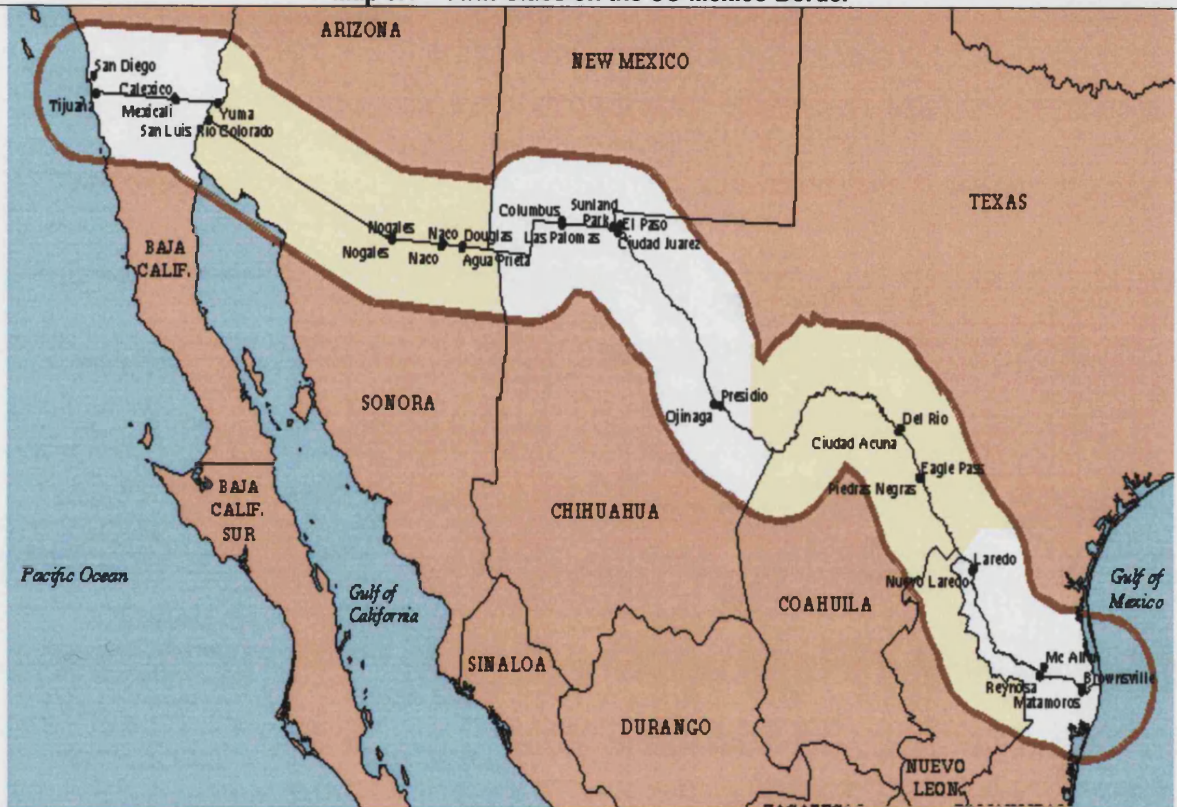
Source: Businesweek, 1997

The Mexican-US border is 'hardly logical in terms of ecology, culture and history' (Herzog, 1990: 35; also see Sklair, 1989). The border not only cuts across an ecological region constituted by deserts, river valleys, mesas, canyons, and mountain chains but also divides two nations with very large differences in economic development (Ingram, et al, 1995: 7; OECD, 1996b). In the year 2001, the Gross Domestic Product (GDP) per capita in the USA was US$ 35,373 and in Mexico US$ 9,137 (OECD, 2002a: 7; OECD, 2002b: 7).

Paradoxically, with the exception of San Diego, California, the communities situated north of the border are the poorest and least industrialised areas in the US. In 1996, 20 percent of the population in the US border area was below the poverty level, compared with an average of 12 percent for the US as whole (Ingram, et al, 1995: 18; OECD, 1996b: 202). In contrast, on the Mexican side of the border, some of the richest

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communities in per capita income can be found (Herzog, 1990; Sklair, 1989). In the mid-1990s, five border states including Baja California, Chihuahua, Coahuila, Sonora and Tamaulipas, together accounted for 13.2 percent of Mexico's total population, less than eight percent of Mexico's total poor and for over a quarter of the total non-poor households in the country (Alarcon & McKinley, 1994: 145). From the 1970s onwards, the constant shifts in the national distribution of population and resources on both sides of the border have influenced the socio-cultural and economic structure of the border region. The border region is presently a long corridor of highly populated urban industrial areas (Herzog, 1990: 61). Between 1980 and 1996, the total population of border communities grew from over four million to almost 10 million people, of whom nearly six million live on the US side (GAO, 1996:4; OECD, 1996b: 202). Close to 72 percent of the total population of the Mexican-US border is situated in the urban areas (OECD, 1996b; 202).[143]

The geographical characteristics of the region of Juarez/El Paso

Juarez/El Paso lies in the middle of an arid desert, bounded to the west by the *Sierra Mojada* and is surrounded by mountains ranging between 1,765 metres (*Sierra de Guadalupe*), and 2,207 metres (*Sierra de la Ranchería*). The mountains nearest the urban area are Sierra de Juarez and Mount Franklin in El Paso. Extreme weather conditions are characteristic of both cities, which are located in the Rio Bravo basin whose geographical unity does not reflect the political border. Summer temperatures can reach 44°C (May, June, July and August), winter temperatures can drop below 0°C (December, January and February), annual precipitation varies from 200 to 350 millimetres (seven inches), humidity can reach 45 percent and there are also strong seasonal winds. (Padilla, 1999: 15; INEGI, INE, SEMARNAP, 1999: 15-16; TNRCC, 1998a: 107). Map 5.2 shows a shaded relief map of the area surrounding the region of El Paso/Juarez.

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[143] De Olloqui (1988: 108) notes that 15 million US citizens in the mid-1980s came from Mexico originally, and that Mexican-Americans had a significant role in state elections particularly in Texas and California (see also House, 1982: 241).

Map 5.2   The region of Juarez/EL Paso
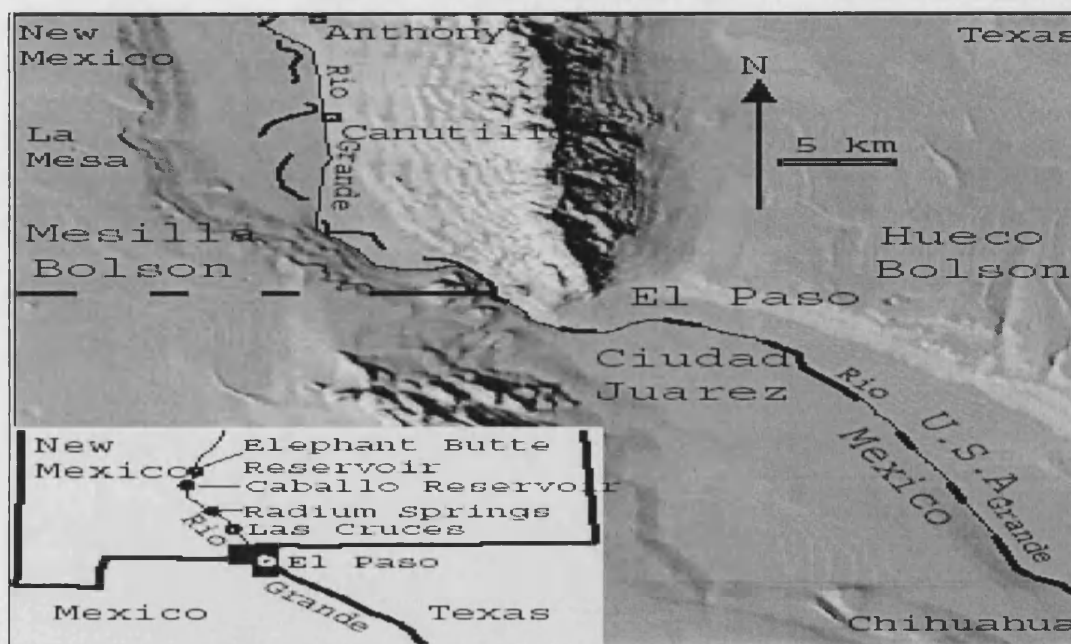
Shaded relief map of the area surrounding El Paso, Texas and Ciudad Juarez, Chihuahua from a digital elevation model. The area of the shaded relief map is shown as a black box near El Paso on the inset map (lower left corner). The Mesilla Bolson stretches from Radium Springs, New Mexico to El Paso, Texas.
Source: Walton (1999).

Today, the region of Juarez/El Paso is characterised by the intense social, political and economic interaction of its communities. Despite extreme climate conditions and fragile natural resources the region has experienced rapid economic and population growth. The region of Juarez/El Paso had by the year 2000 a combined population of nearly 1.9 million, which makes up almost 15 percent of the border area total population (more than 10.5 million people) (EPA, 1998a: 4). According to the General Manager of El Paso Water Utilities, the official estimates indicate that El Paso grows by about 10,000 people per year whilst Juarez population is growing by about 50,000 people per year (1-GO/EP).[144] Official estimates show that between 1990 and the year 2000 the city of El Paso population grew from 515,342 to 798,499 people and the city of Juarez grew from 563,662 to 1,203,794 million people over the same period (www.ci.el-paso.tx.us, 22nd July 2003). Population growth and the accelerated industrialisation processes have severely stressed the natural resources of the region and the quality of life of its communities. Table 5.1 illustrates the projected population growth in the region of

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[144] The interviews carried out in the region of Juarez/El Paso have been organised by group, position and location and listed in three different appendixes. Local government is identified by the code LG and government officer by the code GO -business groups are identified by the code BGs and environmental managers by EM, and NGO members/leaders are identified by NGO. To identify which side of the border they work in the endings 'J' – for Juarez and 'EP' for El Paso had been added. Therefore, for example, 1-GO/EP corresponds to a local government official in El Paso and to the first interviewee listed in Appendix II.

Juarez/Mexico for 2010. According to this estimate population between 1990 and 2000 El Paso grew at an average of 4.9 percent and Juarez grew between 1995 and 2000 by 4.5 percent annually. [145]

Table 5.1 Historic and projected population in region of Juarez/ El Paso

Year	El Paso	Ciudad Juarez	Total
1950	194,968	122,566	317,534
1960	314,070	279, 995	594,065
1970	359,291	424,135	783,426
1980	479,899	567,365	1,047,267
1990	591,610	798,499	1,390,109
2000	732,000	1,204,000	1,936,000
2010	877,000	1,641,000	2,518,000

Sources: City of El Paso, Department of Planning, Research and Development, (www.ci.el-paso.tx.us, 22nd July 2003); US Census, 1990 (http://www.census.gov/, 22nd July 2003), and the IMIP de Juarez, and Hamlyn, 1998: 23.

Presently, according to expert sources the most critical environment and development issues facing the communities of Juarez/El Paso are water (surface and groundwater quantity and quality), air pollution, toxic waste transport and disposal, municipal solid waste disposal, rapid population growth and the lack of environmental infrastructure (Herzog, 2000; Hogenboom, 1998; Hill, 2000; Pezzoli, 2000; Ward, 1999; Fernandez de Castro & Dominguez, 2001: 258-262). Table 5.2 summarises the main environmental issues in the region of Juarez/El Paso.

[145] From April 2000 to July 2001 the state of Texas' population grew an average of 2.3 percent compared to the US national population growth over that same period of only 1.2 percent (http://www.census.gov/, 22nd July 2003) and Mexico's population grew between 1990 and 1998 at an annual rate of 1.9 percent (OECD, 2002a: 7).

Table 5.2 The state of the environment in the region of Juarez/El Paso

Environmental Categories	Problem characteristics
Water	▪ It is predicted that ground water supplies in the region of Juarez/El Paso may dry out in 20 years. The only drinking water source available for Juarez is the Hueco Bolson, which is estimated to run out of water by 2025 (GAO, 2000). ▪ In the Mexico border cities about 12 percent of the population does not have access to safe and drinking water and surface and groundwater supplies are threatened by agricultural runoff, sewage, industrial and toxic waste pollution (GAO, 1999: 35-36; SCERP, 1999: 11). ▪ One of the most pressing problems the scarcity of water. Kelly, et al (2001) report that V. Lichtinger, minister for the environment, pointed out that more than 12 million Mexicans do not have access to drinking water and urban centres are facing serious water supply problems. Around 52 percent of the Mexican territory is classified as arid or semiarid (Kelly, et al, 2001: 1). As we have seen the situation is especially challenging in Mexico's arid northern border, where limited water sources and ecosystems adjacent to the rivers, streams and lakes have been depleted (GAO, 1999: 35-36; SCERP, 1999: 11).
Air quality	▪ In 1999, around 400,000 registered vehicles circulated in the city of Juarez, of which 66 percent are 1986 models or older. Outdated and poorly maintained vehicles tend to produce more emissions than new cars. In El Paso the number of registered vehicles is about 350,000. In 1998 there were an average of three to nine ozone violations compared to 1980s when ozone violations averaged between six to 12 in the urban area of Juarez and El Paso (TNRCC, 1998a: 112).
Toxic wastes	▪ In Juarez/El Paso the maquiladora industry generates the most toxic waste in the region. Under the La Paz Agreement of 1983 the Mexican government requires all the waste produced by the maquilas to be returned for proper disposal to the country of origin, usually the US. However, 'temporary imports' of raw materials regulations changed in the year 2001 to permanent imports, which implies that the waste can now be 'properly disposed' in Mexico. ▪ *Centralisation.* Toxic waste management is largely the dominion of the federal government; municipalities have little or no authority on this matter. ▪ Other important sources of toxic waste are hundreds of small garages, hospitals, laboratories and other small business in Juarez. These businesses also produce hundreds of tons of toxic waste of which both qualitative and quantitative characteristics are virtually unknown (Garza, 1996).
Municipal solid waste	▪ In Mexico only 77 percent of the total solid waste produced is collected, which is equivalent of 63,600 tons collected per day and 19,000 tons remain uncollected. Estimates show that in urban areas solid waste collection is 95 percent, in medium cities between 70 and 80 percent, and in smaller urban areas between 50 and 70 percent (Sancho y Cervera & Rosiles-Castro, 1999: 6). ▪ Solid waste collection and disposal is largely the province of municipalities. The amount of municipal solid waste collected amounts to 1,350 tons daily (Municipio de Juarez, 1999: 8-9).
Infrastructure (sewage, pavements, water facilities, toxic waste disposal facilities)	▪ According to a senior government official 48.2 percent (or 1,542,600 lineal metres) of all public roads in Juarez are unpaved (Municipio de Juarez, 1999: 8-9). ▪ No reliable data exists on the amount and type of all the toxic waste produced along the border area. The existing facilities for both recycling and disposing of toxic wastes are evidently not capable of managing the 'official' amounts of waste produced by the maquila industry located along the border. ▪ Within the 100km zone on the US side of the border there are only two recycling facilities for solvents and metals (EPA, 2000: 5). ▪ Five sanitary landfills for the permanent disposal of solid waste are in operation along the Mexican side of the border (Tijuana, Nogales, Ciudad Juarez, Nuevo Laredo, and Matamoros). On the US side of the border, in Texas alone there are 27 municipal solid waste landfills and 34 more distributed in other US border states. Garza (2000:2) in his study on the environmental quality of the municipality of Juarez reports that 79 percent of houses have access to drainage, 17 percent have septic tank or *letrina*, and four percent do not have sewage at all. ▪ In Texas and New Mexico over 300,000 people live in 'colonias' (poor settlements of communities without water supply, sewage system, waste water treatment and household waste collection) (Ingram, et al, 1995: 19; OECD, 1996: 81; TNRCC 1998a; TNRCC, 1998b).
Environmental health	▪ Non paved roads are one of the main causes of particulate matter (PM10) air pollution and other pollutants, which cause serious intestinal and respiratory infections.

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Historically the region's economic base was a mix of agriculture and industry. Oil and copper refineries and smelters, cement mills, railroad related industries, a steel mill, garment manufacturing, and various other small businesses dominated the regional industry (Hamlyn, 1998: 24; Padilla, 1999: 17-25). Phelps Dodge and the American Smelting and Refining Company (ASARCO), were among the biggest companies. ASARCO alone accounted for more than 20 percent of all the copper produced in the US in the 1950s[146]. Over time the economic base has moved further and further away from agriculture and has been dominated by the maquiladoras or assembly plants. In 1953 in El Paso there were over 60,000 irrigated acres, which dropped to 47,030 in 1989, and future estimates are that irrigated land areas will fall to 14,000 acres by the year 2040 (EPWU, 2000).

Overall, the region's rapid economic growth is reflected in the manufacturing sector, which provides employment to nearly 60 percent of the total workforce in the region of Juarez/El Paso. By the year 2000, 249,509 people worked in more than 300 maquila plants located in the border city of Juarez, representing nearly 40 percent of the total labour force in the city (693,503) (www.desarrollo_economico.org, 22nd July 2003). Employment will rise further as the region's economic growth increases and more maquila plants arrive in the city of Juarez.

However, regardless of the economic and employment indicators, large areas within the region remain dramatically poor and natural resources in the region continue to be depleted. By December 1996, over 45 percent of the total population employed in Juarez earned below two minimum-wages a day (INEGI, 1997: 161; INEGI, 1996: 82).[147] Paterson (1999: 15), for example, reports from an interview carried out with a teenage maquila worker in Juarez that he made about 70 pesos for 60 hours of work - the equivalent of US$1.16 per hour. Per capita annual income in El Paso County in 1992 was US$12,307, while the average per capita income of the US was US$19,802. In 1990, almost 30 percent (155,298) of El Paso County's residents were classified as poor by federal government standards (Bath, et al, 1998: 126; TNRCC, 1998b).[148]

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[146] ASARCO was the leading copper and lead refinery and was a very important part of El Paso's economy. The decision to partially close the refinery's operations came after copper prices went up in the 1980s. ASARCO is located on the margins of the border with Mexico and only meters away from the Rio Grande; for years the refinery air emissions affected the health of Mexicans living across the border. Garza (1996: 9) reports that in the early 1970s, high levels of lead were found in a blood sample taken from children aged between 1 and 9 years old living in the Colonia Anapra in the city of Juarez (opposite ASARCO on the Mexican side of the border). In El Paso, neighbours complained to the local authorities about the strong smell coming from ASARCO.
[147] In 1996, the minimum wage in Mexico was 26.450 Mexican pesos per day, which was less than US$3 (INEGI, 1996: 82).
[148] Of whom 88 percent were Hispanic (Bath et al, 1998: 126).

Migration to the region of Juarez/El Paso

Since the 1940s rapid industrial growth has brought with it waves of migrants into the region from all over Mexico and Central America. In the early 1950s, many workers were attracted to the border region when the US set up the *Bracero Programme*, under which the US government 'contracted' with the Mexican government for Mexican agricultural workers (Bath, et al, 1998: 127; Padilla, 1999: 20). Men and women continued to arrive in Mexican border towns hoping to find jobs on the US side of the border, but it became increasingly difficult to enter the US under the *Bracero* Programme due to the growing pressures of American labour unions. Mexico supplied the US at the height of the *Bracero Programme* in the late 1950s, more than 500,000 workers each year.[149] In 1954, thousands of Mexicans who had crossed the border without this proper paper were deported back to the Mexican side, under what was called 'operation wetback,' due to a temporary halt of the programme. The eventual termination of the *Bracero Programme* in 1964 left Mexican border states with a large number of unemployed migrants. Like many temporary worker programmes, the *Bracero* system left a permanent legacy in the form of continuing and intensifying emigration since the programme's end (Alba, 2002: 1).

Today, the sister cities face numerous social problems generated by the continuous migration and population growth of the region. The majority of migrants are poor and unskilled workers willing to work in the maquiladora plants earning minimum wages or hoping to cross the border to work in the US. Access to housing and services remains one of the biggest concerns within the region. The most visible evidence of the poverty prevailing in the region is the *colonias*. The Texas Natural Resource Conservation Commission (TNRCC, 1998b: 108) defines colonias as 'unincorporated communities lacking one or all basic services' located in rural or semi-rural areas on the periphery of a city. These extremely poor areas normally lack basic services including adequate drainage structures, water and wastewater services, access to drinking water, paved roads, solid waste collection and little or no access to public transport.

The region of Juarez/El Paso has become a magnet for a large and regular number of migrants from all over Mexico, who mostly settle in unincorporated settlements or colonias in the region. Migration has now become part of the dynamics of the city. According to the Texas Water Development Board in 1992 El Paso County alone had 122 colonias with 47,827 residents (Hamlyn, 1998: 25; Ward, 1999: 27-32). In 1998, the

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[149] The size of the *Bracero Programme* in the United States fluctuated: 35,345 workers were admitted in 1948; 445,197 in 1956; and 177,736 in 1964 (Williamson, 1965: 2; http://are150.ucdavis.edu/Chapter2/AftBraceros-CA-Assembly.pdf)

TNRCC (1998b: 108) reported in its State of the Environment Report that approximately 360,000 people were residents in 1,500 colonias in both rural and semi-rural areas of Texas.

Colonias in Juarez/El Paso

By the mid-1990s, as population growth accelerated, numerous unincorporated settlements or *colonias* (or *asentamientos irregulares*) appeared throughout the periphery of the cities of Juarez and El Paso. [150] In Juarez, *colonias* are the homes of thousands of maquila workers mostly situated south and north west of the city and on average four kilometres from the city centre. These areas contain densely populated settlements covered with a mix of self-built houses made of many primitive materials. Shelters built of cardboard, scrap wood, and corrugated metal stand together in a labyrinth of unpaved streets. Other areas north of the city of Juarez look quite different, consisting of colourful middle class houses and modern industrial parks. The city of Juarez has grown in a chaotic fashion where residential areas are located right next to industrial parks or empty land spaces with access to city services. In an interview carried out in 1997, the Director for Urban Development of the *Municipio de Juarez* stated that:

> ...In Juarez there's a terrible dispersion [in terms of land use] and so as a result, we have 20 square kilometres of waste land within the city limits. That is over 10 percent of the total urban area (5-GO/J-My translation)

In such 'land holes', access to services and infrastructure is feasible. However, the amount of wasteland will continue to grow if the same urban development patterns are maintained. The distribution of industrial parks and residential areas in the city of Juarez is shown in Map 5.3 below.

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[150] As Sassen (2000) shows, such settlements are common all over the Third World.

Map 5.3   Industrial Parks in the city of Juarez, 1999

El Paso,
Texas, US

Ciudad
Juarez,
Chihuahua,
Mexico

Aprox. Scale: 1:110,000

NORTH

Industrial Parks   Residential areas

International Bridges
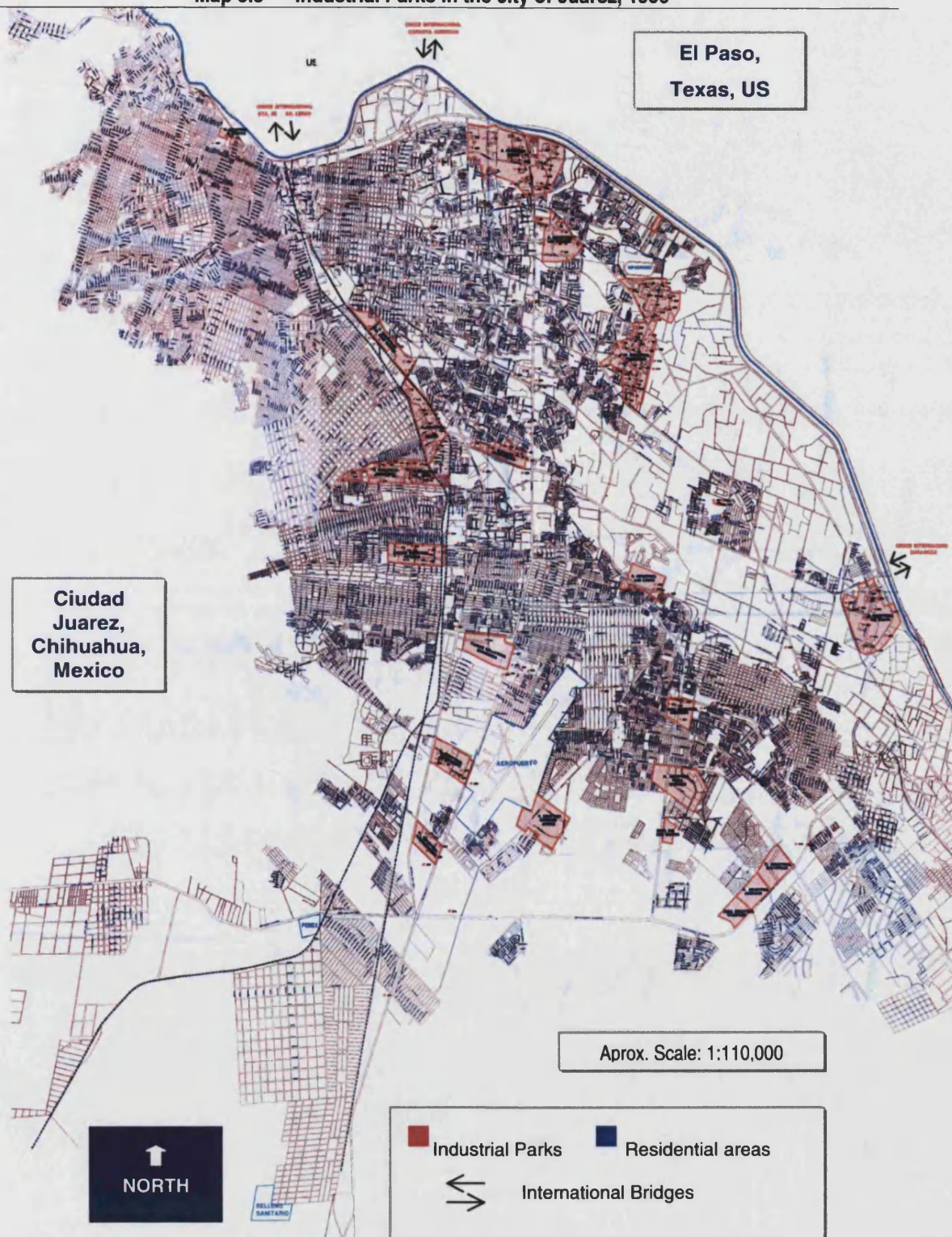
Source: IMIP, 1999.

The majority of the migrants in Juarez are low-income maquila workers for whom housing shortages represent a crucial problem. In Juarez the shortage of low-income housing virtually leaves no option to newcomers but to establish homes in *colonias*.

The majority of *colonias* are situated in very steep areas near waste disposal sites, water streams and dikes (on the hilly outskirts of the city), characterised by unpaved roads, difficult topographic conditions, shortage of waste collection, lack of drainage, and lack of street lighting (see for example Ward, 1999; Dalton, 2002; Hill, 2000; Calvo-Aguilar, 1993; Ward & Carew, 2002). The inability of local government to provide infrastructure and basic services has greatly contributed to poor health of *colonia* residents, who generally settle close to polluted/infectious areas or, due to the lack of infrastructure, pollute the areas themselves. Calvo-Aguilar (1993: 17) reports in her study of three colonias in Juarez that the majority of the residents complained about the lack of security, lack of telephone and postal services, overpopulation of schools, dark streets, deficient electricity and deficient or no waste collection.

In the late 1970s, El Paso Water Utilities (local water authority) took the decision not to extend water or sewage lines beyond the city limits, arguing it would cost too much. Bath, et al (1998: 131-132) argue, however, that some water and sewage lines were extended in a few cases to wealthy developments. Moreover, these authors argue that the real reason for not extending water and sewage lines to the poor *colonias* was that the city of El Paso 'filed an application with New Mexico State Engineer to drill 326 wells in the Mesilla Bolson to extract water from across the New Mexico state line.' This generated a long and bitter struggle for the water of the Mesilla Bolson[151] that culminated in 1991 with the adoption of an agreement between New Mexico and El Paso. The result of this political battle over water rights with New Mexico was that no water and sewage lines were extended into the *colonias* for most of the 1980s (also see Ward, 1999: 149-150). As an alternative to the lack of a proper wastewater collection system in the colonias, residents build their own septic tanks, latrines, pit privies, or outhouses to dispose of waste. Most of these self-built systems are substandard and

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[151] The main water sources of the region of Juarez/El Paso are the shared aquifers of the Hueco and the Mesilla Bolson. Approximately 87 percent of the water pumped from the aquifers is used for municipal supply, primarily for the city of El Paso and on the other side of the border; water for Ciudad Juarez is supplied mainly from the Hueco Bolson. The Hueco Bolson, approximately 9,000 feet in total width, consists of silt, sand, and gravel in the upper part, and clay and silt in the lower part. Only the upper several hundred feet of the Hueco Bolson contain fresh to slightly saline water. The Mesilla Bolson consists of approximately 2,000 feet of clay, silt, sand, and gravel. Three water-bearing zones in the Mesilla (shallow, intermediate, and deep) have been identified based on water levels and quality. The shallow water bearing zone includes the overlying Rio Grande Alluvium (http://www.epwu.org/sources.html, May 2003)

pose serious threats to public health and water quality since effluent may leak into water sources (Ward, 1999: 144).[152]

In 1999, in an interview carried out with the EPWU's Water Systems Division Manager, he argued that EPWU 's actual reason for limiting water and sewage lines to the colonias was an attempt to discourage population growth and the creation of new illegal settlements around the city (2-GO/EP). However, population growth continued and colonias remained marginalised.

> Population growth is a problem, but it is very difficult, you can't control it. So you have to deal with it. ...[stop building new connections in areas beyond the city limits] that was experimented with a number of years back. In the 1960s or 1970s I remember some cities were not adding any more utilities or connections to the system. We could do that, we could say no more connections and we've done that in the *colonia* areas (2-GO/EP).

The arrival of the maquila, the constant population growth and the chaotic urban growth (particularly in Juarez), have had a great impact on the natural resources of the region and the quality of life of its inhabitants. The responses to the environmental and social problems of the region of Juarez/El Paso during the 1990s varied, however. One common characteristic of the response of business groups, local government and NGOs was the introduction of different views of the SD discourse into their policies, programmes, codes of conduct, vision and mission statements and guidelines.

The social and environmental situation of Juarez-El Paso region and NAFTA negotiations encouraged the creation of a number of environmental civic groups and organisations on both sides of the border. Environmental groups in the US seem to have been much more effective in pushing changes in governmental policy and administrative structures. This is not surprising if we consider that US environmental organisations not only have greater financial resources but also greater technical expertise and benefit from civil participation or what can be termed NGO culture (Graves, 1999: 2). Furthermore, various local NGOs have established partnerships with both government and/or industry in their efforts to improve social and environmental problems in the region.

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[152] For an interesting analysis of longstanding water scarcity and the response of the local government in Monterrey, Mexico, see: Bennett (1995).

Section 2

Business groups in the region of Juarez/ El Paso

In 1965, the Mexican government initiated the Border Industrialization Programme (BIP, also known as *Maquiladora* Programme) with the objective of attracting US corporations to the Mexican side of the border for manufacturing and assembly operations, employing large numbers of unskilled workers. The BIP originated, partly, due to the Mexican government's desire to solve the growing unemployment generated by the termination of the *Bracero Programme* (Martinez, 1978: 116 &131). The BIP influenced major changes in the evolution of Juarez and El Paso region. Such developments have aided considerably in transforming the Juarez/El Paso region into one of the largest urban-industrial centres along the US-Mexico border. The rapid transformation of the region into a large urban centre, particularly from the 1970s to the mid-1980s, is also indicative of the dynamic relationship between the two cities regarding environmental, policy, economic, and social issues (Llera-Pacheco, 1995).

Maquiladora plants set up under the BIP could be 100 percent foreign-owned and initially they had to be located within 12.5 miles of the border (Browne, 1994). Since the early 1990s more than 2000 *maquila* plants mostly owned by transnational corporations (TNCs) such as Chrysler, IBM, Du Pont, and Hitachi have been operating in the border region (Sklair, 1989; Frey, 1996: 8). They are also known as 'twin plants' because in some cases a second plant was set up near the border on the US side for finishing the products, which are distributed in the US. The sister cities of Juarez/El Paso, Tijuana/San Diego and Mexicali/Calexico are among the border cities with the greatest number of *maquila* twin plants (Sanchez, 1990). The second plant is sometimes located in the interior of the US. Betts & Slottje (1994: 91) point out that factories that work directly with *maquila* plants located along the border exist in cities in Indiana, Illinois and Oregon.

Since the early 1980s, Mexican regulations have allowed the establishment of *maquila* industries outside the border area (Sklair, 1989: 47). In 1983, President de la Madrid's administration launched the Mexican Industrial Programme (MIP), under which *maquilas* were allowed to sell their products in Mexico and incentives were created to encourage them to locate in the interior of the country (Betts & Slottje, 1994: 100). In 1989, the Salinas administration established an additional decree, simplifying the acquisition of *maquiladora* permits and expanding their duty-free status. Today *maquila* plants are also located within Mexico's interior cities such as Aguascalientes, Guadalajara,

Monterey and Queretaro.[153] This means that the *maquila* activities transcend the US-Mexican border, penetrating into the whole of Mexico and the US, and far beyond (Shaiken, 1990: 38-41).

In his critical study of the viability of the *maquiladora* industry as part of a development strategy, Sklair (1994: 87) identifies three phases of the *maquila* expansion. The first phase, during the 1970s, was a 'gradual expansion'. The second phase, during the 1980s, was characterised by a 'rapid expansion,' until the Mexican crisis of 1982. The third phase took place from the 1982 onwards, and it is characterised by a 'mostly rapid expansion' of the *maquila* industry. Indeed the number of *maquila* plants really took off in the mid-1980s, and a second spurt of *maquiladoras* took place in 1994 just after NAFTA was signed. The dramatic growth periods of the *maquila* are also closely related to the peso devaluations of 1982, 1987 and more recently 1994. Mexico suffered one of its worst depressions in 1994 as a result of the peso crisis and its devaluation. By 1994, real wages had plunged by 40 percent and more than half of the population were living below the poverty line. Paradoxically, the *maquila* industry grew by more than 30 percent in 1995. The Mexican crisis resulted in a big reduction in foreign companies' labour costs (Cooney, 2001: 79).

Gereffi (1991: 42) analyses the growth of the *maquila* industry in terms of two distinct phases of production processes. He argues that the 'old *maquiladoras*' were characterised by the use of labour-intensive operations, mainly in garment production and semiconductor assembly. These operations were based on low wages and employed mainly female labour.[154] The 'new *maquiladoras*', in contrast, operate with 'more sophisticated forms of production,' mainly in automobile parts and electronic assembly. According to Gereffi (1991: 42) under this second wave of the *maquila* industry more males have been hired, and now comprise close to 50 percent of the work force.

In the late 1990s a new wave of *maquilas* began to arrive in the border region. Sophisticated research and design centres that work on new product development and employ qualified engineers have been opened in different border cities. Carrillo & Hugalde (1997: 752-753) define this new kind of maquila as maquilas of the third

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[153]The *maquila* plants are also known as assembly, or in-bond, plants. These plants import their supplies mostly duty free into Mexico and export their products to other countries, mainly to the US and Japan. In 2002 the number of *maquila* plants throughout Mexico reached 3,300. In Guadalajara 265 Asian businesses set up operations in 1997. Guadalajara has become a centre for the production of computers, laser printers and telephones. Companies such as Texas Instruments and Xerox have set up operations in Aguascalientes (Gereffi, 1991: 42; Ingram, et al, 1995: 37; INEGI Statistics available from: www.inegi.gov.mx).
[154] The situation of female workers in the *maquila* industry is well documented. For good research-based examples see (among others): Kelly (1983), and Ladino (1999).

generation (or highly competitive and knowledge intensive maquilas). Their definition is based on establishments such as Delphi-Juarez, Visteon-Juarez and Samsung-Tijuana, whose work focuses on research and new design development. [155]

Maquila industry advocates maintain that the relocation of *maquila* plants to the US-Mexican border, and in other regions of the world, such as South-east Asia, has brought economic benefits, particularly in terms of the number of jobs created. On the other hand, numerous critics of the *maquila* industry have focused on the bad working conditions, the health and safety risk for all *maquila* workers and the depletion of the natural environment of the region. There are many examples of adverse working conditions, such as health, safety and environmental risks, to be found in the region of Juarez/El Paso (see for example Dalton, 2002; Hill, 2000).

The cities and the manufacturing centres situated along the border have played a very important role in the Mexican economy. In 1994, Mexico's GDP amounted to US$377,115 million, of which manufacturing accounted for almost 22 percent (International Bank for Reconstruction and Development/World Bank, 1996: 211). Between 1990 and 2000 the value added by the *maquila* industry grew by an average annual rate of 10 percent, whilst over that same period, Mexico's GDP grew by an average rate of only three percent (SCHP, 2000:1).[156] Between 1995 and 1999 exports grew at an annual average rate of 17.5 percent and by November 2000 Mexico's exports of goods accounted for US$160 billion, of which 90 percent came from the manufacturing industry (SHCP, 2000a: 2). Moreover, according the National Council of the Mexican Export Manufacturing Industry (CNIME, 2000:1) by February 2000 the maquila industry generated more than 45 percent of Mexico's total exports and 35 percent of its imports. Since NAFTA began, the number of *maquila* plants has grown considerably and although some maquiladoras are operating in other areas of Mexico they remain concentrated along the Mexico-US border region; 60 percent of the total number of plants is located in the northern border Mexican states (Anderson & Cavanagh, 2002:1; CNIME, 2000: 2). In 1999 over 3000 *maquila* plants were located along the US-Mexico border and the number of jobs created by 1999 accounted for 714,715 - more than 80 percent of total *maquiladora* employment (INEGI, 2001: 419).[157]

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[155] In 1999 there were only two research and design centres established in Juarez. The high-skilled labour they require however is untypical of the more than 300 maquilas operating in Juarez, which employ mainly young unskilled workers (Fieldwork notes).
[156] According to the bimonthly report published by the Ministry of Finance and Public Credit of Mexico (SCHP), the average annual inflow of foreign direct investment in Mexico was 3.9 billion from 1990 to 1993, and between 1994 and 1999 the average foreign direct investment per year reached 11.8 billion (three times as much). The fastest growing and most important investments since 1994 have been made in the textile and garment sector, automotive and electronic industries. In 1999, manufacturing alone accounted for 77 percent of the foreign direct investment in Mexico (SCHP, 2000: 1).
[157] Note that this figures vary from those shown in table 5.3, which shows only the figures for the biggest cities along the border but not for all the border cities.

The cheap labour on the Mexican side of the border provides foreign businesses with a comparative advantage in world markets. Between 1993 and 1996, for example, Texan imports from Mexico grew continuously (37 percent of Texas' imports are classified as electronics and electrical equipment, which is an important sector of the *maquila* industry, located on the Mexican side of the border) (Bank of Dallas, 1996: 3).[158]

Juarez has been one of the major hosts of *maquila* plants along the border. As Table 5.3 shows, the *maquila* plants established in Juarez during the 1980s and early 1990s created more jobs than any other maquila city.[159] The *maquila* plants located in Juarez are owned by well known transnational corporations (TNCs) such as General Motors, RCA, Zenith, Sony, General Electric, Delphi, Chrysler, Ford (Frey, 1996: 8; Sanchez, 1990: 159) as well as many other transnational and national companies. According to the INEGI (1995: 220) the highest levels of air and water pollution due to *maquila* industry activity, as well as municipal raw sewage disposal and motorcars emissions, were found in the region of Juarez/El Paso.

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[158] The boom of the *maquila* industry in Mexico, particularly since NAFTA began, has affected a number of US workers. Anderson & Cavanagh (2002: 4) report that as of May 2002, about 403,000 American workers had qualified for a special NAFTA retraining programme set up for those who lose their jobs because their employer relocated in Mexico or Canada. American job losses had been especially affected since thousands of jobs have been shifted to the Mexican side of the border particularly in the apparel and electronics industry (Anderson & Cavanagh, 2002: 4). The debate around the possible effects of NAFTA on labour and employment led to the passage of a parallel agreement known as the *North American Agreement on Labour Cooperation* (NAALC), see: http://www.naalc.org/.

[159] It is important to point out, as Table 1.2 indicates, that in 2001, on average, Tijuana had many more small maquila plants than Juarez, which had fewer but larger plants (more employment), whilst Mexicali had small and large maquilas. Had my research been conducted in Tijuana or Mexicali, my findings might have been different.

Table 5.3 Maquila Industry: number of plants and number of employees in main border cities, 1970, 1980, 1990 & 2001

Border City	Number of plants				Number of employees			
	1970	1980	1990	2001	1970	1980	1990	2001
Mexicali	22	79	122	204	5,000	7,146	20, 729	58,244
Tijuana	16	123	414	805(a)	2,000	12, 343	59,870	117,664
Monterrey	-	-	10	23	-	-	1,440	4,432
Nogales	-	56	69	87	-	12,922	19,714	36,703
Nuevo Laredo	-	14	56	55	-	2,462	16,036	20,752
Ciudad Juárez	*22*	*121*	*238*	*314*	*3, 135*	*39,402*	*122,231*	*229,642*
Piedras Negras	-	18	39	38	-	2,676	7,986	13,088
Reynosa	8	17	62	133	600	5, 450	24,801	66,226
Matamoros	23	50	89	125	2, 500	15, 231	38,360	60,906
Total	*69*	*478*	*1,099*	*1,784*	*13,235*	*97,632*	*37,1037*	*607,657*

(a) Includes the area of Rosarito
Sources: INEGI (2002); INEGI (1995); Sklair (1989: 81, 93, 99 & 120); Network of Border Economics (NOBE) (www.nobe-ref.org/maquiladoras.htm).

Scientific research has established the link between specific types of deaths along the border and the health threats posed by *maquila* industry activities. The emission of toxic substances and the inadequate waste disposal and management of some *maquila* plants have been directly linked with the increasing number of deaths caused by diseases such as tuberculosis, hepatitis, respiratory problems, birth defects and various types of cancers (Frey, 1996: 12). These diseases are common on both sides of the border and have been related to toxic chemicals used by the *maquila* (OECD, 1996: 81).[160] Gallagher (2000: 4) reports in a Tufts University study that air pollution from Mexican manufacturing has almost doubled since NAFTA came into effect. Table 5.4 details the type of emissions produced by the industrial sector along the border. The table indicates that the electronics, metal and automotive sectors emit many toxic substances, and even though *maquila* plants can now be found throughout Mexico, the

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[160] Human effects due to exposure to solvents can include damage to skin, liver, central nervous system, and sometimes lungs and kidneys. Solvent leaks in underground storage tanks and surface impoundments and accidental spills have exposed significant numbers of people via groundwater. Lead exposure also affects the human nervous system, the production of blood cells, kidneys, reproductive system, and behaviour (Harte, et al, 1991: 110 & 334).

electronics and automotive sectors are concentrated along the border region as a whole and specifically in the region of Juarez/El Paso.

Table 5.4 Maquila industry: types of hazardous waste produced by industrial sector

Industrial Sector	Types of waste										
	Acetone	Oils	Solvents	Copper	Zinc	Heavy metals	Acids	Paint & ink	Resin & adhesive	Mud*	Lead
Electric & electronic	X		X	X	X		X	X	X		
Metal		X	X	X	X	X	X	X			X
Automotive	X	X	X	X	X		X	X		X	
Plastic		X	X						X		
Wood		X	X					X	X		
Chemical		X	X				X			X	
Paper/cardboard			X					X	X		
Leather/ footwear		X	X					X	X		
Alimentary		X									

Source: INEGI, INE & SEMARNAP (1999:250). *Mud: contains heavy metals, chemicals and other toxic substances.

Ever since it was created in the 1960s the *maquila* industry was said to be one of the major sources of environmental pollution along the US-Mexican border (see, for example, Magee, 1983; Frey, 1996; INEGI, 1995). Although the *maquila* industry is not the only factor that threatens the environment it undoubtedly has had a major influence in the environmental problems of the region. However, other development related issues such as lack of infrastructure also play a strong role. On the Mexican side, for instance, municipalities along the border discharge untreated sewage directly onto the land or into the rivers, due to lack of wastewater treatment plants (OECD, 1996: 203).[161] According to a report by the US General Accounting Office (GAO, 2000: 4), despite bi-national, federal, state, and local efforts, communities along both sides of the US-Mexico border continue to face environmental infrastructure problems. According a GAO report (2000: 4), in 1999, 12 percent of the border population did not have access to drinking water,

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[161] In 1997 the BECC certified the project for the construction of two raw sewage primary treatment plants in the city of Juarez (now in operation). Primary treatment means that treated water is not suitable for drinking and can only be use for irrigation. The water treated in both plants is destined for agricultural needs in the Valle de Juarez and to maintain parks in Juarez. According to the BECC the main objectives of the construction of two new water treatment plants is the rehabilitation and expansion of the existing collection system, in order to collect and treat 100 percent of the wastewater generated by those served with water services, which is currently, according to BECC, at 93 percent of the population (www.cocef.org).

correct existing water, wastewater, and solid waste infrastructure shortfalls on both sides of the border and that about 77 percent of this amount is needed for wastewater treatment. The insufficient infrastructure on the Mexican side, together with rapid population and economic growth, has contributed to increasing water pollution and other environmental problems in the region. By the end of the year 2000, two primary wastewater treatment plants began operating in the city of Juarez.

The maquila industry on the other hand, required professionals and technicians in other sectors, such as administration, retail trade, transport, communications, and services. Figure 5.1 shows the distribution of the labour force in Juarez.

Figure 5.1. Employment composition by woking field, Ciudad Juarez 2000
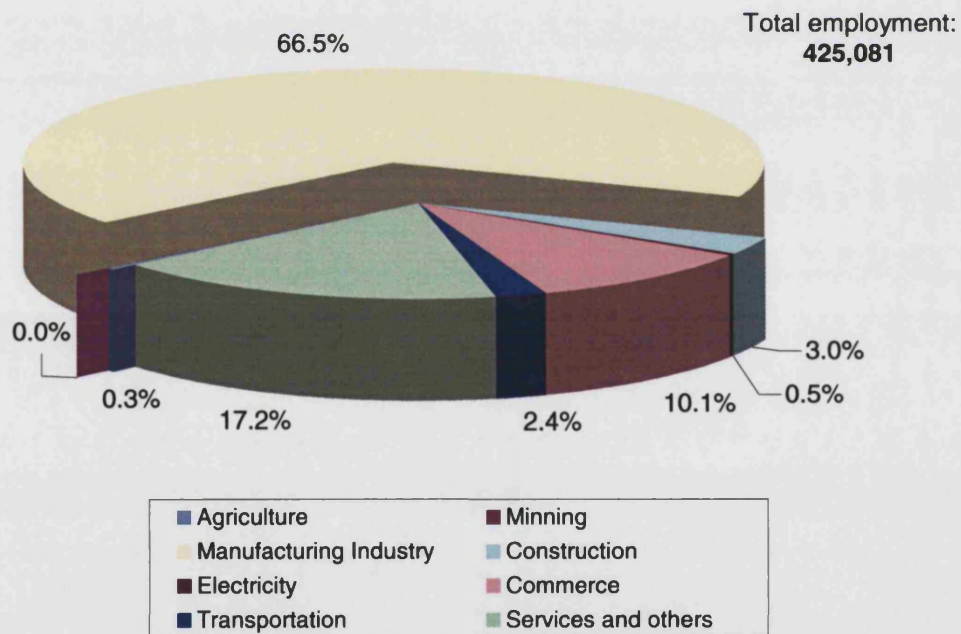
Source: INEGI (2002) reprinted and available from Desarrollo Economico de Ciudad Juarez, 2002 (http://www.desarrolloeconomico.org/eng/sir/employment.pdf)

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The arrival of the maquila industry and the economic boom of Juarez/El Paso increased the commercial and cultural linkages between border cities, and created patterns of urbanisation and migration for which the border cities were not prepared. Such urbanisation and migration processes continued over the 1990s with the passage of NAFTA. The constant arrival of maquila plants to the border region significantly augmented the stress on the natural resources of the region.[162]

By the late 1990s, there were around 300 maquiladoras in Juarez/El Paso region, employing more than 180,000 Mexican workers. Of these, more than 70 plants were owned and operated by Fortune 500 (US) and Fortune Global 500 companies from the US, Europe and Japan. Table 5.5 below shows number of plants and number of employees in the top ten maquilas in Juarez.[163]

Table 5.5 Top 10 Employers in the city of Juarez , 1997

Rank	Name of Corporations	No. of Plants	No. of Employees
1	General Motors/Delphi	20	14, 624
2	Yazaky Corporation	11	14, 506
3	Thomson Consumer Electronics	3	10,907
4	United Technologies Co.	11	10,463
5	Ford Motor Company	8	10,430
6	Philips Consumer Electronics	6	9,568
7	Elamex, SA de CV*	10	4,200
8	Johnson & Johnson Co	3	3,629
9	Sumitomo Electric Wire	4	2,925
10	BRK Brands Inc.**	2	2,860

Source: City of El Paso, Department of Economic Development, 1997: 12
*A contract electronics manufacturer with 16 manufacturing facilities located throughout Mexico.
**Manufacturer of home safety products, producer of smoke and carbon monoxide detectors sold under the First Alert brand name.

In the late 1990s, General Motors' Delphi Automotive Division opened a sophisticated research and development centre or maquila of the 'third generation', employing a mostly Mexican engineering staff of 750 to design a wide variety of auto components. It runs 24 hours a day, with engineers always on duty to serve executives around the

[162] For a summary of the state of the environment in the region of Juarez/El Paso see Table 5.2 (Also see Scheiner, 2000; Kelly, 1993; Kelly, et al, 2001).
[163] According to the City of El Paso annual report (El Paso City, 1997:9), more and more facilities are engaging in high-technology manufacturing production requiring skilled workers and turning this urban-industrial centre into high-technology production centre.

world (Carrillo-Hugalde, 1997). For Delphi, which employs nearly 18,000 people in Juarez, the US$13 million centre represents significant reductions on the lead-time for new product development by moving the designers close to where parts are made (Smith & Malkin, 1997; 3-EM/J; 4-EM/J; 5-EM/J).

According to an environmental manager, a major factor in relocating third generation maquilas in cities like Juarez is its vicinity to the US and its long experience in hosting maquila plants (3-EM/J). Many welcomed the establishment of the Delphi Centre in Juarez, expecting it to create a niche for Mexican engineers. The high quality and the comparatively low salaries of Mexican engineers were seen as incentives for the relocation of these centres on the Mexican side of the border. Mexican engineers in their first years at Delphi earn less than US$20,000 annually, which is considerably lower than engineers' salaries on the other side of the border (Empresa, 1998). Instead Delphi looked to strengthen its links with different universities in Texas and New Mexico, including University of Texas-El Paso (UTEP) and Austin campuses. American engineers from the same universities or other American universities are hired for more senior positions since the salaries paid to Mexican would not be enough to cover their expectations (Carrillo & Hugalde, 1997: 755).

Delphi was building a US$22 million Technical Centre next door to its Development Centre, while Ford invested in its own technical and research facilities (Visteon), and Thomson-RCA established its own Technological Centre. These technical and research centres or third generation maquiladoras -and the apparent trend of establishing such centres on the Mexican side of the border- would represent a considerable rise in the number of skilled workers employed by the maquila industry.[164] However, the city of Juarez is unlikely to meet the infrastructure needs required by technical centres. In 1998, a local newspaper reported that a Delphi senior manager declared during a public meeting that if proper infrastructure was not developed by the city the company would not invest in opening a new centre or plant in Juarez (El Norte, 1999). Byrnes (2003: 105) reports that an industry executive warned that 'Delphi, as new investment is considered, will look at whatever location best suits our business. Whether that will be Mexico or not will depend on the Fox administration's approach.'

In *El Paso*, by contrast, manufacturing jobs account for only 18 percent of the total employment. In 1997, despite the job losses in the apparel industry, El Paso's economy

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[164] Although these technology and development centres are not strictly speaking maquilas they are commonly referred to as 'maquilas' by other groups in the region. The definition and critical analysis of the nature and role of these centres in the region of Juarez/El Paso in terms of their economic, social, and environmental impacts in border communities and their natural environment remains a fruitful area of research.

maintained a steady growth pattern mainly through the diversification of its maquiladora industry and related businesses. The City of El Paso reports that between 1995 and 2001 figures of the Texas Workforce Commission show that El Paso experienced a net job loss in the apparel manufacturing industry of almost 9,000 jobs (www.ci.el-paso.tx.us, August 2000). [165] El Paso remains dominant (relative to Juarez) only in industrial processes such as plastic injection moulding and copper production (City of El Paso, Department of Economic Development, 1997: 3).

In El Paso, it is the service sector that provides the largest number of jobs. The service sector employs over 54,000 people, almost 28 percent of the total employment (City of El Paso, 1999: 8). A number of service and retail businesses have been created to provide professional and support services to nearly 400 manufacturing plants located on both sides of the border. These businesses include waste management, distribution and warehousing, engineering, marketing, consulting, language training and translation, among others (Hamlyn, 1998: 24). Table 5.6 show the distribution of the employment in El Paso by sector and Figure 5.2 shows the percentage of employment by sector. In 2002 the staff report of the monthly maquila industry magazine, *Twin Plant News*, published since 1985, quotes the statement made by El Paso Mayor Ray Caballero in which he stresses that: 'The dominant economy around here is Juarez without a doubt... How we integrate with that economy is very important to our future.' Further, Mayor Caballero points out that manufacturing employment has fallen as 'El Paso's once large textile and apparel industry suffers from a relocation of garment industry jobs to Mexico' (http://www.twin-plant-news.com/issues/mar02/ElPaso.htm, 15th June 2002).[166] El Paso 's challenge has been to figure out how to benefit from the maquila industry relocated in Juarez.

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[165] By November 1997 the City of El Paso had over 6,000 persons certified as NAFTA displaced and eligible for retraining programmes (City of El Paso, Department of Economic Development, 1997: 3).
[166] The editorials and the Twin-Plant News magazine are available online: http://www.twin-plant-news.com/issues/mar02/ElPaso.htm, 24th July 2003).

Table 5.6 El Paso employment sectors, June 1997- June 2002

Employment Sector	June 1997	June 1998	June 1999	June 2000	June 2001	June 2002	1997-2002 Change	1997- 2002 Percent Change
Finance, insurance, & real estate	9,600	9,700	9,900	10,200	11,100	11,400	1,800	18.75%
Construction	11,900	11,900	12,800	12,900	11,700	12,000	100	0.84%
Transportation &public utilities	13,400	13,800	14,700	15,900	15,500	14,400	1,000	7.46%
Manufacturing	43,400	43,000	39,200	37,900	35,500	32,200	-11,200	-25.81%
Government	51,900	52,700	53,800	55,300	57,100	58,700	6,800	13.10%
Services	55,400	58,400	60,500	62,300	64,200	62,600	7,200	13.00%
Wholesale & retail Trade	57,800	59,000	59,600	61,500	61,200	61,100	3,300	5.71%
Total employment	243,400	248,500	250,500	256,000	256,300	252,400	9,000	3.70%

Source: City of El Paso (http://www.ci.el-paso.tx.us/econdev/eddepeo1a.htm, 24th July 2003)

Figure 5.2 Employment composition by sector, El Paso, June 2000

Total employment:
239,500
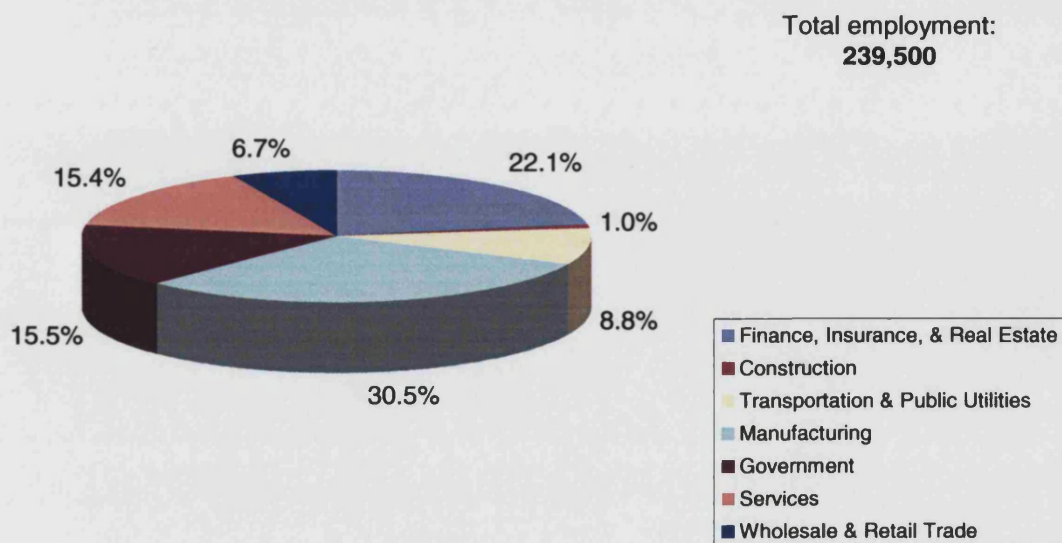
Source: City of El Paso (1999:3); City of El Paso (http://www.ci.el-paso.tx.us/econdev/eddepeo1a.htm, 24th July 2003).

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The Vice-president for Environmental Issues of a consulting firm in El Paso asserted that his company was created in the mid-1980s:

> ...in response to the needs of the maquila industry...we focus on US companies that have set up maquiladoras in Mexico. Our clients include a large percentage of the 100 biggest corporations, specifically companies such as General Motors, RCA and Johnson & Johnson... (29-EM/EP).

Environmental consultancies in El Paso are just one example of the strong interdependency of the two cities' economies. The fact that a number of businesses were established to provide support services to the maquila is indicative of the central role of the maquila industry in El Paso and the region as a whole. The maquila industry activity is intrinsically related not only to the economy, but the social, cultural, and environmental reality of the region.[167]

For more than a decade the maquila industry was perceived as a dynamic employment generator and as the growth engine of border economies. However, little was done with regard to the industry's environmental practices. During the period from 1966 to 1986 very few environmental regulations were put into place on the Mexican side of the border. The management, disposal and transport of toxic substances generated by the maquila industry were practically unregulated for almost 20 years (Garza, 1996: 9). Few records exist on how and where toxic wastes were disposed, or of the effects of toxic wastes on the natural environment and public health of the region. According to an environmental consultant interviewed in Juarez in 1998, the maquila industry stored diesel, petrol, solvents and other substances in inadequate subterranean tanks, which could have leaked (and probably continue to leak) causing severe soil and groundwater pollution. This informant stated that 'remedial processes will become a big business for us since only a few site remedial processes had been carried out' (28-EM/J).

In 1986 Annex Three was added to the La Paz Agreement originally signed by Mexico and the US in 1983.[168] Annex Three was the beginning of a new approach to the maquila industry activity and its impact on the border region natural environment and public health. In 1986, a study carried out by *El Colegio de La Frontera Norte* (COLEF)

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[167] Another good example of the interdependency between the two cities is the World Trade Centre El Paso/Juarez (WTC EP/J), which was recently opened and operates in two different buildings, one in Juarez and one in El Paso. The mission of the WTC EP/J is to promote and expand world trade and tourism by serving as a primary vehicle for International activities in the region and to enhance economic and cultural development by meeting the needs of El Paso/Juarez businesses engaged one way or another in the global market (www.wtcepj.org, 24th July 2003).
[168] See chapter four for a discussion on the La Paz Agreement. Annex three deals with the transport of toxic substances and hazardous wastes along the border.

showed that out of 700 maquilas located along the border only 20 reported to the EPA the return of hazardous wastes to the US (Garza, 1996: 9). How the rest of the maquilas managed and disposed of toxic waste is uncertain. Mexican environmental law and regulations were put into place in 1988 and from then onwards, significant regulatory changes have occurred and *some* progress was made by the industry in terms of law enforcement. In 1996 the total number of inspections on the Mexican side of the border was 3,323 of which 2,622 resulted in penalties (EPA, 1998b: 17). Despite the number of penalties imposed by Mexican authorities, business groups in the area continued to make good publicity out of their environmental policy, codes of conduct and operational changes, including the introduction of ISO 14001.[169]

NAFTA negotiations between the US and Mexico marked the start of unprecedented environmental activities along the border region, which involved industry, government and organised civil society. During the 1990s the SD discourse and practice of business groups, local government and NGOs particularly focused on issues such as air pollution control, management of toxic and hazardous waste, introduction of green processes and technologies, self-regulatory mechanisms, partnerships and improvements of labour conditions. The priority given to managerial and self-regulation aspects of the SD discourse has greatly contributed to the 'greening of businesses' and the ways some local groups perceive the maquila industry in the region of Juarez/El Paso. The debates around NAFTA stimulated changes in the image of the maquila throughout the border region.

In Juarez/EL Paso NAFTA-related activities have generated greater integration of sister-cities' economies. A significant increase in commerce crossing border bridges in both directions and constant growth of the maquiladora industry has been evident since the 1990s. Moreover, business groups, local government and (co-opted) NGOs in the region continue to search for co-operation mechanisms to enhance and support both the rapid economic expansion and 'rational management' of the natural environment of the region. However, the attempts are made much more difficult by the fact that the economic, social and political differences that have characterised the US-Mexican border region for decades are still outstanding.

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[169] ISO 14001 is only one of the ISO 14000 series of the environmental management systems developed by the as its 'commitment' to support the objective of 'sustainable development' discussed at the Rio Summit, in International Standardisation Organisation (ISO) 1992 (http://www.iso.ch/iso/en/ISOOnline.frontpage, July 2003). The series of ISO 14000 has been a key instrument in shaping the SD discourse of the 1990s. One of the central concepts of the ISO 14000 series is the concept of 'continuous improvement.' ISO 14001 and the concept of *continuous improvement* are discussed in detail in chapter six of the thesis.

Minimum wages are approximately 10 times higher in the US than in Mexico, and municipal budgets are up to 50 times higher in the US (SCERP, 1999: 3). In 1995 the per capita annual budget for El Paso was US$576 whilst in Juarez it was only US$44 (Suarez & Chavez, 1996: 90). Whilst Mexican and US environmental laws and policies have the same standards on paper, there are still marked differences in the way that the two governments implement them. The centralised way in which the Mexican government has operated for decades has had a great impact on municipalities' ability to solve social and environmental issues. Although serious attempts to decentralise the Mexican government structures have been made, municipalities still lack significant financial resources and autonomy to deal with environmental and social issues that directly affect the health and resources of their communities, and yet remain under federal jurisdiction (see for example, Mumme, 2000; Rodriguez, 1997; and Randall, 1996). For example, local toxic waste disposal and management remains under federal jurisdiction.

It is important, therefore, to analyse the SD discourse and practice of local government in the in the region of Juarez/El Paso. The following section examines environmental policy on both sides of the border and shows that, like business groups, local government tend to support the dominant school of thought of the SD discourse in the region. Local government are a local expression of Corporate-Environmentalism. The section that follows also highlights different concrete examples of how local government policy has evolved and emphasised self-regulatory mechanisms and environmental management and neglected the environmental and development needs of its communities, thereby marginalizing views of Ecologism and Ecologically-sustainable-Development.

Section 3
Local government (LGs) in the region of Juarez/El Paso

By the end of the 1990s it is difficult to find any governmental agency along the US-Mexico border region that fails to integrate to one degree or another different elements of the SD discourse into their policies, strategic plans, vision and mission statements, and guidelines. Since NAFTA was put into place a number of regional and local institutional agencies have undertaken a number of projects towards enhancing SD in the border region. The central component of these institutional efforts towards SD has

been to strengthen cross-sectoral co-operation and collaborative schemes between the two countries at all levels of government, as well as business groups and NGOs.

The differences between US and Mexican governmental structures, however, still represent a challenge for joint action. The policy and resource allocation decisions that directly affect the city of Juarez and other border cities are still made in Mexico City and/or by state governments (excluding municipal participation). Juarez and other municipalities on the Mexican side of the border do not have sufficient financial resources or the authority to deal with the most urgent environmental and social issues of local communities (GAO, 1999: 18). Two other limitations for local government in Mexico, in terms of the implementation and continuity of their policies and programmes, are the short terms Mayors are allowed to serve and the consequent mobility of senior and junior officials to other government agencies or business groups in the locality. The turnover of the *Presidente Municipal* every three years (with no re-election) makes building government expertise and policy continuity difficult. Moreover, the frequent shifts of municipal authorities can result in the inefficient allocation of financial and human resources.

The Juarez Municipality

For decades the municipality of Juarez has faced administrative, financial and institutional limitations to its ability to plan, develop and manage public works. Juarez's government has thus failed to provide its community with the necessary infrastructure and services required to protect the natural environment and improve its quality of life. The 1998-2000 Municipal Development Plan promoted the autonomy of the municipality in order to achieve its objectives and work in the interest of its citizens, describing the long-standing problems of the city as follows:

> The municipal government of Juarez deals with problems intrinsically related to the structure of the national political system and its excessive centralisation in terms of tax revenues and the allocation of resources... [and]...one of the objectives of this administration is to promote and strengthen the autonomy to which the local government is entitled (Municipio de Juarez, 1999: 11 & 25- My translation).

Mexican municipalities do not have the option of raising money outside the country since the Mexican Constitution forbids states and municipalities from acquiring any financial obligations in foreign currencies and/or from foreign creditors. In the border region, where Mexican states are economically more integrated with their neighbouring

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cities than with the rest of Mexico, both centralisation and constitutional laws greatly limit the possibility of increasing their financial capacity. These rules, however, are starting to change. Over the last seven years the Mexican federal government, as part of its decentralisation efforts, has attempted to create mechanisms that enable municipalities along the border to obtain direct credits in US dollars (GAO, 1999: 39). The Border Environmental Co-operation Commission, NADBank and Border XXI Programme are among the few institutions that are able to lend directly to border municipalities. Other US government agencies (with resources), such as the EPA find it difficult to allocate financial resources directly to border municipalities on the Mexican side. As one local government official working for one environmental agency in El Paso reported:

> It is harder for us to spend money in Mexico. Because, you know, technically speaking they are not part of the country. If we would spend money in Mexico it would be through the foreign aid, and foreign aid is done by the State Department, and it is not part of our mission. However, through different institutions, like SCERP [Southwest Centre for Environmental Research and Policy], which is a consortium of US-Mexican institutions... We've tried to do it, but usually the money goes directly to SCERP on the US side, so it is not like the EPA is giving money directly to Mexico. It is more like going to SCERP grantees and then they work it out (12-GO/EP).

In 1999, a senior official of the state of Texas' government explained the difficulties he had in trying to help a local copper smelter company to donate to the city of Juarez a US$2 million fine incurred in the US. According to US environmental legislation if a company is not in compliance and it is penalised with a fine, it has the option of investing the money in environmental projects or paying it to the treasury where the money goes into the general funds. This mechanism is known as 'supplemental environmental projects' (SEPs). According to this informant, state and local government in El Paso have tried to put into place 'supplemental environmental projects' in Juarez several times without any results (TNRCC, 1998a: 15).

> ...We've been trying to get Mexico to accept...to make one [supplemental environmental project] work... we still want to make that happen, that is why when the smelter company asked us to talk to Juarez, I knew that it was going to be something! Dealing with a local business and a [Mexican] municipality and avoid dealing with the *Federación* [Federal government] is practically impossible. Mexico's federal government has more of a paternalistic approach. So, we wanted to say we want to work directly with the municipality and fund the municipality as such, rather than them [the municipality] waiting for the money to come from Mexico City, this money would come directly to them (4-GO/EP)

The money available from the smelter company and from other 'supplemental environmental projects' in El Paso to lend or invest in Juarez would not solve all of the city's environmental, development and infrastructure problems, but it could represent significant financial resources for the municipality. The moderate financial capacity of the municipality, however, is not the only limitation of local government. The local environmental authority in Juarez, and the Department for Urban Development and Ecology, has limited jurisdiction over some critical issues that directly affect the quality of life of the community, such as toxic wastes and water resource management.

As discussed in chapter four, incorporation of environmental policy into Mexican local government is relatively recent. The 1988 LEGEPA (Article 80) provides that the states and municipalities may exercise authority in all environmental matters under their jurisdiction and on those not explicitly delegated to the federal government (SEMARNAP, 1995: 60-61). In 1993 the state of Chihuahua published the *Chihuahua Ecology Law* which delegates total jurisdiction to the states' municipalities on issues such as air pollution, local transport and traffic, solid waste collection and disposal, drainage, and drinking water services (Gobierno del Estado de Chihuahua, 1998).[170] However, as a local government official working for a state government agency in El Paso, explained:

> The big-ticket items like the big water treatment plants, the big infrastructure projects, the highways, the roads, and the electricity... has been and is still very controlled by the federal government... PEMEX [the national oil company], for example, gasoline that is still very controlled, very centralised (4-GO/EP)

Despite the reforms undertaken by the 1988 environmental law, to date state and municipal environmental jurisdiction remains limited. The municipal government is not allowed to adopt or pass more stringent regulations in their jurisdictional area than those adopted by the federal authorities (Mumme 2000: 110-111). Moreover, the federal government retains sole authority over a number of issues associated with maquiladora activities along the border. The transport, disposal, recycling, and other management of toxic wastes are the most glaring examples. The lack of information on the number of toxic substances used, the total amount of waste produced by the maquila industry, and the illegal disposals of toxic waste is a critical issue and a central concern for Juarez and other border communities and remains under PROFEPA's jurisdiction.

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[170] The Ecological law for the State of Chihuahua and other information on the Mexican State of Chihuahua is available online: http://www.chihuahua.gob.mx/default.asp

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PROFEPA's regional office is located in Juarez and has a total of 31 employees of whom 12 are inspectors (14-GO/J). In Juarez alone PROFEPA is responsible for monitoring the environmental regulation enforcement of more than 1,200 businesses under its jurisdiction (PROFEPA, 1998: 205; 14-GO/J). The lack of financial and human resources and the lack of autonomy, particularly on toxic waste issues, from central government agencies like PROFEPA, undermine the already restrained efforts of local authorities to improve enforcement and compliance.

The *Instituto Municipal de Planeacion (IMIP- Municipal Institute for Planning)*

The IMIP is a decentralised agency of the municipal government. The institute acts as an autonomous consultant and undertakes research projects on urban planning for the *Municipio*. The institute promotes public participation, acts as a clearing-house and facilitates access to information on urban planning, technology, environmental infrastructure and development projects. The IMIP is one good example of the decentralisation efforts made by the local authorities in Juarez to enhance greater continuity in local urban planning programmes and policies. Its objective is to modernise government agencies as well as inform the public with new studies, plans and policies on development and urban planning in the region of Juarez/El Paso. The IMIP has the potential to become a central tool for local authorities and has succeeded in generating and maintaining professional expertise. Although the institute has incorporated and promoted central elements of Ecologically-sustainable-Development in its work, it is constrained by the financial restrictions and lack of 'real' political autonomy of local government agencies in Juarez, and its resources, services and staff remain underused.

Junta Municipal de Agua y Saneamiento de Juarez

In Mexico water resource management remains, like many other issues, largely centralised and dependent on central and federal government decisions. The *Comision Nacional del Agua* (CNA, or National Water Commission) is the federal government's water authority, which is now part of the SEMARNAP. At the state level, there are *Juntas Centrales de Agua y Saneamiento* (Central Directorates of Water and Sewage) and the larger municipalities have their own water and sewer directorates. The state water directorate is responsible for the state's water issues; however, under article 27 of the Mexican Constitution both surface and groundwater are owned and remain under the jurisdiction of the federal government. Thus, local water authorities are provided with

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up to 50-year permits (Kelly, et al, 2001: 4). The permits, issued by the federal government, comprise concessions to the private sector and allocate water to local authorities, including municipal water supply systems. The *Junta Municipal de Agua y Saneamiento de Juarez* (JMAS) is, therefore, in charge of providing the community with water services, such as drinking water supply for domestic and industrial use, drainage and wastewater treatment (Gatica-Colima & Diaz, 2000: 1-2; Gobierno de Mexico, 1990).

Both water quality and quantity remain a critical concern for the region. The only drinking water source available for Juarez is the Hueco Bolson, which is estimated to run out of water by 2025 (Kelly, et al, 2001: 6; GAO, 2000). As discussed in the previous chapter, the 1944 water treaty signed between Mexico and the US governs the Rio Grande waters and specifies that the annual transfers from the Rio Grande to Mexico are 6.05 acre-feet with 3.46 belonging to the US; this is a very small share of the total surface water available (IBWC, 1996).[171] Municipal use of the Rio Grande accounts for about 35 percent of the total water supply, and Juarez is almost totally dependent on the Hueco Bolson for its drinking water supply. The waters from the Rio Grande have been traditionally used for irrigation in the Valley of Juarez, which was the first cotton-producing region in the country. The Valley of Juarez receives untreated water from the Rio Grande, normally high in salts due to the withdrawals for irrigation up-stream and the consequent limited water flow in the river (2-GO/EP).

In 1998, a project for building two wastewater treatment plants in Juarez was certified and approved by the BECC and financed by NADBank. The plants will treat water from the Rio Grande, provide the Valley of Juarez with better quality water for irrigation, help to avoid soil salinisation and increase the region's productivity. However, the Juarez treatment plants do not have the capacity to treat water from the river to the standard required for drinking water. Despite the urgent need for drinking water, the treatment plants in Juarez will help only farmers, and will not contribute to solving the water scarcity problem of the city itself.

By the late 1990s, Juarez water authorities had already started to examine alternative water sources to improve the city's drinking water supply. The city's plan is to supplement municipal supply with Mesilla Bolson's water. The Mesilla Bolson is a stream aquifer whose health is intrinsically related to that of the Rio Grande. It has been estimated that, provided financial resources are available, Juarez could begin to pump

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[171] For a detailed discussion on the IBWC see chapter four of this thesis (see for example, Mumme, 2001). At present, there is serious disagreement between the two countries concerning a 'water debt' owed to the US by Mexico. Mexico has fallen far behind on the release of water as required by the treaty. This debt is having a devastating effect on farmers in the lower Rio Grande Valley who lack sufficient water for their crops (Millan, 2002; 2002a; 2002b).

water out of the Mesilla Bolson within the next 10-15 years (Hamlyn, 1998: 27; 7-GO/J; 3-GO/EP). The JMAS also examined the possibility of supplementing Juarez's drinking water from other regions, such as *Salamayuca Medanos.*[172] However, due to the high cost of piping water over long distances, the project is not financially feasible, at least in the short term. The potential impact that this part of Juarez's supplemental plan will have on the river itself is still to be determined.

Another major factor impacting water use in the city of Juarez is inefficiency and lack of infrastructure for both municipal and irrigation requirements. In the city of Juarez substantial water losses result from leaks in distribution systems, failures in water meter usage, and other faulty equipment (Kelly, et al, 2001: 4). According to a study carried out by *Franco & Asociados* environmental consulting firm, for the University of Texas in El Paso (UTEP) and the Economic Development Administration (EDA) of El Paso in 1998, Ciudad Juarez water losses are estimated to be nearly 30 percent from its municipal system. However, the actual losses could be higher since the city's water meter system is reported to be very inefficient and more than half of the distribution system is not metered (Franco y Asociados, 1997).

Figure 5.3 below shows that domestic water consumption in Juarez is significantly higher than water use by industry or commercial activities. Water losses, as indicated in figure 5.3, account for almost 30 percent of the total water consumption in the city of Juarez, due to inefficient, old and poorly maintained infrastructure.

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[172] Los Medanos de Salamayuca is located on the feet of the Sierra de Presidio, it extends 13 km to the west, and 32 km from lake Cabeza de Baca to the southern end of the Sierra de Presidio. It covers about 145 Km^2. There have been several projects looking forward to the transformation of this area into a natural reserve, including the aquifer for water supply project for Juarez.
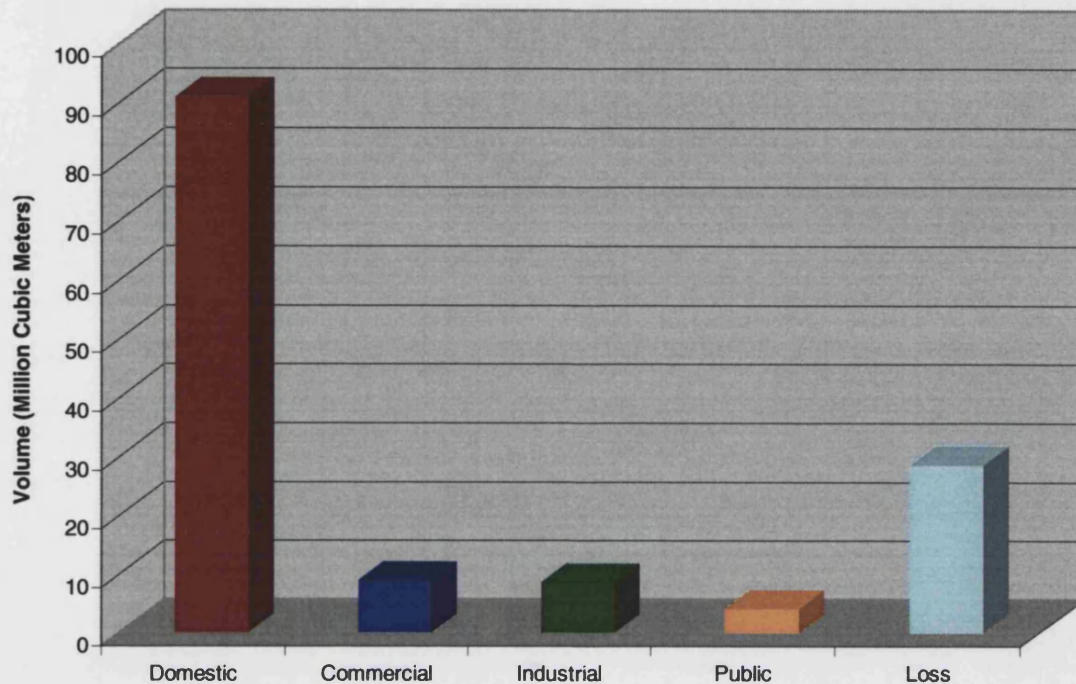
Source: Franco y Asociados (1997:65) Note: It does not include the Valley of Juarez

It is clear that reducing water losses in Juarez is crucial for securing water supply for the community's present and future needs. However, the municipality does not have the necessary funds to up-grade old systems and to invest in urgent water infrastructure. Once again, centralisation is one of the reasons for the municipality's financial limitations; however, Mexico's unstable economic situation also means budget cuts in government revenues (Kelly, et al, 2001: 4; Fox, 2001). Moreover, domestic water use has always been practically free in most municipalities on the Mexican side, and the local authorities get essentially no revenue from the local community for this service. This is starting to change and the JMAS is beginning to introduce meters and charge for water; this may have a high political cost in low-income communities where half of the population still have no access to water connections.[173] The low or zero value of water has also undermined attempts to promote a 'water culture' and water conservation in a city situated in the middle of the desert.

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[173] The introduction of this policy is an attempt by JMAS to internalise environmental externalities and ultimately manage water supply problems via market–based environmental mechanisms, in line with Corporate-Environmentalism. See for example, Pearce (1991), a prominent proponent of market-environmentalism and see chapter 3 for further discussion on this issue.

In El Paso water consumption per capita is much higher than in Juarez (Kelly, et al, 2001: 4; Franco y Asociados, 1997: 12). Table 5.7 details this. Higher water use rates in El Paso are mainly associated with water used in lawns, swimming pools and landscaping (TNRCC, 1998b; 2-GO/EP).

Table 5.7 Estimated daily water demands per capita in Juarez and El Paso.

Sector	Juarez m3 per capita	El Paso m3 per capita
Domestic	0.251	0.440
Commercial	0.020	0.106
Industrial	0.020	0.072
Public administration	0.010	0.046
Losses	0.080	0.046
Total	0.381	0.710

Source: Franco y Asociados (1997: 12)

Local government in El Paso.

In the US, the federal government shares authority and responsibility with states on environmental issues, health and resource management. The EPA's environmental standards are considered the minimum standards that a state has to meet: states can create their own environmental authority, which has the power to decide whether to comply with the EPA's regulations or adopt more stringent regulations. As a local government official working for a state government agency in El Paso explained:

> Here in Texas or in any other state of the US, the state has its environmental agency, the state would do basically the same work [as the EPA]. We have the Texas Natural Resource Conservation Commission (TNRCC) and we also manage the environmental facilities here and the EPA does provide work on the side but they leave it up to the state to handle the work (4-GO/EP)

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The Texas Natural Resource Conservation Commission

The Texas Natural Resource Conservation Commission (TNRCC) is Texas's own regulatory agency. It is the TNRCC that enforces federal regulations from the EPA. In Texas the TNRCC environmental regulatory framework is basically the same as that of the EPA, however, there are a few parameters that do exceed the federal requirements. The TNRCC implements a broad range of regulatory and co-operative activities mainly on the protection of public health and natural resources, including air pollution, toxic waste disposal and transportation and water quantity and quality (http://www.tceq.state.tx.us/index.html, 20th May 2003). In El Paso, the TNRCC and the EPA provide the main regulatory framework for local authorities such as El Paso Water Utilities (EPWU), which delivers potable water and provides wastewater collection and treatment for the city. The TNRCC water and waste division administers enforcement and compliance of both federal and state environmental regulations (emission control, disposal and recycling). This work concentrates on the following areas: transport of hazardous waste across the border, municipal solid waste, industrial waste, petroleum storage tanks, and used tires (4-GO/EP).[174]

The TNRCC had several predecessor agencies, the 1993 Texas Water Commission being the last one. The TNRCC has approximately 3,000 employees and a US$511.5 million annual appropriated budget for the 2002 fiscal year. Over 80 percent of the agency's budget (US$418.5 million) is funded by regulatory-programme fees; Federal funds provide US$38.5 million, or 7.5 percent; state general revenue, including earned federal funds, provides US$33.7 million, or 6.6 percent; and other sources provide the remaining US$20.8 million, or 4.1 percent (www.tnrcc.state.tx.us, 3rd April 2000).[175] The TNRCC head office is in Austin, Texas and it has 16 regional offices throughout Texas. The El Paso office corresponds to region six, covers the largest geographic area, and regulates six counties including three of the largest in Texas (El Paso, Presidio, Culberson) (TNRCC, 1998a: 7-9).

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[174] According to a local government official interviewed in El Paso, tires are now collected from generators and then recycled. Previously tires were abandoned in the desert, or were taken into Mexico where they were used as fuel by brick-makers. Tire burning generates very high particulate emissions (3-GO/EP). Data on the stocks of tires along the border is limited, however the few studies available argue that little has been achieved and tires continue to be used as fuel and illegal dumping is still frequent. For example, Blackman & Palma (2002: 1-3) report that a 2001 consulting study made by *EcoTechnologias de Mexico* concluded that Ciudad Juarez generates approximately 828,000 scrap tires per year, or 0.69 tires per person per year. However, according to these authors, the study is based on official figures on car ownership in Juarez, and does not consider the flow of US tires into Mexico; they note that most American used tires smuggled into Mexico originate outside the border region. Although the number of tires burnt is not known the authors report that records from the Ciudad Juarez Fire Department show that from August 2000 through July 2001, there were 310 fires involving tires in the city, an average of 26 fires per month. Document available from: http://www.rff.org/disc_papers/PDF_files/0246.pdf.

[175] A number of documents and statistics on Texas Commission on Environmental Quality (TCEQ) related issues are available online: http://www.tceq.state.tx.us/index.html.

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Since 1993, the TNRCC has collaborated with its Mexican counterpart PROFEPA, in its efforts to incorporate pollution prevention into Mexico's environmental audit programme of maquiladoras. In TNRCC-PROFEPA study of 21 maquila plants where pollution prevention measures were implemented, the agencies showed that 11 of the 21 plants surveyed recorded 100 percent compliance and an overall compliance record of 89 percent (TNRCC, 1998a: 52). In early 1998, the TNRCC presented in Juarez an environmental accounting workshop called 'Train the Trainers.' Representatives of higher education, industrial sector and local government attended the workshop. The TNRCC reported that same year that maquiladora associations in Juarez were reproducing the programme elsewhere, and the University of Juarez incorporated pollution prevention principles into a graduate level training course for industry and government (TNRCC, 1998a: 53). Other areas strongly promoted by the TNRCC are their voluntary pollution prevention and audit programmes.

On the US side of the border, however, there are still some gaps within local government structures. In the colonias in Texas, for example, it was only in 1989 that the first two bond issues (US$250 million) were passed to finance projects to provide water and wastewater services to these communities. However, as yet, many of the colonias at El Paso still do not have access to basic public services (TNRCC, 1998: 108; Bath, et al, 1998). Moreover, it is these poor communities that lack the basic financial and institutional mechanisms available in most US cities. Colonias in El Paso, like many unincorporated settlements along the border, do not have the tax and credit bases required to borrow money; and, due to jurisdictional disputes among cities, counties and rural areas, colonias have been left without basic services (GAO, 1999: 39).[176]

On September 1, 2002, the TNRCC formally changed its name and began doing working as the Texas Commission on Environmental Quality, or the TCEQ. The name change is required by 'Sunset legislation,' House Bill 2912. The Texas Legislature felt that the new name is shorter and gives people a better sense of the agency's purpose (http://www.tceq.state.tx.us/index.html, 25th January 2003). The change of name also symbolises the emphasis of the US government on environmental quality and management rather than on natural resources conservation or development issues. The emphasis on environmental quality and management supports the argument of this thesis, since it places key elements of Corporate-Environmentalism at the centre of the agency's mission and vision.

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[176] Ward & Carew (2002: 329-331) report that in Texas there are more than 1,500 colonias, with nearly 400,000 people, of which 77 percent are located in border cities. The authors claim that the proliferation of colonias in Texas is associated with 'rapid urbanisation in a low-waged economy, the failure of private market to produce or finance housing that is affordable to low income groups, to the lack of state or public housing supply, and to the lack of effective regulation and planning controls to prevent unscrupulous land developers.'

Environmental Protection Agency (the EPA), Region Six, Border Office at El Paso, Texas

The EPA regional office[177] based in El Paso was established after NAFTA and the Environmental Side Agreement were signed in 1994, its aim was to enhance local communication and public outreach efforts on environmental issues along the US-Mexico border, particularly in New Mexico and Texas. The border office serves as an information clearing-house for the border community and encourages local communities to take a more active role in the protection and improvement of their natural environment. The central objectives of the EPA Border Office programmes include:

- Responding to the needs and concerns of the local community
- Providing environmental information including programme updates, technical information, and EPA grant announcements
- Providing local access to information
- Conducting public meetings and open house events to inform the public of EPA environmental activities in their community
- Working with Border XXI Workgroups to co-ordinate effective communication with the community, federal, state and local agencies, NGOs, academia and industry (12-GO/EP).

The EPA Regional Office co-operates on a wide range of environmental issues with state and local authorities, with its counterparts on the Mexican side, and with local NGOs and business groups operating in the region. In 1998, for example, the EPA funded the Rio Grande Alliance established by the TNRCC to work on watershed issues in the Rio Grande Basin (TNRCC, 1998a: 52). The Rio Grande Alliance brings together a wide range of participants such as governments, NGOs, tribes, businesses, universities, and water districts. The EPA has succeeded in promoting partnerships among diverse groups from both sides of the border. For example, in June 1999, the EPA and SEMARNAP announced an agreement between the two governments, industry leaders represented by the US-Mexico Chamber of Commerce and the BECC to promote voluntary implementation of Seven Principles of Environmental Stewardship within the two countries.[178] An agreement on the US/Mexico Public/Private Environmental Stewardship Initiative, Border Improvement and Climate Change was reached during the US/Mexico Bi-national Commission meeting in Mexico City in June 1999. The seven environmental principles urged border business groups to go beyond

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[177] The EPA office based in El Paso, Texas corresponds to and is responsible for Region Six, which covers New Mexico, Texas, Oklahoma, Arkansas and Louisiana (12-GO/EP; www.the EPA.gov -3rd February 2002).
[178] Border XXI Document and Press Releases are available in: http://yosemite1.the EPA.gov/oia/MexUSA.nsf

environmental compliance and to make *substantive commitments* to SD through voluntarily intensifying pollution prevention, energy efficiency, overall environmental performance and public accountability.

As the present work has argued throughout, self-regulatory mechanisms, environmental management, and partnership initiatives constitute key elements of Corporate-Environmentalism. The Seven Principles initiative and the partnership between the governments of the US and Mexico and business groups provide a clear examples and are local expressions of Corporate-Environmentalism in the form of public-private partnerships. Jones and Pisa (2000: 1-2) examine the performance of public-private partnerships working on urban land in Mexico and note that 'partnerships appear to meet contemporary ideological requirements', meaning that business groups regard partnerships as a way to redefine their role by promoting 'management,' thus, minimising state intervention; at the same time, those who advocate state intervention might regard partnerships as a means of protecting their interests and avoiding marginalisation. These authors explain:

> ...the notion of partnership has dovetailed with attempts to redefine the role of the public sector in urban development with a greater emphasis put upon 'management' rather than in direct intervention (Jones & Pisa, 2000: 2).

Cross-sectoral partnerships and self-regulatory mechanisms have become a prominent means of dealing with a wide range of issues, including SD and environment related ones, along the border between Mexico and the US. Whilst a number of industries located in Juarez/El Paso claim to go beyond official environmental regulations by voluntarily implementing ISO 14000 system and other self-regulatory programmes, many questions remain. Firstly, it is not clear in which ways self-regulatory mechanisms have affected or will affect the natural environment and local communities along the border region. Though it is difficult to assess these questions, some border environmental and social indicators suggest that the environmental situation of Juarez/El Paso (and the border region as a whole) continues to deteriorate (Simon, 1997: 235; Garza, 2000: 2).[179] However, it is important to note that perceptions of the state of the environment of the region of Juarez/El Paso – whilst views tend to vary between and within business groups, local government and NGOs – do overlap: optimistic views predominate with regards to the management and solution of specific environmental problems (*environmental problematique*). Only a minority regard the

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[179] See Table 5.2 on the state of the environment in the region of Juarez/El Paso in section one of the present chapter. Also see Scheiner (2000), Garza (1996), Marcus (2002), and GAO (2000).

environmental situation in a more holistic fashion – as one ecological crisis.[180] Mumme (1999: 1) asserts for example that the environmental impact of NAFTA remains controversial and in his view, NAFTA's environmental institutions, whilst performing valuable functions, are insufficient to halt the environmental stress caused by increased trade and manufacturing.

The private/public environmental agreement on the Seven Principles can be regarded as the institutionalisation of ISO 14000 and other voluntary and self-regulatory mechanisms, which compete for legitimisation within the community. The most promising of the seven voluntary principles in terms of the incorporation of social and development (and Ecologically-sustainable-Development) elements – which could challenge the dominant SD discourse (Corporate-Environmentalism) - is Principle seven, which states that parties must look to:

> Implement programmes to promote sustainable development in the community and the region in which the company operates, including investments in local environmental infrastructure and environmental health (see Appendix IX).[181]

The great need for improved environmental infrastructure in the region of Juarez/El Paso is indeed one of the major concerns of the community (Garza, 2000: 2-3). A significant number of people on both sides of the border lack adequate infrastructure for clean drinking water, wastewater treatment and proper solid waste disposals. The US General Accounting Office (GAO) reports that despite 'bi-national, federal, state, and local efforts, communities along both sides of the US-Mexico border continue to face environmental infrastructure problems.' According to the GAO (2000: 6) a bi-national assessment completed in 1999 indicated that 12 percent of the border population did not have access to potable water, 30 percent lacked access to wastewater treatment facilities, and 25 percent lacked access to solid waste disposal facilities.[182]

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[180] The business groups, local government, and NGO categorisations of the state of the environment are analysed in detail in chapters 6, 7 and 8, respectively.

[181] At the US-Mexico Bi-national Commission meeting in Mexico City on 4th June 1999, with the agreement of both governments, the EPA, joined with Mexico's environmental agency, the Secretariat for Environment, Natural Resources and Fisheries, industry leaders represented by the US-Mexico Chamber of Commerce, and the Border Environment Cooperation Commission, to promote voluntary implementation of the Seven Principles of Environmental Stewardship within the two countries (www.the EPA.gov, 12th July 2001).

[182] In the same report the GAO (2000: 6) estimated that US$3.2 billion is needed to correct existing water, wastewater, and solid waste infrastructure shortfalls on both sides of the border and that about 77 percent of this amount is needed for wastewater treatment. By September 1999, U.S. and Mexican border communities had submitted 281 border environmental infrastructure projects to the bi-national BECC for assistance in planning and developing sustainable projects. Of these projects, 162 qualified for further consideration based on technical and economic feasibility.

El Paso Water Utilities, Public Service Board (EPWU)

El Paso Water Utilities Public Service Board was established in 1952 to manage and operate the water and wastewater system of the City of El Paso. The five-member board of trustees, which makes up the Public Service Board, consists of the Mayor of the City of El Paso and four residents of El Paso County, Texas, who are appointed by the City Council for a four-year term. EPWU is an entity in El Paso and areas outside the city that delivers potable water and provides for wastewater collection and treatment. El Paso Water Utilities (EPWU) serves about 700,000 people and has about 160,000 water connections. Since 2001 EPWU has been, by appointment of the State Legislator, the regional water planner for El Paso County.

El Paso has four wastewater treatment plants (sewage treatment plants), two of which are surface water plants and one that treats water to drinking water standards. The main water supply sources for El Paso are groundwater from the Hueco and Mesilla Bolsons and surface water from the Rio Grande. El Paso shares water resources with Juarez and Las Cruces and other communities in southern New Mexico. In 2000, El Paso relied on the Rio Bravo/Rio Grande for around 30 percent of its surface water supply and on the Hueco and the Mesilla Bolsons for 47 percent and 20 percent correspondingly (near 70 percent of the total supply for El Paso). Juarez is, for most of the year, completely dependent on groundwater from the Hueco Bolson for its drinking supply (1-GO/EP: http://www.epwu.org/, 21st January 2000).

The most overriding concern in the short and in the long term in the region of Juarez/El Paso is water supply. The Hueco and Mesilla Bolsons have been used in an intensive manner for many years; official estimates calculate that if groundwater sources continue to be used at the same rate as at present the US portion of the Hueco Bolson will be exhausted of all fresh water by 2025 (El-Hage & Moulton, 1998: 18; EPWU, 2000: 14; Chavez, 2000).[183] The Mexican portion of the Hueco Bolson will probably be depleted sooner. The rapid population growth of a low-income community in a desert area, and the depleted and limited water resources are a challenge to the EPWU and its

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[183] El-Hage & Moulton (1998:18) report that El Paso is using more and more water each year. Pumping from the Hueco and the Mesilla Bolsons exceeds the rate of replenishment. Essentially, this results in 'mining' the aquifer. It is estimated that by the year 2025, the usable portion of the Hueco Bolson will be gone. El Paso Water Utilities has already begun using less groundwater to meet water-supply needs and to extend the life of the aquifer. In 1994, 41 percent of El Paso's water supply came from the Hueco Bolson, 16 percent from the Mesilla Bolson (on the west side of the Franklin Mountains of El Paso extending northward to New Mexico), while 43 percent came from the Rio Grande surface water. By 1996, El Paso had reduced its use of the Hueco Bolson to 35 percent, the Mesilla Bolson to 15 percent, and increased its use of the Rio Grande to 50 percent. However, Ciudad Juarez gets almost all of its water supply from the Hueco Bolson and El Paso uses surface water from the Rio Grande for eight months of the year to cover part of its drinking water supply (EPWU, 2000; Utz 1997).

counterparts in the region, which are also responsible for securing alternative water sources for the future.

As a response to this and the groundwater situation, the Utility has developed a 50-year water resource management plan that includes conservation, water reclamation, aquifer storage and recovery, and desalination of water (EPWU, 2000: 12). The Utility and its counterparts in Las Cruces and the city of Juarez are working together to secure future water supply on a *Sustainable Water Project*. The main objectives for El Paso are to get water from the Rio Grande all year round (currently the treatment plants are shut down during the winter months) in order to treat another 80 million gallons to recharge the aquifer. Two major components of the project are the construction of a new water treatment plant in Anthony, New Mexico and the expansion of one plant to treat more water (EPWU, 2000: 11).

The *Sustainable Water Project* has recently proposed the involvement of Juarez in regional water planning. The utility proposed that Juarez sign a contract for water treatment with EPWU, without losing any water rights. In other words the *Sustainable Water Project* proposes that EPWU contracts to supply water to Mexico. Mexico depends almost entirely on the Hueco Bolson for its drinking water supply and that will affect El Paso eventually. So, the plan for El Paso's (and the region's) water future is to convert the region from groundwater to surface water use, since surface water can be a renewable resource. Transboundary planning, however, requires a detailed analysis of the economic, environmental, legal and political issues in the region. The EPA has funded a study to assess the feasibility of developing a water and wastewater treatment plant for El Paso/Juarez/Doña Ana region and to identify the bi-lateral opportunities to secure water for the future (EPWU, 2000: 7).

El Paso's Water Conservation Programme

In 1990, the Utility created a Citizens' Advisory Committee to look at all areas of water use and make recommendations for a water conservation programme. As a result, El Paso Water Utilities implemented a number of water conservation measures to encourage plumbing code changes, implementation of a mandatory water conservation ordinance, water system optimisation, and higher water costs through the establishment of an increased block rate structure (www.epwu.org, 3rd February 2002). The committee identified several wasteful water use practices that needed to be eliminated in order to successfully reduce water consumption, such as lawn and garden irrigation, the use of

high-volume plumbing fixtures and evaporative cooling systems, and at-home car washing. The committee's work was the basis of the Water Conservation Ordinance approved by the El Paso's City Council in 1991 (Kelly, et al, 2001).

In 2000, as part of its conservation programme EPWU distributed 160,000 free low-flow showerheads to its customers, aiming to reduce the per capita water consumption. In 2001, per person water consumption was 155 gallons per day, a four-gallon reduction from the previous year. According to official figures the reduction is attributed to the combination of incentive programmes, education campaigns and to the increased enforcement of the water conservation regulations (www.epwu.org, 3rd February 2002).

EPWU could also secure water supply for El Paso by trying to acquire surface-water from other areas in Texas. According to a government official in El Paso (3-GO/EP) EPWU, for example, is already considering buying a ranch that has a sub-surface water reservoir. However, to pipe water to El Paso from a reservoir 150 miles away would be very expensive and risk a high political cost. Piping the water from hundreds of miles away from El Paso would result in a considerable increase in the price of water for a low-income community. As a government official in El Paso explained:

> ...If it comes to the point where we have no water here, we'll have to do it. We'll have to look for water in other places in Texas. And of course, the rates will go up. Water would be as expensive as gasoline. But in the desert, the south-west, it is the way it is going to happen (3-GO/EP)

Moreover, if Juarez and El Paso were to suffer a very dry winter season the region could experience severe water shortages. If this was the case, questions remain as to whether both sides of the border will be impacted equally. How would regional water authorities respond? The consequences in Juarez would be significant, certainly in the agricultural community, which would suffer immediately by not having enough water to support crop development. Kelly, et al (2001: 2) report that already some US agricultural producers in the Lower Rio Grande Valley have estimated annual losses of nearly US$400 million in the last few years.[184]

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[184] Kelly & Chapman (2002) report that the drought in the Texas-Mexico border portion of the Rio Grande Basin officially began in 1993. According to Desarrollo Economico de Ciudad Juarez data, based on official figures, annual average rainfall from 1957 to 2000 in Juarez is 264.5 mm, maximum annual rainfall is 55.7 mm and minimum annual rainfall is 7.8 mm. On average there are 48.1 days with rain (www.desarrollo_economico.org, 20th May 2003).

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Local Bi-national Co-operation in Juarez/El Paso

Even though structural differences between the two countries prevail, significant efforts have been made by different social groups along the border to deal with environmental issues bilaterally. At the institutional level, important bi-national environmental and SD initiatives, projects and programmes mushroomed throughout the region in the 1990s. In most sister-cities good examples can be found of transborder co-operation groups and programmes that ally federal, state, and local government, private sector and in some cases NGOs or civil organisations (SCERP, 1999: 13).

For example, the governments of Juarez and El Paso established the 'Joint Advisory Committee (JAC) for the Improvement of Air Quality in Ciudad Juarez, Chihuahua-El Paso, Texas-Doña Ana County, New Mexico Air Basin' and the 'Task Force Group' to address air issues in the region. The Joint Advisory Committee (JAC) is a bi-national panel that combines governmental and non-governmental organisations established by the US and Mexican governments to address air pollution problems in the region of Juarez/El Paso (and Sunland Park) air basin (SCERP, 1999: 14). The JAC was created in 1996 by the US and Mexico under the La Paz Agreement. The bi-national committee is responsible for developing recommendations to both governments on joint actions for the region (TNRCC, 1998b: 112). A common problem for small environmental groups on both sides of the border is the lack of technical and financial resources to actively participate in mechanisms such as the JAC and therefore to influence decision-making processes. Another reason for the poor participation of some local NGOs in such forums is their more radical perspective on development and environmental issues in the region, as will be discussed in chapter 8.

The waste counterpart to the JAC is called 'The Mexico-Texas-New Mexico Hazardous Waste Task Force' and it involves mainly government agencies such as PROFEPA, TNRCC, the EPA and other agencies such as US Customs and Aduanas de Mexico (3-LG/EP). No other sectors are allowed to participate in these meetings. Since the Hazardous Waste Task Force is a regulatory group authorities argue that they have to maintain it as such.

Overall, it seems that the economic (free-trade) and environmental project - dominated by Corporate-environmentalism - set up to industrialise and 'develop' the region of Juarez/El Paso in a 'greener fashion' have marginalised other views of the SD discourse including Ecologically-sustained-Development and Ecologism. Key elements of

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Corporate-Environmentalism, as has been shown throughout the chapter, are at the core of environmental policies and programmes on both sides of the border.

Section 4
NGOs in Juarez/El Paso

Environmentalists in Mexico first made an impact at the end of the 19th century and the beginning of the 20th century. Land appropriation, which led to the Mexican Revolution in 1910, became a turning point in the country's environmental consciousness. It was at first supported by intellectuals like Miguel Angel de Quevedo and Enrique Beltran, who regarded it as good step towards a new mode of natural resource use. Quevedo was active for many years and was a supporter of the creation of national parks. Beltran, unlike Quevedo, argued that to conserve natural resources it was not necessary to stop communities from using them, but such communities would have to use then wisely. His ideas are very much along the lines of some views of the SD discourse (Ezcurra, Mazari-Hiriart, Pisanty & Aguilar, 1999: 172). These two Mexican environmentalists opened the way for many other environmental researchers and activists. The 1970s were characterised by the creation of several new research institutes, which were funded with the joint efforts of the government, individuals and NGOs.

It was not, however, until the end of the 1980s that better organised environmental activism of and environmental NGOs appeared in Mexico, with different goals and different ideologies. Some attribute the emergence of more organised social movements to the experience of Mexico City's urban society with the earthquake of 1985 and the *Laguna Verde* nuclear plant (Ezcurra, et al, 1999: 17; Hernandez & Fox, 1995; Ulmas, 1996).[185] The emergence of the modern environmental movement in Mexico is intrinsically linked to the pre- and post- NAFTA process.

The concern about the possible detrimental environmental impacts of NAFTA brought a variety NGOs to the centre of the debate. A number of environmental groups in Mexico, the US and Canada created strategic alliances and actively campaigned for the inclusion of environmental provisions in the trade agreement to prevent detrimental environmental impacts throughout the three countries. A great diversity of organisations including those involved with development, public health and human rights incorporated different views of the SD discourse and vigorously campaigned both for and against the

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[185] See chapter 4 above.

trilateral free-trade agreement. The alliances of environmental activists and organisations from the three countries greatly contributed to the incorporation of different elements of the SD discourse in the trade agreement. Critical environmental organisations mobilised public opinion and participation and helped ensure the eventual inclusion of the 'environmental parallel agreement' by the three NAFTA countries (Hogenboom, 1998: 166-168).

The various transnational coalitions among US, Mexican and Canadian NGOs were a novelty. NGOs from the three countries searched for different options of co-operation during the first phase of NAFTA process. For example, *El Grupo de los Cien,* a network of nearly 100 academics, artist, writers, scientists and activists, created in Mexico in 1991, incorporated a wide variety of social groups into the debate (www.gulfbase.org, 3rd April 2000). However, differences arose between organisations and what appeared to be a united transnational environmental front soon split, mainly due to the key differences in ideological and political positions within and between countries with regard to what was required to 'green' NAFTA (Hogenboom, 1998; Hernandez & Fox, 1995). While most organisations were concerned about the most tangible environmental effects of the agreements others also questioned the effects that a development strategy based on trade liberalisation would have in a country like Mexico. This group of NGOs supported and promoted central elements of Ecologically-sustainable-Development and attempted to incorporate development concerns into NAFTA's environmental agenda; a well-known example of this kind of NGO is the Mexican Action Network Against Free Trade (*Red Mexicana de Accion Contra el Libre Comercio* – RMALC).

The RMALC is a coalition of environmental groups, development groups, social justice and human rights organisations, women's groups, academics and trade unions (www.rmalc.org.mx, 3rd April 2000). The RMALC's mission is to analyse and influence the economic, trade and commerce policies applied in Mexico. One of the central arguments of RMALC against NAFTA was that trade agreement would diminish natural resources, would bring financial benefits only to Mexican elites and would make the poor even poorer (a central concern of Ecologically-sustainable-Development). According to Hogenboom (1998:143) the RMALC network aimed to integrate the environment and development (views of Ecologically-sustainable-Development) concerns into NAFTA debate but 'it succeeded more on the theoretical than on a practical level.' The network of Mexican organisations proposed the introduction of a social chapter into the agreement; they argued that free trade could only be beneficial

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for all Mexicans if the development strategy was based on the 'needs' of the poor (www.rmalc.org.mx, 3rd April 2000).[186]

In the US there were some large membership-based environmental organisations that strongly opposed the agreement but, according to Hogenboom (1998: 147), their interest in Mexico waned as soon as the agreement was signed. Among these groups were the Sierra Club, Public Citizen, Friends of the Earth, and Greenpeace. Similar to the Mexican network, Greenpeace and Public Citizen worked and co-operated with small and diverse groups including women's groups, Christian minorities, and development organisations. Border groups are small but have played a crucial part in the pre- and post- NAFTA debate (Hogenboom, 1998: 148; Fox, 2000: 11). Environmentalists along the border were among the first to warn of the detrimental environmental effects of a trade agreement. They feared that a free trade agreement would magnify the problems created in their experience by trade liberalisation and the arrival of the maquila industry.

At the other end are the NGOs that promote Corporate-Environmentalism. These organisations favour trade agreement and pushed for the incorporation of a more legally and technologically-based environmental dimension. Two well-known Mexican NGOs that regarded the agreement as inevitable and in some cases necessary for the overall development of Mexico were Union of Environmental Groups (*Union de Grupos Ecologistas*- UGAM) and the Group of 100 (*Grupo de los Cien*). These groups worked together with some American environmental organisations on the environmental safeguards they perceived needed to be incorporated into NAFTA (Hogenboom, 1998: 145). According to Fox, (2000:11) some international mainstream NGOs supporting Ecologism in both countries followed Corporate-Environmentalist (pro-free trade) logic in as much as Mexico needed a trade and investment strategy to generate the resources required to invest in conservation of natural resources. These organisations included The Nature Conservancy, World Wildlife Fund and Conservation International.

The concern related to public health threats and the consequent deterioration of natural resources has mobilised border civil society on a number of occasions. Local representations of various US NGOs - responsible for border environmental issues - are based in border cities such as El Paso. The Environmental Defence Fund (EDF), for example, is an American non-profit organisation established in 1967 with approximately 330,000 members, who provide 70 percent of their financial resources; the other 30

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[186] The concept of 'basic needs' was introduced into the SD discourse by the Brundtland Commission in 1987 in its definition of SD. For further discussion on the Brundtland Commission see chapter 4 above.

percent is gathered via project-specific grants to the 150 research and academic staff. EDF has an international office, however their activities are mainly within the US and it is considered by its members to be a national rather than an international NGO (15-NGO/EP). EDF initiated its activities in the region of Juarez/El Paso in 1993 and appointed an academic from the region to manage its projects. According to EDF's criteria all projects are developed with 'bottom up' conceptual commitment and search for 'cost-effective' co-operative opportunities with government agencies, academic institutions and business groups at the local level. In its mission statement EDF states they believe 'that a sustainable environment will require economic and social systems that are equitable and just. We affirm our commitment to the environmental rights of the poor and people of colour' (www.edf.org, 10th April 2000).

The FEMAP Foundation (Mexican Federation of Private Associations) emerged in Mexico in 1973; it is mainly a service-oriented organisation with some policy-oriented activities. A network of civil organisations that aimed to elevate the quality of life of the Mexican poor originally created FEMAP. By 1998 FEMAP had 44 member organisations, which worked in 87 cities and numerous rural communities in 21 Mexican states (FEMAP, 1995: 1). At first the Federation's activities were directed at improving women's health at the community level. FEMAP's vision entails working on community needs; its programmes are developed (like those of EDF) from a 'bottom up' conceptual commitment. FEMAP has expanded its activities to other areas, as required by the communities they work for, such as environment and education. FEMAP has more than 4,000 voluntary promoters who work directly with women, children and families in poor communities around Mexico. FEMAP is a self-governing and financially self-sufficient organisation.

Environmental organisations and NGOs in the region of Juarez/El Paso are diverse and, as will be discussed in detail in chapter eight, their SD discourse and practice is varied. Whilst some grassroots organisations are still resisting co-optation by local authorities or business groups (which use their financial resources to bring this about), others have faced the dilemma of giving up their political autonomy or getting funds from government agencies and/or business groups. Other environmental groups genuinely share the SD perceptions of governments and business groups and have formed partnerships and alliances to work towards improving the environmental state of the region and the quality of life of Juarences and Pasoans.

Section 5

Summary and conclusions

This chapter has examined how the policies, mission statements and codes of conduct of business groups, local government and NGOs in Juarez/El Paso have incorporated different elements of SD discourse, particularly since NAFTA came into force. Whilst environmental policy on both sides of the border pays lip service to elements of Ecologically-sustainable-Development, the evidence suggests that in practice little effective action has been taken. The decentralisation process and environmental law enforcement in Mexico reinforce this point: they have always fallen far behind the formal improvements to environmental law and the attempts to strengthen governmental agencies. Environmental policy both in Juarez and El Paso, in contrast, embraces key elements of Corporate-Environmentalism such as self-regulatory mechanisms and cross-sectoral partnerships.

The environmental image of the *maquila* industry has changed dramatically since the 1970s. Border communities perceived the *maquila* of the first phase, as classified by Sklair (1989), as the main source of environmental degradation, public health risks and pollution. The *maquilas* of the first phase had an antagonistic relationship with government agencies and NGOs during the 1970s and mid-1980s. The 'dirty' image of the *maquilas*, however, turned into a 'green image' during the 1990s, particularly since NAFTA was signed. The greening of *maquilas* took roughly five to eight years to materialise along the US-Mexico border region. The presence of the maquila industry in the region of Juarez/El Paso also stimulated the creation of new local social movements and the 'reconstitution' of local political power groups that favour capital investment through the relocation of assembly plants to Juarez (Nieblas, 1998: 20). The maquiladoras have become the second most important economic force in Mexico since the 1980s, after the oil industry. Thus, the northern region of Mexico has become one of the most 'economically successful' and 'developed areas' within the country (Municipio de Juarez, 1999:10). Byrnes (2003: 103) reports that Mexico has over 3,600 maquilas, which generate US$10 million in revenue and employ 1.3 million workers. More than 50 percent of all maquila plants are located in six border cities.

A number of border scholars have probed the extensive institutional response to the state of the environment and SD discourse, a response expressed in numerous bi-lateral projects and programmes designed to protect and improve the border

environment. Undoubtedly, US and Mexican federal, state and local government agencies, but also business groups and NGOs in the region have incorporated SD discourse as the framework for regional goals in terms of environment and development. Mumme (2000: 102), for example, argues that SD policies are undertaken by a 'defined network of popular and government organisations' that form what he calls the environment and conservation community. This chapter has established, - and the following chapters will illuminate this further - that a small environmental elite has monopolised the SD discourse in the El Paso/Juarez region. Mumme (2000:102) calls these groups the 'environment and conservation community'. Environmental elites, as will be demonstrated in the following chapters, are formed by a relatively small group of environmental professionals that often move from one social group to another. The mobility of environmental professionals has helped maintain and spread the support for the dominant species of SD discourse in the 1990s, namely Corporate-Environmentalism. At first sight, the objectives and SD policies put forward along the border appear to be well defined and constructed towards achieving a common goal. No one in the region is asking how the border SD discourse has been constructed and whether business groups, local government and NGOs in the region share any common understanding.

Chapter 6

The SD discourse of business groups (BGs) in the region of Juarez/El Paso

This chapter probes the SD discourse and practices of business groups (hereinafter BGs) in the region of Juarez/El Paso. The analysis is based on the empirical data collected in the field, including the face-to-face semi-structured interviews carried out with thirty-one environmental managers (hereinafter EMs)[187] working for BGs, and bibliographical material collected in the region. To clarify how empirical data are presented and analysed in this chapter, it is worth recalling the SD discourse categorisation presented in chapter three, which proposes three main schools of thought, namely *Ecologism, Ecologically-sustainable-Development (EsD)*, and *Corporate-environmentalism* as the framework for the analysis of SD discourse in the 1990s. This categorisation is shown in Table 6.1, which summarises the key elements within each school of thought. This chapter analyses overlaps and divergences in the SD discourse and practices within and among BGs in the region of Juarez/El Paso.

Table 6.1 Main characteristics of the three schools of thought making up the SD discourse categorisation

Ecologism	▪ Emphasis on non-anthropocentric views. ▪ Conservation of species and natural resources, environmental justice, animal rights and environmental ethics. ▪ Believes that a holistic, global ecological crisis is unfolding. ▪ Limits to growth/radical alternatives to stop population growth. ▪ Opposes any human related effects on the natural environment.
Ecologically-sustainable-Development (EsD)	▪ Emphasises the need to re-incorporate developmental issues into the SD debate of the 1990s. ▪ Supports the existence of one holistic social and environmental crisis. ▪ Necessary to eradicate poverty, improve the quality of life and improve environmental practices. ▪ Centred on solving social and development issues. ▪ Rejects putting economic growth above development and social issues.
Corporate-Environmentalism	▪ Emphasis on technological and managerial solutions to environmental problems. ▪ Rejects the idea of a holistic global environmental and social crisis. ▪ Promotes the view that environmental problems can be managed and/or solved one by one, as discrete problems. Promotes idea of a set of individual manageable problems or an *environmental problematique* ▪ Economic growth (profit) is the ultimate goal. This approach has been highly promoted and commercialised by numerous business groups. ▪ Rejects zero growth, alternative technologies and conservationist views. ▪ Marginalises EsD and Ecologism.

Source: The present author, based on the typology of SD proposed in chapter 3.

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[187] The term environmental manager (EM) in Juarez/El Paso refers to those persons responsible for environmental offices in the maquila industry and in other environment related businesses. The official name for their position does not always correspond to that of EM; the term is used for all those working for the BG sample examined in this chapter for the purpose of clarity.

The chief concern of this chapter is to pin down how and why BGs in the region of Juarez/El Paso incorporated SD discourse into their policies, codes of conduct and operational structures. Secondly, but no less importantly, this chapter illuminates how BGs responded to and influenced the development of SD discourse, and how BGs categorise the state of the environment in the region of Juarez/El Paso. This chapter has been organised in five sections:

Section 1. Definition and analysis of BGs in the region of Juarez/El Paso

Section 2. The SD discourse and practices of BGs in the region of Juarez/El Paso

Section 3. Mobility of environmental managers (EMs)

Section 4. BG views on the state of the regional environment

Section 5. Summary and conclusions

The preceding chapters have claimed that Corporate-Environmentalism came to dominate SD discourse in the region of Juarez/El Paso in the 1990s; the present chapter presents empirical evidence to back this up.

Section 1
Definition and analysis of BGs in the region of Juarez/El Paso.

The histories of Juarez and El Paso have always been entwined. The development of the region depends heavily on shared natural resources that straddle the US-Mexico border. The establishment of *maquila* plants in Juarez since the mid-1960s marked the start of a new phase in the development of both cities. The arrival of the first *maquilas* in 1965, as discussed in the previous chapter, had a great impact on the environmental, socio-economic and ideological dynamics of both cities. The society, environment and economy of Juarez changed as more and more maquila plants were set up in the region. As discussed in chapter five, a second phase in the development of the region of Juarez/El Paso and a new era of environmental change came with the passage of NAFTA in the early 1990s. NAFTA brought with it a new wave of maquilas and increased trade; this affected and continues to affect the economic, social, and environmental dynamics on both sides of the border. The owners of the maquila plants, and the environmental businesses that sprang up to service them, soon formed a powerful economic and political group in the region.

Therefore, the BG sample examined in this thesis consists mainly of environmental managers (EMs) within the maquila industry and working for other businesses that provide support services to the maquilas (see Appendix I), including environmental consulting firms, recycling and waste management companies, and transport services.

The SD discourse and practices of BGs in the region of Juarez/El Paso are examined under the SD discourse categorisation proposed in chapter three and summarised in Table 6.1. This analysis also sheds light on the central concerns of this thesis:

1. The extent to which SD discourse has influenced BGs. This influence is discussed in terms of BG ideology, political strategies, operational structures and social practices or traditions.
2. Systematic differences in the impact of SD discourse on BGs.
3. The ways in which BGs in the region appear to have influenced the construction of the SD discourse during the 1990s.

As noted in the methodological discussion in section four of chapter one, interviewees were selected at random and as the result of a snowball process (networking). To clarify the analysis, throughout the chapter, BGs in Juarez/El Paso have been categorised as follows:

a) Sector (Automotive, electronics and other sectors/businesses)
b) Country of origin (USA, Japan, Mexico and others)
c) Number of workers (Large, medium, small)

Throughout the following sections of this chapter, BGs are thus analysed by sector, country of origin and number of workers, when considered relevant. Table 6.2 shows the distribution of maquila plants located in Juarez by sector, country of origin and number of workers. The table indicates that US owned maquilas have a greater presence in Juarez than those owned by Japanese or German corporations, for example. This underlines the economic, environmental, social and political interdependence of Juarez and El Paso, and ultimately of Mexico and the US.

Table 6.2 Distribution of the maquila industry in Juarez (1997)

Maquiladoras by Country of Origin		Maquiladoras by Sector		Maquiladoras by Number of Workers	
US	257	Automotive	83	30 to 500	142
Mexico	56	Electronics	128	500 to 1000	31
Japan	19	Garment	25	1000 t0 2000	50
Germany	8	Others	110	2000 to 3000	16
Others	6			3000 to 4000	5
				4000 and higher	11
Total	*346*		*346*		*346*

Source: Empresa (1998: 6).

The distribution of the BG sample is shown by country of origin, sector and number of workers in table 6.3. BGs in the region are numerous and are engaged in diverse activities. It is, therefore, important to specify which BGs are examined in this chapter and to note that the sample includes environmental companies that provide support services to the maquila industry. Although tables 6.2 and 6.3 cannot be compared, since the BG sample analysed in the present chapter consists not only of maquila plants but also of other environmental businesses, the aim is to illustrate how dependent the cities are on each other as well as the ties that bind them to the global market. The majority of BGs in the sample are US owned businesses, most of them part of large transnational corporations predominantly from the automotive and electronics sectors.

Table 6.3 Distribution of BGs sample in the region of Juarez/El Paso

BGs by Country of Origin		BGs by Sector		BGs by Number of Workers	
US	21	Automotive	12	30 to 500	0
Mexico	7	Electronics	13	500 to 2000	5
Japan	2	Garment	0	2000 to 3000	8
Germany	1	Support Services	2	3000 to 4000	0
Others	0	Others (refinery/software)	4	4000 and higher	16
Total	*31*		*31*		*31*

Source: The author from fieldwork notes.

The sample presented here is not 'representative' in terms of the traditional methods of quantitative social research. However, it is the empirical 'objects' of this research (environmental managers) and their relevance to the topic researched that inform the findings and claims made in the present work. As Flick (1998: 65) points out, 'decisions about choosing and putting together empirical material (cases, groups, institutions, etc.) ...are made according to their (expected) level of new insights...' (Also see Neuman, 2000: 170-172).[188] This chapter sheds light on the central issues of the thesis through qualitative analysis of the thirty-one interviews carried out with environmental managers (EMs) in the Juarez/El Paso maquila industry and other environment related businesses.[189]

Section 2
The SD discourse and practices of BGs in the region of Juarez/El Paso

The SD discourse and practices of BGs in Juarez/El Paso changed significantly over the first half of the 1990s. As discussed in the previous chapter, it should be remembered, that governments and NGOs perceived the maquila industry as one of the main sources of environmental degradation and environmental health problems in the region during the 1970s and 1980s. Since the early 1990s, however, the maquila industry has greened its image by introducing elements of SD discourse into its polices and practices. These changes are bound up with global events and processes, namely the Earth Summit, the passage of NAFTA and the greening of corporations. Since the 1970s, just after the maquila industry first arrived in Juarez, it was regarded by the community as a highly polluting industry. A few years after NAFTA came into force, Border Agenda XXI was drafted (a result of the Earth Summit), and at the same time the maquila industry began greening its image. As a result, the maquila industry in Juarez successfully replaced its old image as a polluting industry with one that portrayed it as an environmentally responsible and clean.

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[188] More than 50 percent of the BGs sample is constituted by very big companies, which benefits the comparability of the data.
[189] The methodology followed during the interviews was to pose open questions in the form of an interview guide, which was divided into for main areas: 1) Personal history; 2) About the business; 3) About Sustainable Development; and 4) Environmental Situation in the Juarez/El Paso region (see Appendix IV). By using semi-structured interviews, the aim was to get free responses and the personal viewpoint of the interviewees (Flick, 1998: 94). The interview guide was used consistently, which increases the comparability of the data collected. The interviews carried out with EMs in Juarez/El Paso have been organised by position and location and listed in Appendix I to this thesis. Environmental managers are identified by the code EM; to identify on which side of the border they work the endings 'J' – for Juarez and 'EP' for El Paso had been added. Therefore, 1-EM/EP corresponds to the first interviewee listed in Appendix I of the thesis. All the quotes with codes terminating with J – for Juarez- were my translations unless otherwise indicated.

It was not until the 1990s that BGs on both sides of the border began talking the language of SD in their mission statements, codes of conduct and policies. According to Mumme (1999:1), since the beginnings of the NAFTA debate in the early 1990s, public opinion, BG policies, and governmental policy were framed 'around the concept of Sustainable Development' to an unprecedented degree. The majority of the environmental managers interviewed in the cities of Juarez and El Paso asserted that SD forms part of the principles and policies of the maquilas they work for. By the mid-1990s, it appears that most medium-sized and large BGs along the US-Mexico border embraced elements of the SD discourse; these guided their practices and discussions of border environmental issues.[190] The meaning of SD discourse for different groups (BGs, local government and NGOs) in the US and Mexico, and for different groups within each country, is, however, far from clear. Moreover, the dearth of empirical research hinders our understanding of the differences and similarities of the SD discourse among and within BGs in the region of Juarez/El Paso.

As detailed later in this chapter, during the 1990s SD discourse was used interchangeably with Corporate-Environmentalism, that is, resource management, eco-efficiency, continuous improvement, self-regulation and green technologies. Only a few NGOs and local government agencies supported Ecologically-sustainable-Development, or, to a lesser extent, Ecologism.

Generally, BGs began to view the environment as a business opportunity and have taken a more proactive approach since the late 1980s. BGs responded to government regulatory and legal requirements by incorporating elements of SD discourse into their policies, codes of conduct, operational structures and processes. Many authors have grappled with this phenomenon, known as the 'greening of business' (for example see Robbins, 1999; Bruno & Greer, 1996; Beder, 1998; Utting et al, 2002). It was also in the late 1980s that BGs and other groups began to get excited about Corporate-Environmentalism, which appeared to enable BGs to 'solve or manage' environmental problems, and ultimately achieve SD, whilst sustaining the global capitalist system. The words of General Motors' (GM) Vice Chairman, Harry Pearce, quoted in the company's 2000 Environmental, Health, and Safety Report, capture the company's views:

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[190] Small and micro businesses, such as car garages, in Juarez are possibly less concerned about environmental issues including building a 'greener' image, since the focus of public attention is on the maquila environmental performance (14-GO/J). Small and micro businesses are not represented in the BG sample analysed in this thesis for various reasons including time and space restrictions; the study of this particular group of businesses deserves close and detailed examination and is a good area for future research.

We are all responsible for this planet, but business must take the lead, because only business has the global reach, the innovative capability, the capital, and most importantly, the market motivation to develop the technologies that will allow the world to truly achieve sustainable development (GM Environmental, Health & Safety Report, 1999).[191]

By the early 1990s, BGs in the region of Juarez/El Paso were actively promoting elements of Corporate-Environmentalism, including environmental management, continuous improvement and the creation of partnerships or alliances with governments and NGOs. BGs also became key actors in the formulation of US and Mexico environmental policies and laws. The environmental manager of an American smelting and refining industry, located southeast of El Paso, affirmed:

Our philosophy is that we don't let the environmental regulations come to us, what we try to do is get involved in making the regulations make sense, practical, and to the point. We get involved in issuing the legislation... (24-EM/EP).

These ideological, structural and policy changes of BGs, of which their proactive approach in the 1990s formed part, are neatly illustrated by the American refinery located in El Paso, ASARCO. This American refinery claimed that it was participating proactively in the formulation of environmental laws and regulations in the 1990s. It has a long record of polluting practices.

The refining industry was established in El Paso in 1887, and for more than 75 years the plant worked 24 hours a day, producing on average 98 million pounds of air polluting emissions per year. These adversely affected the health and environment of three *colonias* in Juarez and more than 80 thousand inhabitants on both sides of the border (CERCA, 1991:127-128). However, only in 1991 did the company announce the 'modernisation' of its production processes; this followed government demands and included a series of strategies to clean up the factory's image, including the development and promotion of environmental principles, mission statements and policies (24- EM/EP).

By the 1990s, Corporate-Environmentalism appeared to have succeeded in its struggle against critics, who lamented the overall industrial environmental performance. As Beder (1998: 19) argues, in industrialised countries like the US and Great Britain corporate investment was directed to PR companies and to funding pro-corporate

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[191] The Report is available online at: www.gm.com/company/gmability/, January 2001.

academic research within or outside universities. BGs also invested significant resources in funding research projects in the quasi-academic institutions also known as think tanks.[192] These think tanks helped counter some of the anti-big industry research being produced, particularly within the social sciences. Rampton & Stauber (2000: 166) argue that PR firms employ co-opting strategies, such as encouraging the environmental movement to 'create partnerships with major polluters.' These authors report that the Public Affairs Council (a trade association for public relations executives in the US) sponsors a tax-free organisation called the Foundation for Public Affairs, whose funding comes from large corporations such as Dow Chemical, Mobil, Shell Oil, Boeing, Exxon and the Pharmaceutical Manufacturers Association (also see, for example, Gereffi et al, 2001). In Juarez, for example, the owners of a large beer company founded one of the largest and most resourceful NGOs in the city. The President of Coca-Cola in the state of Chihuahua, and other business friends, founded a less successful, but influential NGO in Juarez in response (5-NGO/J).[193]

EMs' responses to the questions in part three of the fieldwork guide shed useful light on the SD discourse of BGs (see Appendix IV for fieldwork guide). All the EMs in the sample were asked the following questions:

1. Is SD part of your business's everyday language?
2. From where did your business get its SD concepts?

Responses to the first question, *Is SD part of your business's everyday language?* included *yes* (strong), *no* (weak) and *not yet* (moderate). More than 70 percent of the respondents asserted that SD is part of the everyday language of the business they work for. However, when the second question was posed (*From where did your business get its ideas on SD?*), the majority struggled to find a straightforward answer and elaborated on different concepts supposed within the maquila industry to constitute SD discourse (see below).

The majority of EMs interviewed in the region mentioned diverse concepts, which are used interchangeably with SD and form part of maquilas' environmental principles, mission statements and policies. Such concepts include resource management, eco-

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[192] For a thorough discussion on the role of think tanks and the environment see Beder (1998: 91-105) and Bruno, Kenny & Greer (1996).
[193] Another well-known example can be traced to the early 1960s when the Chemical Manufactures Association (CMA) furiously responded to Carson's criticism of the chemical industry in her book *Silent Spring*. Bruce Harrison was hired by the CMA, with the mandate of developing a co-ordinated response to Carson's book. By 1993, Harrison had become a leader in environmental PR consulting and had published a book entitled *Going Green: How to Communicate Your Company's Environmental Commitment* (Beder, 1998:108; Karliner: 1997: 160-170; Rampton & Stauber, 2000: 167; Sklair, 2001: 200).

efficiency, green technologies/processes, self-regulation and *continuous improvement*, all of which correspond to Corporate-Environmentalism. EMs most often mentioned the concept of *continuous improvement*.

Table 6.4 shows the responses to the question: *Is SD part of your business's everyday language?* The table shows that nineteen percent stated that SD *is not* part of their everyday language while six percent responded that SD *is not yet* part of their everyday language but they are working on it. The majority of those who responded that the term SD *is not* part of their everyday language work for the electronics industry; this may reflect the contrasting responses of the automotive and electronics industry to legislative and NGO pressure at the local level. The automotive industry might have been expected to respond earlier to such pressures, given that the maquila plants in Juarez are bigger than the electronics firms, and their activities are more visible.

Table 6.4. The SD discourse in BGs' everyday language, Juarez/El Paso (1997 & 1999)

	Total No. Of interviews	*Yes*	*No*	*Not Yet*
Automotive	10	9	0	1
Electronics	13	7	6	0
Others	8	7	0	1
Total	*31*	*23*	*6*	*2*
Percentage (rounded)	*100%*	*74%*	*19%*	*6%*

Source: The author from fieldwork interviews

By the end of the 1990s, most BGs around the world claimed to have developed their own SD and environmental principles and codes of conduct. The Organisation for Economic Co-operation and Development (OECD, 1999: 8-21) reported, in an inventory of 233 corporations that had developed codes of conduct or principles that the form and content of these varied substantially.[194] Gereffi et al (2001: 57) reported a few years later that the Global Reporting Initiative, an organisation dedicated to standardising corporate sustainability reporting, had estimated that more than 3,000 companies voluntarily reported their social, environmental and economic practices and performance (see also www.globalreporting.org/about/overview.asp, 11 May 2003). The OECD

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[194] The inventory includes codes of conduct from companies originating from 23 OECD countries, information available at: http://www.oecd.org/document/25/0,2340,en_2649_201185_1843609_1_1_1_1,00.html (23 July 2001)

(2000: 8-10) defines a code of corporate conduct as a set of behavioural codes or principles, which corporations pledge to follow. In the mid-1990s, the publication of corporate environmental reports and environmental principles increased considerably. Environmental reports and principles have been promoted and reproduced by global corporate executives as proof that their corporations are becoming 'environmentally' and 'ethically' responsible (Sklair, 2001:11; Gereffi et al, 2001; Elkington and Robins, 1994).

The findings presented both by the OECD and the Global Reporting Initiative are part of a general global trend in which BGs worldwide have adopted the dominant thread of SD discourse, namely Corporate-Environmentalism. Some of these corporations have established subsidiaries in the region of Juarez/El Paso. As will become clear, however, differences exists between what the their codes of conduct proclaim and the discourse and practices of their subsidiaries in developing countries (see Utting et al, 2002).

As showed in Table 6.4 (above), the majority of EMs in the sample claim their companies have incorporated the SD discourse in their everyday language and correspondingly had developed their own environmental principles or codes of conduct, or were working in that direction. Moreover, like their head offices, these maquilas also mention such principles as proof of their green practices. The following examples show the environmental and SD principles of three different maquilas operating in Juarez. General Motors (GM-now Delphi) developed its own environmental and SD principles, which state that:

> As a *socially responsible* [emphasis added] business, General Motors is dedicated to protect human health, natural resources and the global environment... Our dedication to the environment goes beyond environmental law compliance, to enhance practices that assure the environmental protection of our everyday decision-making. The following environmental principles serve as guidelines for the General Motors personnel around the world:
> a. We are committed to reduce waste and pollutants
> b. We will continue to develop and implement new technologies that help us to minimise pollutants
> c. We will continue to participate actively in public education on natural resources conservation
> d. We will continue to work with government agencies in the development of environmental laws and regulations
> e. We will continue to evaluate the impact of our plants and products on the environment and on the communities we live and operate in with continual improvement as a goal (1-EM/J, 1999; for a copy of the original see Appendix VII).

Other maquilas, notably those from the automotive sector, like Coclisa (now Visteon Technological Centre) also developed their own environmental principles, which

emphasise ISO 14000 standards as a guiding framework (a key element of Corporate-Environmentalism). Coclisa's principles state:

> In Coclisa we are committed to implement and operate our environmental
> system under the requirements of ISO 14001, and to identify, administer
> and control significant environmental aspects within our operation, such
> as:
> 1. Efficient use of water resources
> 2. Emission control of plant operations
> 3. Reduction, re-use and recycle of waste and packages
> 4. Increase the efficiency of the use of energy and conservation of natural
>   resources (6-EM/J, 1999; for a copy of the original see Appendix VI)

The environmental principles of maquilas in the electronic sector tend to focus more on technical and legalistic aspects, as the principles of a subsidiary of Phillips based in Juarez shows:

> Phillips APM Juarez establishes viable technical and economic objectives with
> the purpose of optimising the environmental performance of the products,
> services and activities of our organisation... (17-EM/J, 1999).

The environmental and SD codes of conduct and principles of these three BGs differ in form and content, but resemble each other in a number of ways, including self-regulation mechanisms, efficient management of resources, recycle of waste and materials, and *continuous improvement*. Clearly, these three BGs (like the majority of the BGs sample examined in this chapter) include key elements of Corporate-Environmentalism in their principles. Only one of these three BGs marginally introduced elements of Ecologically-sustainable-Development, claiming to be 'socially responsible' and mentioning 'active participation in public education on natural resources conservation.' The findings presented in the sections that follow show that some BGs had not introduced SD discourse into their principles or had not developed any environmental principles at the time when the interviews were conducted (1999). For example, two EMs working for subsidiaries of two different American electronic corporations explained:

> We still have not developed what you would call environmental principles of the
> company. We are part of a big corporation, and it really depends on what they
> want us to do and when. We do care about the environment, but today our focus
> is on security. We are working very hard to prevent accidents and to provide
> security for our people (30-EM/J)

> We haven't established internal environmental policies or principles. We will do it
> in the near future, I suppose. Our environmental policy will be available for the
> public and will be based on continuous improvement (10-EM/J).

The ideas underpinning the SD discourse and practices of BGs in the region can thus be outlined as follows:[195]

    a. *Elements of Ecologically-sustainable-Development*

    b. *Continuous Improvement and Self-regulation (ISO 14000)*

    c. *SD is not yet incorporated; focus on compliance with environmental regulations*

The responses of EMs to the fieldwork guide also illustrate how the SD discourse and practices of BGs in the region differ, and what they have in common, in terms of sector, country of origin, and number of workers. The automotive industry in Juarez, to take one example, has responded to government and public pressure in a more pro-active way than the electronic industry. One EM explained that:

> ...the automotive industry around the world has been relatively under stronger public pressure than the electronic sector in terms of their environmental performance...It appears that the electronic industry has been able to maintain a slower pace in the introduction of environmental changes (3-EM/J).

a. Elements of Ecologically-sustainable-Development

At a global level, the Brundtland definition of SD has been prominent within SD discourse. This definition, a key element of EsD, has become a useful basis for BG responses to environmental problems at the global, regional and local level. One of the most common criticisms of the Brundtland Commission's definition of SD, however, has been its ambiguity. The Brundtland Commission aspired to bring together economic growth and environmental protection in one concept. The outcome, however, was a 'catch-all' concept, which furnished BGs (among other groups) in the developed and developing world with a comfortable basis from which to pursue their interests. The Brundtland definition of SD and other elements of EsD have been further modified by BGs in line with their interests. BGs have captured the Brundtland definition of SD and other elements of EsD and created their own version of SD discourse, namely Corporate-Environmentalism. These conclusions are supported by the responses of EMs to the question: *From where did your business get the idea of SD?*

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[195] The fieldwork guide included questions regarding the personal opinion of the interviewee with the intention of distinguishing between the business position and the environmental manager's personal opinion. Only a couple of EMs expressed a personal point of view; the rest stuck to the official position. Confidentiality was offered at the beginning and during the interview.

Only a few of the EMs interviewed explicitly connected their company's version of SD discourse to the Brundtland Commission definition in *Our Common Future*. This is less than surprising, given that during the 1990s, attempts to unite social/development and environmental issues in one concept had trouble getting off the ground in the face of a hegemonic Corporate-Environmentalism. Two EMs working in medium sized maquilas in Juarez provide good examples of how the Brundtland definition of SD, along with other elements of Ecologically-sustainable-Development, have made it into the SD discourse and practices of a few BGs in the region. The Brundtland definition was quoted by only five of the thirty-one EMs in the sample. Two EMs identified the source of their companies' concept of SD as follows:

> ...From the definition given by the Brundtland Commission in 1987, from the UN. It comes from a concern at the global level. That's where we get the idea from...From the final report [of the commission] named Our Common Future (23-EM/J)

> Yes, [SD is part of our everyday language] and we define it, as it is known world wide, and that is to develop activities in accordance with present needs, without affecting the activities that will be required by future generations (15-EM/J)

One possible explanation for these EMs' awareness of the Brundtland definition is their training in environmental issues; most important of all, though, appears to be these particular EMs' genuine interest in environmental and social issues.

These two EMs who quoted the Brundtland Commission had previously worked for government agencies. Most of their training in environmental issues came from workshops and other activities organised by the government agency they worked for the Office of the Attorney General for Protection of the Environment (PROFEPA). Mexican government agencies have organised workshops with their American counterparts including the US Environmental Protection Agency (EPA). These agencies tend to quote the Brundtland definition of SD, which has been constantly referred to by different national environmental programmes and various international agreements, including those derived from the Earth Summit. Various workshops on environmental law and SD organised by EPA in Washington DC (and international organisations such as the UN) have been attended by Mexican and American government officials.

Moreover, EMs who were ex-government officials appear to have a different personal history and deploy a different SD discourse from EMs who have always worked in the industrial sector. Ex-government officials had attended various seminars and courses on

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environmental law and SD, environmental economics, and technological innovation. The following example clarifies this:

> Well, as part of my training in PROFEPA, I took a course named Technologies for a Sustainable Future. This course was taught at the EPA's Training Institute in Washington, D.C. In this course we reviewed the Brundtland definition of SD and other aspects of SD including the benefits of changing to environmentally friendly technologies (8-EM/J).

This group of EMs, as will become clear late in the chapter, tend to be more critical of both government and BG SD discourse and practices; they display greater social awareness and also appear frustrated with their limited responsibilities.

These EMs linked the Brundtland definition of SD to that of their maquilas; this often reflected their personal views, rather than the SD discourse officially promoted by the company (which generally includes concepts such as continuous improvement, eco-efficiency, resource management, and pollution control/management). The personal opinions of these EMs, however, do not pose a threat to the ideas and practices of the maquila, since the EMs lack the power to influence the decision making process of the company.

Some argue that more and more BGs will incorporate EsD into their practices (Elkington, 1998: 34-36); the question of how they do so is a key issue. A number of social scientists have analysed in detail the contradictions inherent in BGs' efforts to address environmental and social problems within global capitalism (Redclift & Benton, 1994: 123-139; Sklair, 2001: 185, 211). Sklair (2001: 184-191), for example, argues that global corporate citizenship is 'an intrinsic feature of globalising corporations' and that citizenship efforts by major corporations include issues such as corporate philanthropy, community development and the health and safety of citizens. Sklair reports that more than 100 major corporations have published corporate citizen reports mainly addressing the environment and corporate giving. He examines the Shell Report of 1998 and notes that the company wished to publicise the report as much as possible—probably as one more PR strategy and in response to past scandals such as the Brent Spar incident.

A growing number of businesses are clearly incorporating Corporate-Environmentalism into their ideology, policies and operational structures; this has promoted better waste management, eco-efficiency and pollution control.

b. Continuous improvement and self-regulation (ISO 14000)

The proactive involvement of BGs in environmental issues has included the promotion of self-regulatory mechanisms and voluntary initiatives aimed, in the words of many EMs, at going 'beyond the law.' Most of the EMs interviewed in the region of Juarez/El Paso claimed that the goal of the company they work for is 'to go beyond environmental law and regulations' and to follow higher international environmental standards, particularly those set by the International Standards Organisation (ISO). As will become clearer below, voluntary certifications such as ISO and its environmental standards represent another highly influential strand in the construction of the SD discourse in the region of Juarez/El Paso, a key part of the local greening of business, and a central idea behind Corporate-Environmentalism.[196]

Based in Geneva, the International Standardisation Organisation (ISO) is a widely known federation incorporating more than 100 companies. To manage the environmental aspects of its members' operations, the ISO developed a set of standards called ISO 14000.. This voluntary code was published in 1996 and includes environmental management systems, eco-labelling, environmental auditing, life cycle assessment, environmental performance, continuous improvement and reports on environmental impact (Pezzoli, 2000: 58-59). The number of companies certified by the ISO 14000[197] continues to grow. The ISO 14000 information centre reports that the total number of organisations certified worldwide increased from nearly 3,000 in 1996 to more than 10,000 in 1999.[198] ISO certifications are, however, still few and far between in the developing world. Whilst most of the EMs working for maquilas in the region of Juarez/El Paso stated that ISO 14000 certification is gaining ground within the maquila industry in Juarez, only two of the thirty-one maquilas visited by the present author in Juarez/El Paso had achieved ISO 14000 certification in 1999. The rest (with a few exceptions) were working towards it, since some major corporations require this for their suppliers.

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[196] As discussed previously, during the 1970s and 1980s Ecologism and Ecologically-sustainable-Development dominated SD discourse. For most of the 1980s, BGs responded to Ecologism and EsD in a defensive way by focusing on the compliance with environmental laws and regulations until they began to see the environment as a business opportunity and eventually Corporate-Environmentalism became dominant.

[197] Since 1996, ISO's standards have continued to be updated with certain elements to distinguish from one version to the other; as of July 2003, ISO 14000 has been updated to ISO 14004 (Information available online, see: http://www.iso.ch/iso/en/prods-services/otherpubs/iso14000/benefits.pdf).

[198] The ISO 14000 lists the registered companies in its web page: http://www.iso.ch/iso/en/iso9000-14000/iso14000/iso14000index.html (22 April 2001). Also cited in Pezzoli (2000: 59).

Even though many maquilas have not officially been certified with ISO 14000, they have adopted the concept of continuous improvement as a key element of their version of SD discourse. The majority of the EMs interviewed pointed out that their maquilas' SD principles or codes of conduct were based on the concept of *continuous improvement* of their environmental performance in order to achieve ISO 14000 certification. One EM, working for a maquila in the electronics sector, for example, explained that his company is simply following the trend:

> The only thing I can mention is that ISO 14000 is the trend, and the trend the company is following is to work towards implementing, in the case of the environment, ISO 14000 (21-EM/J).

Gereffi et al (2001:57) outline two key components within certification institutions, which can be applied to the ISO. The first of these comprises a set of rules, principles, or guidelines (or codes of conduct). The second is a reporting and monitoring mechanism (such as corporate environmental reports and/or social-environmental audits). Whilst these authors are right to draw attention to these two elements of certification institutions, a third, key element needs to be added to the analysis of voluntary certifications; it is also central to the dominant version of 1990s SD discourse. This is the concept of *continuous improvement*.

The concept of *continuous improvement* was first introduced in the Juarez maquila industry as part of a voluntary implementation of ISO 9000, a global quality standard certification. ISO 9000 standards preceded ISO 14000s, which incorporated the environmental and SD standards and also embraced *continuous improvement*. The ISO defined *continuous improvement* as a:

> ...Process of enhancing the environmental management system to achieve improvements in overall environmental performance in line with the organisation's environmental policy [i.e. voluntary self-regulation] ISO (2001: 6-7). [199]

The majority of EMs used *continuous improvement* interchangeably with the term SD. The EMs who stated that *continuous improvement* was a central part of their maquilas' SD principles shared two characteristics in their professional background. Most of these EMs had always worked in the industrial sector, specifically in the automotive and

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[199]   ISO definitions are available online: www.iso14000.com (ISO 14000 Definitions, 2001) and also see: http://www.iso.ch/iso/en/iso9000-14000/tour/plain.html (July 2003).

electronics sectors; their background and training had always been within the industrial sector (in some cases they had only worked for one company).[200]

> I've been working for this company for 11 years now. Since I started this profession (15-EM/J).

> I've been working within the maquila industry for approximately ten years...I worked for a different industry for eight years, and in this company I've been working for almost two years (23-EM/J).

The following remarks provide good examples of how the maquila industry uses the concept of *continuous improvement* interchangeably with SD:

> Well, we define it [sustainable development] as continuous improvement...and, continuous improvement certainly forms part of the philosophy of the plant in all aspects. In terms of quality, security and environment (12-EM/J).

> The concept that we would apply [for SD] would be that of continuous improvement...Basically, in Juarez this [continuous improvement] would be the name we give to sustainable development (9-EM/J).

> As of now, the idea of sustainable development does not exist as such [in this maquila], but the implementation of the ISO 14000 will help us to introduce the concept of continuous improvement or sustainable development (10-EM/J).

The concept of *continuous improvement,* along with voluntary and self-regulatory mechanisms (including ISO 14000), forms a key element of Corporate-Environmentalism. The responses of EMs detailed in this section show how BGs in the region of Juarez/El Paso have strongly promoted these aspects of Corporate-Environmentalism. Even if the majority of the maquilas in Juarez have not yet been certified under ISO 14000, their SD discourse and practices integrate voluntary mechanisms, and ultimately the concept of continuous improvement. It can also be argued that these companies promote various elements of the SD discourse (Corporate-Environmentalism) for general industry affairs at the local, regional and international levels but within the company their SD discourse is limited to continuous improvement.

The majority of EMs interviewed asserted that by the end of 1999, plants with ISO 14000 certification had paved the way for many maquiladoras in the region.[201] This group of EMs also stated that the trend within the maquiladora industry in Juarez is to

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[200] The two EMs quoted above have worked for the maquila industry in Juarez for between 10 and 18 years and their training in terms of environment and SD was provided by the maquila itself. This information derives from the CVs of EMs interviewed in the region. Before the interview I asked all the EMs in my sample for a CV, which was provided by most EMs.
[201] Pezzoli (2000: 59) reports that by 1998 a total of 2,800 facilities worldwide were certified to be in compliance with ISO 14000 The US ranked seventh worldwide with 460 certifications, Japan led with 2,124 followed by Germany (1,400) and the United Kingdom (947). Mexico was placed 30th with 48 certifications. Also see: (www.iso14000.com/, July 2003).

achieve ISO 14000 certification and to commit to its guidelines and standards even when these are, according to EMs, stricter than Mexican and/or US environmental law and regulations. It is, however, a tricky business to assess whether this is in fact the case. Some researchers have addressed the connections between national environmental law and ISO standards; they claim that these standards suffer weaknesses and inconsistencies, and are not necessarily more stringent that national laws and regulations. Pezzoli (2000: 59), for example, notes two central weaknesses of ISO's environmental standards: first, ISO standards do not require compliance with national environmental regulations; ISO only requires 'a commitment' to comply, a mechanism for identifying regulatory requirements, and a plan for compliance. Secondly, ISO standards only require that the environmental and SD policy statements - and not environmental operations or ISO environmental programmes - are made available to the public in general.

The maquilas certified with ISO 14000 standards (and nearly all the maquilas in the sample) claimed to have improved access to information as ISO 14000 requires. Written material on environmental improvements, including principles, codes of conduct, operational structures, and ISO standards requirements was requested during every interview. However, the only written material made available was the company's environmental policy and principles. I was asked to sign a book (or write a letter; the interview counted as one more 'access to information' statistic) as proof for ISO inspectors that the maquila was providing good access to information. Whilst it is too early to accurately assess the long-term benefits and limitations of ISO 14000 standards, it became clear during fieldwork that at the moment ISO 14000 is merely an administrative method that takes some environmental issues into consideration. BGs do not introduce ISO standards into their operations in order to improve the company's environmental performance and address the environmental and social problems of the region of Juarez/El Paso. BGs approach ISO 14000 certification to gain new clients and boost profits.

Some EMs confirmed this analysis. ISO certifications do result in specific environmental improvements (like efficient use of energy or reduction of emissions). However, these areas of improvement are far less significant than many maquilas claim, if environmental and social problems are regarded in a holistic way, as one interrelated ecological crisis. For example:

> I believe that in the future the trend will be that our clients will buy only products from the company that is certified on the environmental area. Therefore implementation of ISO 14000 is a business decision, it is only a business strategy. This is the way I see it (3-EM/J).

> Being certified with ISO 14000 is helping us to open new and more businesses with big companies. At the same time we are producing a green product, pollution-free...well, reducing pollution a little (22-EM/J).

The bigger maquilas and those with access to global markets are more interested in being certified with ISO 14000 than smaller companies. Size matters when it comes to ISO 14000 certifications. According to an EM working for a medium sized, US-owned maquila:

> Other maquilas in Juarez, smaller maquilas that produce components for bigger maquilas are not interested in such certifications, since they don't need it to sell their products abroad. These kinds of maquilas are mainly those that use chemicals in greater quantities... ISO 14000 certification is related to the size of the corporation (30-EM/J).

Self-regulatory mechanisms, continuous improvement, reducing polluting emissions and eco-efficiency are key elements of Corporate-Environmentalism. It should not be overlooked, however, that ISO standards are also part of the new proactive approach of BGs to SD discourse and that this approach has advanced some improvements in terms the introduction of new and green technologies, energy saving, recycling and emission control. BGs have become more proactive in identifying and implementing environmental solutions and have begun to abandon the 'end of the tube' approach that predominated during the 1980s. Delphi, as noted in the previous chapter, has set up a research centre in Juarez, which among other things aims to find new and less polluting materials (2-EM/J). These proactive efforts are however, clearly part of an attempt to build a greener image; they do not necessarily guarantee meaningful environmental policies, practices or the improvement of the environmental and social conditions of the Juarez/El Paso region. The remarks of an EM working for a maquila in the electronics sector sums this up:

> We emphasise that we are certified with ISO 14000. Our environmental policy includes one of the ideas that our corporate headquarters sell to our clients. This idea is that of a green product or a clean product. Our environmental policy states: "lets make a clean product at the same time as protecting the environment." These words reflect our commitment on energy savings, toxic waste reduction, of not using unlawful chemicals, to avoid polluting air, water and soil (17-EM/J).

The response of this informant indicates that the SD discourse and practices of his maquila (and of many others) is dominated by Corporate-Environmentalism. The

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majority of the EMs interviewed in the region did not associate the SD commitment of their maquilas with social and development related issues such as quality of life, eradication of poverty or environmental health.[202] It appeared that for the majority of industrial sector enterprises SD discourse is one more business strategy.

The majority of EMs in Juarez mentioned a second issue considered by the company when working towards ISO 14000: certification. The creation of environmental offices helped the maquila not only to open markets and win clients, but also to build a better, 'greener' image at the local, regional and global levels. The majority of EMs working for the maquila industry (no particular differences were found by sector, country of origin, or size) pointed out that building a 'green image' had helped change the (polluting, dirty) image the industry has had in the region in past decades:

> I think that the implementation of environmental policy has brought us benefits. First, in our image, in as much as it shows we are doing something for the community we work in. Secondly, it results in significant savings for the industry (18-EM/J).[203]

> We are not certified yet but we are aware of the benefits an ISO 14000 brings. It would help us to avoid problems with regards to the image of our company and it will give more security to our clients... we could open markets and win new clients with companies such as Nissan. These are very difficult corporations to have access to work with (16-EM/J).

The image of the maquila plants operating in the region changed from dirty to green during the 1990s. The maquila has always been connected to the border environment. The maquilas, particularly during the 1970s and early 1980s, were regarded as 'a necessary evil'. According to one EM, many border communities feel that the maquilas were responsible for the degradation of the region's environment and health problems (16-EM/J).

The majority of the maquiladora EMs reported that environmental and SD practices have had a direct effect on the maquila image at a global, regional, as well as local community level. Thus, having a *green image* helps BGs gain clients and increase their stock market value. At the regional and local level, EMs claimed that a greener image reduced labour turnover due to improved employee perceptions of environmental practices and working conditions.[204] It appears that maquila managers need to turn their

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[202] Most major corporations have published and promoted (at their headquarters) environmental and social reports.
[203] This maquila as well as others certified with ISO 14000 had big announcements on the walls indicating the date of their certification and their commitment to the environment.
[204] *Rotacion de personal* (Personnel Turnover) has been a constant problem for the *maquila* industry located along the US/Mexican border. This issue has been researched exhaustively; see for example Alba (1993) and De la O (1995).

businesses into proponents of the dominant strand of SD discourse, whether as a market strategy or due to a genuine desire to achieve 'real' SD in the region.

Different concepts of Corporate-Environmentalism appear to have influenced the views of the EMs interviewed on SD discourse. The remarks of the EMs that follow provide good examples of this and emphasise the importance of building a green image. EM responses to the questions *has your BG helped or damaged the environmental situation in the region?* And, *What advantages or disadvantages have addressing SD and environmental issues brought to your company, to the community and ultimately to the natural environment of the region?* were as follows:

> The most tangible benefit is that the image of our plant has improved dramatically among the community. This is very important for us... we communicate our environmental programmes through our employees, through our workers. But other important benefits we get from these programmes are significant savings for the company. Environmental programmes are translated into medium and long term savings. The insurance companies as a consequence also reduce their quotes… (10-EM/J)

> Well, in the first place one benefit would be that we show the rest of the community we are a clean company that doesn't pollute and to maintain the image of Johnson & Johnson at the local level because our plant doesn't have much influence at the international level (15-EM/J)

> There have been direct benefits in the operations of the company via the introduction of new technologies and also it helps our image. The authorities acknowledge our efforts and in that way they are not on top of us trying to create problems or trying to impose fines or things like that (3-EM/J).

Interestingly, one of the EM quoted above works for one of the newly established innovation, development and technological centres in Juarez, which is part of a major corporation.

At the national level, many BGs have been successful in promoting Corporate-Environmentalism as the dominant view within SD discourse. In 1994, the Mexican Business Co-ordination Council (CCE – *Consejo Coordinador Empresarial*) created Business Commitment with the Environment and Sustainable Development (CESPEDES – *Compromiso Empresarial con el Medio Ambiente y el Desarrollo Sustentable*). CESPEDES promotes 'mechanisms that facilitate the environmental actions of 1.2 million companies of diverse size (micro, small and medium) that are responsible for 98 percent of Mexico's economic activity' (CCE & CESPEDES, 1998: 7). CESPEDES advocates (or promotes) mechanisms such as tax breaks, lower import

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Whether a corporation's green image has had a direct impact on annual rates of *rotacion de personal* in the maquilas in Juarez/El Paso remains unclear and a good area for research.

duties, deregulation, and simpler administration. CESPEDES's local expression in Juarez is the *Asociacion de Maquiladoras* (AMAC) *Environmental Committee*. The Environmental Committee of AMAC also encourages its members to work towards ISO 14000 certification.

Some plants in Juarez appear to be taking the ISO standards very seriously and stated that their aim was to go beyond national environmental law and regulations. An environmental engineer working for a subsidiary of one of the largest global electronics corporations argued that the ISO standards are higher than national environmental regulations, and that having an ISO 14000 certification proves that a plant is truly committed to the environment.[205] The explanation of one EM summarises this point:

> We put emphasis on our ISO 14000 certification which means environmental improvements. We organise environmental days, competitions in the lines of production – so that workers clean and maintain their production line. We do this once a year and we donate a certain amount of our products such as TVs, blenders, irons and some other of our products as incentives. We also distribute trees that the government give us once a year and that day we also distribute all kinds of souvenirs as an incentive for people to co-operate to maintaining a clean environment and we also encourage the workers to learn our environmental principles. They carry a copy of our principles around their neck everyday to make it easier for them to learn. In sum, we go beyond the requirements of the Mexican law (17-EM/J).

However, ISO 14000 certification does not necessarily mean that the maquilas will improve their environmental performance and SD practices. Moreover, many unanswered questions remain about voluntary certifications like ISO 14000. For instance, it is not clear if the standards are compatible with environmental law, or whether the mechanisms to assess compliance are strong enough to force industry to improve its performance, in either Mexico or the US. None of the maquilas that form part of the BG sample examined in this chapter subscribed to PROFEPA's Voluntary Environmental Audits Programme, even if they had gained ISO 14000 or plan to do so.

According to EMs in Juarez, ISO 14000 certification improves the environmental image of the industry (both at the local and global level), opens up new avenues of business, helps keep clients and reduces worker turnover. One EM, however, pointed out that out of the ten plants his company runs in Juarez, only one has been certified with ISO 14000; the rest were still working towards it, and no precise dead-lines for certification

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[205] The EMs working for ISO 14000 certified maquilas interviewed, asked me to sign a book or write a letter confirming I had a meeting with them and was provided with the information I requested. This letter, EMs explained, is to keep a record of who and how many people request and have been given access to information. Moreover, the records are kept for presentation by them during ISO 14000 audits. Nevertheless, certain information was not accessible, particularly around the issue of toxic waste.

were available (3-EM/J). An EM working for one of the largest global motor corporations stated that ISO 14000 certification does not necessarily mean total compliance with national environmental law: certification by the global business community is prioritised over certification by local (national) authorities:

> As of now none of our plants have been certified with ISO 14000. In my view, ISO 14000 is an administration system that on the one hand, it is true, does not assure environmental law compliance. On the other hand, its aim is to support the business activities towards the environment. The business dimension is also related to the implementation of ISO 14000 (3-EM/J).

The quotations above show that maquila industry implementation of ISO 14000 (and other self-regulatory mechanisms and voluntary certifications) is an attempt to enhance business strategy, 'green' the company's image, open up co-operative channels (or partnerships) with local and federal government and boost finances. The key elements of voluntary certifications ('green' image, partnerships, and continuous improvement) are also central to Corporate-Environmentalism. None of this group of EMs mentioned development-related issues, except for health and safety issues (as required by government agencies); the industry has been subject to severe criticisms of its health and safety record. BGs in the region of Juarez/El Paso (and around the world) have been urged by different groups, including governments and NGOs, to improve health and safety measures and update the inadequate equipment provided to their workers. Today the health and safety office in the majority of maquilas is linked with, or has been 'upgraded' to the environmental management office (see below).

c. SD is not yet incorporated; focus on compliance of environmental regulations

As shown in Table 6.4 above, six EMs of the BG sample, which represents nineteen percent of the total, asserted that the term SD *is not* part of their maquilas' everyday language, nor does it feature in their principles, mission statements or policies. When asked if SD was part of the everyday language of the maquila he works for, the environmental & safety co-ordinator of the Mexican branch of a global battery maker in Juarez responded that he did not know the term SD:

> What do you mean by sustainable development? To be honest, I haven't heard it before, maybe we are applying it but we call it by a different name, but I don't know what you mean by sustainable development (21-EM/J).

The environmental co-ordinator of a large American corporation that produces vacuum cleaners commented:

> Here, within the company, we don't talk about sustainable development. But, I do understand the concept, what it is about...it is the combination of the economy with the environment, how do we protect the environment without stopping the economic growth in our country (30-EM/J).

An ex-government official now working for a subsidiary of a large transnational automotive corporation stated emphatically:

> SD is part of the language of politicians. The industry doesn't really use the concept. However, the direction taken by big corporations is pushing the rest of the industry to participate through recycling, reuse, repair and recover. But what for? It is not to protect the environment, but to protect their economic interest, to recover what they had invested...SD no, not yet. First of all people don't understand it. So, it is not part of our language, our conversations, and even less of the manager's language. Here, we are still discussing the quality of the products we produce. Moreover, I think there isn't the sensibility needed to ask: "well, what is the impact of our business on the natural resources of the area." What I am trying to say is that a lot of people still think: "we don't have an impact [on the environment], because I am complying with the norm (22-EM/J).

Interestingly, one of these respondents works for a maquila that is a subsidiary of a large transnational corporation that produces batteries. The CEO of the corporation have claimed that the company is leading the way in SD. Moreover, the corporation is an active member of the World Business Council for SD (WBCSD- discussed in chapter 2). This case illustrates the gap between the corporate rhetoric (or environmental PR) of SD and the concrete SD practices of their subsidiaries in developing countries. The response of the following EM, working for the Mexican operations of a large global (electronics) corporation and WCSD member is illuminating:

> 'The focus of our industry at the corporate level is to reach an optimum point in terms of the environment, that our personnel reach this point and all of them are aware of what they are doing. But we haven't implemented this policy yet. It is simple, on environmental issues we are 20 years behind the US (9-EM/J)

One EM stated that the environmental and SD principles of their maquila derive directly from the corporate headquarters, and that the term SD has not been yet incorporated into the philosophy of the maquila in question. The remarks of this EM in Juarez explain why, in his view, SD has not been implemented in the first place:

> In my view... it is necessary to re-educate some business executives on environmental issues and SD. Some business executives do not understand the concept and what they do is to profit from it. They make profits with the system and the idea of SD but in reality they don't add anything for a sustainable future (8-EM/J).

Corporate-Environmentalism has been *commercialised,* to present the outside world with a particular image; it has been promoted in the style of a political campaign to win votes and the trust of the community. Even though many BGs have developed their own environmental principles and definitions of SD, and established a more proactive approach to environmental problems, BG practices at the local level are far removed from the corporation's rhetoric and from the environmental and social reality of the region. Taking SD discourse as a framework for BGs' SD practices, corporate executives have also proposed that business can lead the way to SD at a global level. However, the gap between corporate policies and those of at least some of their subsidiaries smacks of lack of commitment and meaningless corporate PR. As this chapter has demonstrated, the SD discourse promoted by BGs is dominated by Corporate-Environmentalism. The remarks of one EM capture this:

> If you look at developed countries, industry there plays its part in conserving the local environment. Furthermore, the citizens themselves pay for conserving the local environment, it works differently here in the Third World and I guess the differences also exist between how they work in our headquarters offices and us here in Juarez (29-EM/EP).

The strong influence of the Corporate-Environmentalism approach has made of key elements of the SD discourse a set of 'freely-exchangeable (tradable)' ideas; these ideas constitute the 'right path' to follow to solve the environmental *problematique.* The effect of Corporate-Environmentalism has been to diminish the importance of the ecological crisis, social justice, democracy, development (other than economic growth), environmental justice, and ethics. The EM whose personal opinion differs from that of their companies argued that the introduction of the SD discourse in their policies and principles is merely a business decision. The majority of the EM were sceptical about the possibility of prioritising other ideas within SD discourse, including EsD and Ecologism. The quotes that follow provide good examples:

> No. I think the time scale for [achieving] the idea of sustainable development is too long, and here [in the maquila] you do not look at benefits in the long term. Sustainable development is not a very good idea in business, ...the idea that I have about business is much shorter in terms of the time of we want to see the benefits now. We [businesses] want to have immediate pay back. Yes, we don't want to spend money right now so that in 20 or 50 years from now they get it back. We [businesses] want to have a return on the investment within five years more or less. So, that is the difficulty in entailing the idea of sustainable development. Here we [businesses] are so fast paced that an idea like sustainable development is kind of a long, long concept, it is hard to sell and hard to make people buy into it. That is my personal opinion (25-EM/J).

> I'm inclined to agree with that philosophy [sustainable development]. I don't agree with the idea that social, economic or industrial development has to be halted so

as not to affect the environment. I'm more inclined to agree with continued development that incorporates the environmental question at every stage. I don't agree with the idea, for example, that argues not to 'build a tourist development in *Barrancas del Cobre* because it will affect...' I mean, because of the fear that the ecological concerns and the question of the local indigenous people's identity will be affected. I believe that that area should be developed... (29-EM/EP).

Corporate-Environmentalism has some (limited) positive effects on environmental performance, particularly in reducing air emissions and improving solid and toxic waste management. It is also true that more and more BGs are focusing on environmental law compliance and enforcement, pollution control, and clean technologies. However, this does not necessarily mean that environmental and social issues have been or will be addressed meaningfully. The dominance of Corporate-Environmentalism in the SD discourse and practice means that the link between environment and development has not been seriously established.

It is more likely that larger companies will continue to promote various aspects of Corporate-Environmentalism, whilst small businesses struggle to improve their environmental performance, or are too busy surviving in the global market to pay attention to environmental issues. The majority of EMs working for small BGs in the region stated that their businesses were now more concerned with environmental compliance, environmental performance, and health and safety issues than they had been in the past. On the other hand, this group of EMs argued that the lack of environmental services and environmental infrastructure in the city of Juarez impedes environmental management within the maquila industry. One EM claimed that small businesses face obstacles in trying to comply with environmental legislation:

> For example, if we talk about biological waste, it is really discouraging that there is only one company in Juarez authorised by PROFEPA for its management. In fact, there are two companies authorised by PROFEPA for biological waste management, and you can't really rely on either of them. Both have very bad records and they have a monopoly in the market. Plus these two companies don't have the infrastructure; they don't really provide the service. The problem is not being resolved (8-EM/J)

Section 3

Mobility of Environmental Managers

During the fieldwork it became evident that the SD discourse of EMs varied according to level of specialisation, previous jobs, size and importance of the environmental office within each business or organisation. The professional background and training of the EMs interviewed in the region of Juarez/El Paso diverged and overlapped in ways that cast light on the present work's central concerns.

Whilst the majority of EMs interviewed had been trained as industrial engineers, two professional pathways dominated: [206]

1. ***Fast-Track environmental professionals:*** Careers within the industry; sometimes EMs have worked for the same company for years.
2. ***Ex-government Officials or mixed career:*** Refers to those engineers that have had a mixed career, moving from one occupational group to another. In this case, EMs had moved from government agencies to work within the industrial sector, displaying both horizontal and vertical mobility.

1. Fast-track environmental professionals.

Fast-track EMs refers to EMs who have only worked within the industrial sector, and were not hired specifically for the position of EM (or equivalent). These individuals were *up-graded* to EMs from a variety of positions within the maquila. Such EMs tend to have been working for the company for more than two years; companies with such environmental offices tend to be active in health and safety, industrial management, building management and security, and human resources. These EMs (fast-track environmental professionals) perceived SD quite differently from the second group (ex-government officials), who had previously worked for the government.

In the late 1980s, when NAFTA negotiations were taking place and the Mexican General Law for Ecological Equilibrium (*Ley General Para El Equilibrio Ecologico* - LEGEPA) was enacted, BGs all over Mexico were under pressure to comply with new environmental law and regulations. Soon after, BGs began to establish environmental

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[206] A third, but little explored route could be the *Academic Route. S*ome EMs (engineers) have opted to do a post-graduate degree in environmental management or related issues (MSc, Diploma or short courses and/or seminars) as a means of getting a job within the industrial sector. The local university, *Universidad Autonoma de Ciudad Juarez* (UACJ), opened the MSc in Environmental Management due to local business demand in the mid-1990s and began promoting this course among the EMs of the maquila industry (19-NGO/J).

offices and departments to deal with such regulations and take care of the necessary paper work. Most of the EMs interviewed worked in environmental offices created by maquilas between 1990 and 1995. In the majority of cases, the fast-track promotion of an employee to EM was linked to the creation of an environmental office, as BGs moved quickly to avoid falling foul of new regulations. As three EMs explained:

> I have been working for this company for two years now and I have been in this position only for a few months. I was the System Security Engineer, which means that I was responsible for building maintenance, fire security systems and so on and I was promoted to the position of Co-ordinator of Security and Environment, which is a new position in this plant. Therefore, I keep my previous responsibilities plus all the issues on environment and health and safety (30-EM/J).

> This plant was built 12 years ago and I had been here for seven years. I was first responsible for the building maintenance and approximately three years after I began working for this company I was given the position of Environmental Manager (10-EM/J).

> This office was created in the early 1990s. Basically, since the new General Law for Ecological Equilibrium and Environmental Protection (LEGEPA) was enacted. I am responsible for the environment and health and safety issues (12-EM/J).

Many of the fast-track EMs had not been specifically trained for this new position and had a lot of catching up to do with environmental related issues. The two quotes that follow provide good examples of this point:

> I was not trained as environmental engineer but I am a chemical engineer and it is easy for me to manage emissions. I started working here in 1984 in the chemical area and in 1993 and was promoted to environmental engineer. I continue working as such (9-EM/J).

> When I started working in this position I didn't know much about what it was all about. So, I began to visit other maquilas where they explained what the system was like. It was then when I began to know what my work would be like (30-EM/J).

The creation of fast-track EMs, the lack of training, the workload and the pressure to keep up and comply with the new environmental legislation influenced the SD discourse of EMs in the region of Juarez/El Paso and potentially affected the natural environment of the region. Almost without exception, fast-track EMs quoted *continuous improvement* as the concept they would use to define SD; their views on SD had continued to develop along the same lines, deeply embedded within Corporate-Environmentalism. It is not always clear however, if EMs omit EsD in their comments on SD due to a lack of information about the links between environmental and development issues, or because of a genuine belief that continuous improvement, eco-efficiency, and reduction of emissions are solving the environmental problems of the region. To examine this

further, it would be necessary to follow up on the interviews and research the personal opinion of EMs. Fast-track EMs, in any event, did not mention the social and environmental crisis (EsD and Ecologism), which some observers believe exists in the region (Garza, 1996; Sanchez, 2000; GAO, 2000; Ward, 1999).

Fast-track promotion to EM appears to be a common practice among BGs in the region. In some cases, security and health & safety employees are 'promoted' to EMs by simply adding to their responsibilities the environmental paper work (for example, if an EM's previous position was as Health and Safety Co-ordinator, the new position would be Environmental, Health & Safety Co-ordinator). Their main responsibilities regarding environmental issues, as emphasised by some EMs, are related to legalistic aspects of environmental protection. One EM's story is instructive:

> I have worked for big companies such as Pfizer, Singer Mexicana and a
> very large transnational corporation as Plant Engineer Manager. In the latter
> I was promoted to the position of Safety, Environment and Plant Manager.
> Now I'm also responsible for the environment (13-EM/J).

In a few cases, a new department or office was created specifically to deal with environmental issues, and environmental experts were hired to run it. One interviewee commented:

> This office is new, it was created in April 1998 and I am the first person to
> occupy this position. I am now officially responsible for all the paper work
> with the Labour Ministry, Environment Ministry and for PROFEPA (30-
> EM/J).

The responsibilities of the majority of EMs working for the maquila industry in Juarez/ El Paso involve taking care of paper work relating to the existing Mexican or US environmental laws and regulations. The maquilas that have developed environmental and SD policies have established an environmental office as part of their commitment to ISO 14000 standards, but also as part of a PR strategy to burnish their image and establish a better relationship with local government. The maquila response to the enactment of the Mexican General Law for Ecological Equilibrium and Environmental Protection (LEGEPA), along with the creation of environmental offices and fast-track EM promotions contributed to the greening of the maquilas' image and promoted key elements of Corporate-Environmentalism, such as self-regulatory mechanisms and partnerships.

Government officials often move into the industrial sector because BGs pay almost twice as much as government agencies and offer better career opportunities. According to an EM (ex-government official) the industry benefits from hiring government officials, since they know about environmental legislation. One EM (ex-government official) explained:

> In the 1990s, the industry here gained legal expertise in hiring people like me, with more experience. So that we can deal with environmental legal issues, comply with the law and defend the industry from criticism (22-EM/J).

The late appearance of environmental offices, EMs and SD discourse within the maquila industry is a response both to pressure from government agencies and public opinion.[207] However, whilst environmental law compliance has improved in some areas, the state of the environment and social problems in the region of Juarez/El Paso continue to deteriorate (Garza, 2000; Sanchez, 2000; Ward, 1999; and chapter 5 above). Water quality and quantity, for example, continue to be critical problems, and are intrinsically connected to other environmental and social problems, as discussed in the previous chapter.

Environmental offices are inserted into different levels within the maquilas' organisational structure. This is revealing. Generally, in small and medium sized maquilas, environmental offices are placed two levels under the General Manager (see Figure 6.1 below). However, no specific rules govern these decisions. Environmental offices in small and medium sized maquilas are typically located within Health & Safety, Labour & Security, Maintenance Management or Human Resources Management. Figure 6.1 shows the location of an environmental office within the organisational structure of a maquila; this is a typical example.

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[207] After almost two decades of public complaints about the maquilas' detrimental effect on the health of the population and the natural resources of the region; for example: Sklair (1994a), Kochan (1989), and Mumme & Nalven (1988).

Figure 6.1 Typical structures: small and medium sized maquilas in Juarez/El Paso
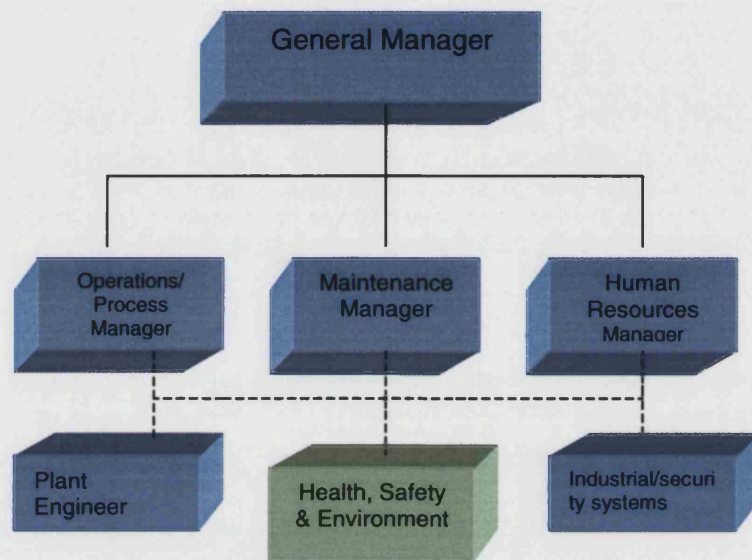
Source: Fieldwork interviews with Environmental Managers in Juarez/El Paso, 1999.

According to several EMs, environmental departments in this type of maquila are frequently under-staffed and under-funded. Whilst EMs may or may not be genuinely interested in environmental issues, their position within the maquilas' organisational structure usually limits their ability to influence SD discourse and practices. According to one EM, working for a medium sized maquila in Juarez:

> I think that the place my office is located within the organisational structure of the maquila is a disadvantage. I report directly to the Human Resources Manager and my job at the beginning was related to labour security and environmental issues were just added, and I mean only the legalistic stuff. I agree with those who argue that the environmental area should depend on the Operation and Engineering Processes Department. Here [in Human Resources] there is little knowledge and no contact with what is really happening in the maquila in terms of new processes, changes in the production lines, and new technologies... What I really have to do is to look for people, for support, in the cleaning department, because there is only me in this area and I am responsible for different programmes including health & safety, security, induction and training programmes for workers. It is a lot of work and not all of it is related to what I am supposed to be doing (25-EM/J).

The remarks of the EM quoted above capture some of the limitations that EMs face in trying to carry out their duties, and the lack of clarity about their role. In big maquilas, environmental offices tend to be placed one level under the General Manager, to whom

EMs report directly. EMs working for big maquilas face fewer limitations on their work, have more personnel and financial resources and deal with various aspects of the environment, including the introduction of new technologies and processes. A motor maquila in Juarez, for example, has a large environmental department divided into different offices including legal, waste and emissions management, new materials and environmental processes; even if half of the positions (and physical spaces) designed as part of the environmental department if this maquila were still empty at the time of the interview, the size of the environmental department improves its environmental image within the company itself. Usually, such maquilas have been certified or are working towards ISO 14000 certification; EMs are responsible for following up the implementation of ISO 14000.

2. Ex-government Officials

EMs and those working for local government or NGOs tend to move from one institution/organisation to another. Such mobility occurs in different ways and at different stages of a professional career. Government officials, for example, tend to move more frequently into the business sector at an early stage of their careers. However, those officials who reach a 'top' position within a government agency (or agencies) tend to look for jobs as environmental consultants within government as well as industry.[208] NGO members and directors move to other sectors less often; some within different NGOs, however, have established strong links (partnerships and associations) with BGs and local government.[209] EMs do not often move into the government or NGO sector. The few who move into the governmental sector tend to do so at the later stage of their professional careers. Only one out of the twenty-one government officials interviewed had worked for the industrial sector before, whilst six out of thirty-one had worked in the governmental sector before moving into industry.

Only one of the interviewees had moved from industry into government. This ex-environmental manager moved at a late stage of her career and was promoted to a senior position in a government agency. This informant explained that she had taken her career within the industrial sector as far as it could go:[210]

> I worked for General Electric for 10 years, and for Bayer-Mexico five years. My career within the industrial sector was mainly in the area of processes and environmental security, but I reached the top position in my career within the

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[208] The mobility of government officials is analysed in detail in chapter 7.
[209] The mobility of NGOs members is analysed in detail in chapter 8.
[210] It is worth mentioning that the majority of EMs are men and this ex-EM is one of the two women interviewed.

industry. This office was created in 1999 and it was then when I was offered this position. My salary here is almost equal to the one I had in the industry, but my position is better here. I have more responsibilities now (21-GO/J).

One GO working for an environmental agency in El Paso reported that those EMs who reach top positions within the industry tend to move into environmental consultancy firms or create their own firms to provide environmental services to local industrial and governmental sectors:

> Some [EMs] create their own business on environmental issues... like environmental consultancies when they retire and now they are making very good money, both with government agencies and the maquilas (4-GO/EP).

The mobility of EMs at the second and third stages of their professional career is illuminating: senior professionals appear to influence the development of SD discourse in the region most. It is senior professionals within the industry, government and NGOs who frequently participate in cross-sectoral forums such as the Air Task Force Group or Joint Advisory Committee (JAC),[211] and who influence policy and decision-making in the region.

Section 4

BG categorisation of the state of the environment in the region of Juarez/El Paso.

The Brundtland Commission's definition of SD attempted to lock environment and development issues into a single formula, so that the ecological crisis could be tackled holistically. The SD discourse and practices of BGs provide evidence of the growing gap between environment and development, that is, between EsD and Corporate-Environmentalism. Corporate-Environmentalism promotes the idea of an *environmental problematique, thus* rejecting the idea of one global ecological and social crisis. Instead, the *environmental problematique* evokes a series of environmental problems that can be dealt with separately. This section explores the BGs' (and EMs') categorisation of the state of the environment in the region to identify where it lies on the holistic ecological crisis-*environmental problematique* continuum.

The majority of EMs described the state of the environment in Juarez/El Paso in terms of discrete problems, with specific causes and specific 'managerial' solutions. Such

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[211] See previous chapter for a detailed discussion on bi-national environmental co-operation mechanisms.

environmental problems include water quality, air pollution, toxic waste management and recycling. Sklair (2001), in his analysis of the globalisation of corporations, argues that the transnational capitalist class, through the *sustainable development historical bloc,* works towards deflecting and dissolving the idea of a single ecological crisis, and divides it into a series of managerial environmental problems. In his words 'The main ideological and practical tasks of the members of this bloc are to deflect attention from the idea of a singular ecological crisis and to build up the credibility of the idea that what we face is a series of manageable environmental problems' (Sklair, 2001: 207).

This argument is supported by the interviews carried out with EMs in the region of Juarez/El Paso. Environmental problems in the region were categorised by environmental managers as manageable problems with different degrees of 'complexity', ranging from critical to non-problematic. Figure 6.2 shows that more than 90 percent of the environmental business managers interviewed in El Paso did not mention the word crisis in response to the following question: *How would you characterise or qualify the environmental situation of the US-Mexico border and specifically in the area of Juarez/ El Paso?*

Figure 6.2 BG's categorisation of the border environment, 1999
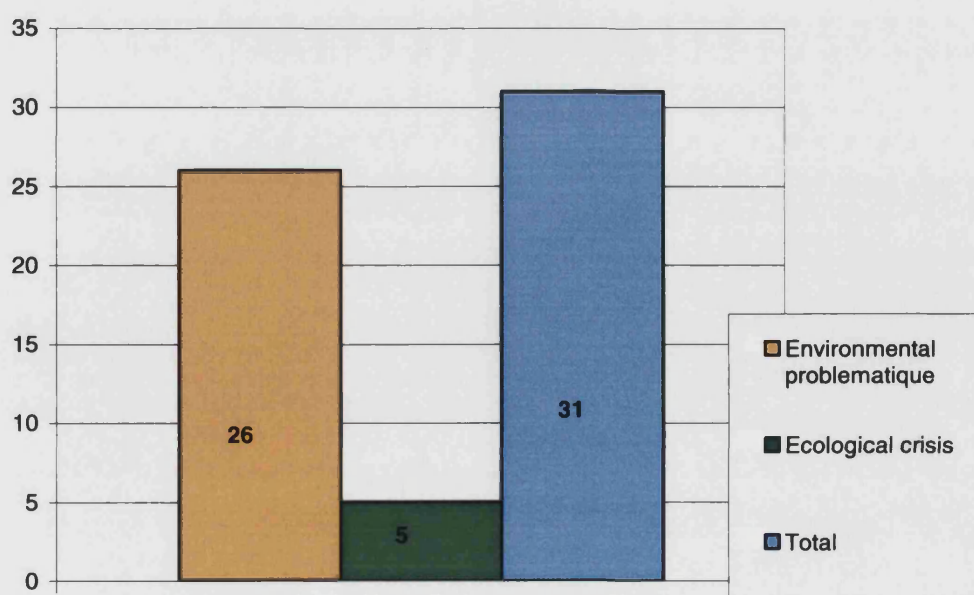
Source: Field-work Interviews, 1997 & 1999

The answers to the above question were diverse. Environmental managers characterised the environmental situation in the region (specifically in Juarez/ El Paso) as:

1. Problematic in some areas
2. Serious
3. Not serious and Under control
4. Getting better

Only five out of the 31 EMs (or 10 percent) interviewed believed in an ecological crisis, and 60 percent of all EMs interviewed believed the environmental situation was 'not serious'. EMs from the *maquila* industry maintained:

> Without falling in extremes I think that we should only keep working on it. The real problem here is water (3-EM/J).

> The situation is good in terms of the environmental performance within the industry, we [the industry] don't have any problems. I think that at the most there are 10 companies that are not complying with the law, but the rest are under control. One problem is air pollution, but the cause of this problem is the number of cars and the traffic (11-EM/J).

> The situation is acceptable, there is a lot to do, but the irregular situation of the brick-makers for example makes them targets of continuous improvement. But I would say generally the situation is OK (12-EM/J).

A small number of the EMs inclined towards the other side of the argument, and appeared more concerned about the critical ecological situation of the US/Mexico Border region. The quotes that follow exemplify this:

> ...there is an environmental crisis and we need to address the issue (22-EM/J)

> I think the situation is very problematic and that if we could really work together as a team and I mean government, industry and the civil society we would make some progress. But this is not happening... (15-EM/J).

The answers given by these two EMs and their awareness of their perception of an ecological crisis reflect their personal background and professional experience. One of these informants used to work for a government agency and generally appears to be more critical of BG and government environmental performance and is aware of the social and development problems of the region. The other informant gained an MSc in environmental issues at the local university, where he was exposed to information about the SD discourse in general.

The great majority of EMs believed that environmental problems can be managed separately. Environmental managers and their business corporations have broken down the idea of a global ecological crisis and blurred the interconnections between environmental problems. Instead, they discursively evoke specific, manageable environmental problems or crises. According to most EMs, the environmental situation in the region of Juarez/ El Paso region is 'not serious'. The majority of the EMs interviewed characterised the environmental situation issue by issue; they emphasised water quality and quantity as critical issues requiring an urgent response, while other environmental problems were seen as less urgent:

> Water is one big problem and I think secondly would be the air quality (25-EM/EP)
>
> I think the industry is doing well, what I see as a big problem is the brick-makers and their air emissions. But this doesn't have anything to do with us (12-EM/J).

As noted already in this chapter, SD is used as a synonym of *continuous improvement*. The distinct environmental problems, as classified by EMs, can be tackled (as they arise) through a '*continuous managerial improvement approach*'.

Section 5
Summary and conclusions

This chapter has analysed the SD discourse and practices of BGs in the region of Juarez/El Paso in terms of Ecologism, EsD and Corporate-environmentalism. The pre-eminence of Corporate-Environmentalism within the SD discourse of the region and the influence of BGs on the development of SD discourse in both cities have been confirmed by empirical evidence.

In the late 1960s and 1970s many believed in an ecological crisis and believed that mankind had come to dominate the natural world by methods and technologies that had contaminated the entire environment. In the late 1980s and 1990s, this belief was gradually transformed into a concern with the management and administration of natural resources (assets), green technologies and ultimately into an *environmental problematique*. *Environmental problematique* refers to the claim by proponents of Corporate-Environmentalism that there is no single and holistic environmental and

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social crisis. In place of the crisis, supporters of Corporate-Environmentalism assume a series of problems that can be solved and managed individually. Moreover, through the promotion of what I term Corporate-Environmentalism, SD discourse has become tradable in the stock markets (Redclift, 1987 & 1994; see Dasgupta, et al, 1998: 7 & 18).[212]

Corporate-Environmentalism has profoundly shaped the SD practices of BGs in the region of Juarez/El Paso. The concept of *continuous improvement*, put forward by ISO 14000, crops up more than any other within the industrial sector, and is used interchangeably with the term SD. The mobility of environmental professionals bolsters the dissemination of Corporate-Environmentalism, ultimately influencing the nature of SD discourse in the region of Juarez/El Paso. The idea of one holistic ecological and social crisis has been dropped; Corporate-Environmentalism has replaced it with an *environmental problematique*.

By breaking down the ecological crisis into discrete solvable problems, EMs have successfully established different degrees of responsibility for different environmental problems. Whilst EMs admit some responsibility for water pollution, for example, the business contribution to air pollution is regarded as insignificant. Indeed, they argue that air pollution is mainly caused by growing traffic levels in the region. However, this and other problems are intrinsically linked to the maquila presence in Juarez. The increasing number of cars, the lack of transport and infrastructure, the growing number of maquilas (and workers) and the population growth in the region are all linked.

The next two chapters follow the same general structure as the present chapter, both in the analysis of the SD practices and perceptions of local government (LG) and NGOs in the region and to enhance the comparability of the data.

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[212] However, this thesis argues, as do proponents of Ecologically-sustainable-Development, that the SD discourse can only be meaningful when social and developmental issues are re-incorporated at the centre of the debate.

Chapter 7

Local government and SD discourse in the region of Juarez/El Paso

This chapter anchors its analysis in the SD discourse categorisation detailed earlier to examine changes in local government ideology, social practice, policy and operations in Juarez and El Paso; the categorisation also sheds light on the responses of GOs to the fieldwork guide and clarifies the present work's central concerns: [213]

1. Have LGs promoted the voluntary environmental law compliance, self-regulatory mechanisms and managerial practices central to Corporate-Environmentalism?

2. Has support for EsD within government agencies declined? Have environmental agencies at all levels of government failed to make quality of life, environmental health, environmental ethics, development, social justice, eradication of poverty and other EsD-related issues central to their SD discourse?

3. Has the mobility of environmental professionals influenced the construction of SD discourse in the Juarez/El Paso region and contributed to the promotion of Corporate-Environmentalism? How is mobility of environmental professionals connected to the lack of continuity, poor implementation and inefficiency of local environmental policies and programmes, particularly in Juarez? Has this mobility affected the natural environment of the region?

4. Has Corporate-Environmentalism influenced how GOs categorise the state of the environment in the border region of Juarez/El Paso?

This chapter, it should be borne in mind, does not systematically compare environmental law in Mexico and the US, nor does it assess the progress of bi-national co-operative mechanisms. It does, however, cast new light on such issues by explaining the differences and similarities inherent in the SD discourse and practices of LGs in the region of Juarez/El Paso. This thesis has argued throughout that during the 1990s Corporate-Environmentalism reigned supreme within LG's SD discourse and practice in the region of Juarez/El Paso; the present chapter details empirical evidence that supports this claim. The chapter is enriched by the in-depth qualitative analysis of 21

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[213] Local government (LG) include municipal, state, federal and bi-national government agencies. Sounds strange. The distinction between each level of government is made explicit when required. Furthermore, the 21 interviews carried out with government officers (hereinafter GOs) have been organised by job position and location and listed in Appendix II. Government officers are identified by the code GO. To identify on which side of the border they work the endings 'J' for Juarez and 'EP' for El Paso have been added at the end of each quotation. For example, 1-GO/EP corresponds to the first interviewee listed in Appendix II. All the quotes with codes ending with 'J', for Juarez, are my translations unless otherwise indicated.

face-to-face semi-structured interviews with GOs working at different levels of government in the region, by notes taken during meetings and workshops, seminars (participant observation), and the printed material collected including minutes, reports, project proposals and statatistics.

Section 1

Definition and analysis of government officers (GOs) in the region of Juarez/El Paso

As discussed in chapter 5, the geographical conditions on the border between Juarez and El Paso have pushed the governments of Mexico and the US to seek bi-national collaborative mechanisms to deal with shared environmental problems and to work towards 'sound' SD in the region. The two governments have a long history of bi-national co-operation on border environmental and SD-related issues. The complex decentralisation and democratisation processes unfolding in Mexico may open up real opportunities for the local authorities in Juarez to contribute meaningfully to bi-national co-operation and public policy.[214] The still highly centralised structure of the Mexican government and the limited financial and political autonomy of Juarez's authorities have hindered the full involvement of those authorities in crucial bi-national co-operation agreements as well as their access to financial resources.

In El Paso, local government agencies have greater financial and political autonomy from both federal and state governments. The political autonomy, financial and long term planning capacity of local government in the US have in some cases resulted in local communities being reluctant to undertake some of the SD and environmental programmes put forward by US federal and state environmental agencies; it is not uncommon to find that the environmental and SD priorities of local communities in the US do not correspond with those of US federal environmental agencies. Some groups within local communities in the US have the ability and the legal means to defend their 'interests' and to resist the implementation of such projects. Local communities are sometimes suspicious about the real motives behind US federal agencies' environmental and SD policies, and this has affected the implementation of federal and state programmes at the local and community levels.

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[214] For a detailed explanation of these issues see chapters 4 and 5 above.

In contrast to the discord between different levels of government within the US and Mexico - described in a later section - local environmental authorities in Juarez and El Paso appear to agree on the need to achieve a 'sound SD.' However, despite this general agreement between the two cities' authorities, the interviews show that LGs in the region lack a common understanding of what SD is.

The majority of GOs interviewed perceived the structural limitations of the *Municipio de Juarez* as one of the main obstacles to creating a common SD project for the region. To gain a deeper understanding of what unites and divides the SD discourse and practices of LGs in the region of Juarez/El Paso, and to clarify the analysis of the present chapter as a whole, GOs are categorised as follows:

a) Municipal and state government officers
b) Federal government officers
c) Bi-national governmental organisation officers.

Table 7.1 shows the distribution of the interviews carried out with GOs in Juarez and El Paso by level of government. Federal, state and bi-national GOs were interviewed in the regional offices of federal and state environmental agencies based either in Juarez or El Paso. Interviews were carried out with mid-level and senior GOs in different governmental environment agencies, including the Ministry of Environment, Natural Resources and Fisheries (SEMARNAP)[215], the Office of the Attorney General for Protection of the Environment (PROFEPA), the International Boundary Water Commission-Mexico (CILA), the International Boundary Water Commission-El Paso (IBWC), the US Environmental Protection Agency (EPA) and Border Environmental Co-operation Commission (BECC) among others. At the municipal and state level, interviews were carried out with GOs in water utilities, air, urban-planning and environmental agencies. These included the Texas Natural Resource Co-operation Commission (TNRCC), El Paso Water Utilities (EPWU), *Junta Municipal de Agua y Saneamiento* (JMAS, a Juarez water utility), the Municipal Institute of Research and Planning (IMIP), and the *Municipio de Juarez* (see Appendix II).

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[215] In the late 1990s SEMARNAP changed its name to SEMARNAT (Ministry of Environment and Natural Resources).

Table 7.1 Distribution of interviews sample: government officers in Juarez/El Paso

Location	Total No. of interviews	Agency level		
		Municipal and State	Federal	Bi-national
Juarez	14	7	2	5
El Paso	7	5	1	1
Total	21	12	3	6

Source: Interviews carried out with government officers in Juarez and El Paso (1997 & 1999).

As part of the field research I also attended several meetings of bi-national (and cross-sector) working groups on air and water issues both in Juarez and El Paso. These bi-national working groups included GOs, environmental managers (EMs), and NGO members from Juarez and El Paso. A good example of a bi-national working group is the Air Task Force and Joint Advisory Committee (JAC). The Air Task Force was created under Earth Summit Agenda XXI to search for common solutions to environmental problems in the region. These meetings, and the debates around the SD and environmental issues in the region, were a rich source for understanding the SD discourse and practices of LG and other groups (business groups and NGOs) and help explain why and how Corporate-Environmentalism dominated the SD discourse of the region during the 1990s. In sum, the sample of LG employees examined in this chapter comprises mid-level and senior government officers working for local state, federal or bi-national environmental agencies, both in Juarez and El Paso.

Section 2

The SD discourse and practices of LG in the region of Juarez/El Paso

In the cities of Juarez and El Paso, the majority of the GOs interviewed asserted that SD discourse is central to the policies and programmes of the agencies they work for. By the mid-1990s, it appears that most bi-national, federal, state and local government agencies in the Juarez/El Paso region had incorporated SD discourse as the guiding principle of their policies, programmes and planning strategies (Mumme, 2000). It is not clear, however, what SD really means for the governments of the US and Mexico and indeed for the Juarez and El Paso authorities, nor is it clear where LG gets its SD

discourse from, or how it translates it into practice. This section introduces empirical data that sheds light on these issues. The responses of GOs to the questions in section 3 of the fieldwork guide (see Appendix IV, section 3) are particularly relevant:

1. Is SD part of your office/agency's everyday language?
2. Were did your office get its SD concepts?

The first question (Is SD part of your office/agency's everyday language?) can be answered by a yes (strong), no (weak), and not yet (moderate) answer and indicates whether the SD discourse is or is not a central part of the government agency's policies and practices. Table 7.2 shows the distribution of GO responses by level of government. The majority of government agencies in the region of Juarez/El Paso appear to have been strongly influenced by the SD discourse and to have introduced elements of it into their policies and programmes. Around 76 percent of all GOs interviewed said yes, the term SD is part of their everyday language, 19 percent responded that SD is not yet part of the agency's policies. Finally, one GO (representing only five percent of the total) affirmed that SD is not part of the agency's central policies and everyday language.

Table 7.2 SD: LG everyday language, Juarez/El Paso (1997 & 1999)

Agency level	No. of interviews	Response		
		Yes	No	Not yet
Municipal & State	12	9	1	2
Federal	3	2	0	1
Bi-national	6	5	0	1
Total	21	16	1	4
Percentage (Rounded)	100%	76%	5%	19%

Source: Interviews carried out with government officers in Juarez and El Paso (1997 & 1999)

If we compare the responses of GOs and those of environmental managers (EMs), the differences are small. The answers of the majority of EMs and GOs both showed that the SD discourse has strongly influenced their agencies/businesses. The yes responses of both groups, EMs and GOs, account for 76 percent and 74 percent respectively of the total number of interviews for each group. The number of GOs that responded that SD is not yet part of her/his agency's everyday language accounts for 19 percent, which is higher than the six percent of EMs that gave this response. This difference may be due

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to GOs' scepticism about the viability of SD discourse, even when SD does appear in the language and policies of the government agencies they work for.[216]

Those GOs who stated that SD is *not yet* part of their agencies' everyday language appear to be more critical of SD discourse and unsure of its usefulness as a framework for their activities. Interestingly, the majority of GOs who stated that SD is *'not yet'* part of their agencies' policy, work for US federal and state environmental agencies. A senior GO working for one of the most influential US federal environmental agencies explained:

> It [SD] is supposed to be [part of our everyday language]. I am not sure. Not yet, anyway. We are trying to catch up and we haven't really had an eye on the future in terms of how do we grow in a more sustainable way. In this country [the US] it is hard, sustainable development has had kind of bad connotations. In New Mexico for example, sustainable development is kind of a taboo where people hear sustainable development and they say: 'Federal government coming in and telling locals what they can do or what they can't do with their property.' So, sustainable development is a tricky issue for our agency and in this country (12-GO/EP).

According to this informant, then, US federal government policies on SD are sometimes perceived by local communities as a means for imposing federal government interests whilst disregarding the elements of SD discourse supported by local groups. Federal SD policies are perceived as a threat to local governments' autonomy and to their ability to deal with SD issues that directly affect the quality of life of their communities. According to this informant the 'bad connotations' of US federal policies on SD have hindered federal agencies such as the EPA in their attempts to develop SD programmes with local environmental authorities. A prime example of co-ordination and co-operation difficulties between the EPA and local communities are land issues, which are bound up with the Endangered Species Act (ESA) and SD programmes derived from it. The presence of a threatened or endangered species may limit a landowner's development options. The ESA projects on endangered species have been hindered by the strong opposition they have inspired. Gilliland (2002:1) reports that in the 1990s, when new species, such as the golden-cheeked warbler,[217] were added to the ESA's endangered species act, Texas landowners were faced with the enforcement of ESA regulations. Landowners regarded the ESA as a threat to the profitable use of their land and put pressure on local authorities to vigorously oppose such regulations; this has prevented

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[216] My fieldwork experience –including participant observation- in Juarez and El Paso strongly suggest that these views are representative of GOs in general, despite the small size of the GO sample.
[217] The golden-cheeked warbler winters in Mexico and Central America but nests and breeds only in the juniper-oak woodlands of the Texas Hill County. See: US Fish and Wildlife Service- List of endangered species in Texas (http://ifw2es.fws.gov/EndangeredSpecies/lists/, 09 March 2001).

the renewal of the act since 1993 and ultimately watered down this aspect of public policy.

GOs that answered *not yet* claimed that the agencies they work for were already working towards integrating SD discourse into their policies. It is important to note that many GOs' personal opinions are different from the official position of the agency they work for. Many of these agencies have adopted elements of SD discourse as a framework but a gap is apparent between such policies and what actually happens on the ground. One ex-government officer explained:

> I really think - and so do the majority of my ex-colleagues in PROFEPA - that government institutions are more concerned about other issues like the economy than they are about the environmental problems of the region. We all know that. However, a significant number of my colleagues - and I include myself - are genuinely concerned about the state of the environment. However, we all know that institutions and some individuals use SD discourse as a window in a shop, to pursue their own interests and to be honest they don't have a vision as to how to contribute and help poor communities and the environment at the ground level. All is very well written, but only that doesn't really help us, does it? (8-EM/J).

Finally, the number of EMs who answered *no* is significantly higher than the number of GOs that gave the same response, accounting for 19 percent and six percent respectively. The only negative response among GOs to question one (*Is SD part of your office/agency's everyday language?*) came from the Waste and Water Manager working for a state environmental agency's regional office in El Paso that stated:

> Not, really. No, it is not. I would say that. Sustainable development, I would say no (3-GO/EP).

This informant was very sceptical about the prospect of achieving SD in the region of Juarez/El Paso. In his view, the region will not be able to make up for the enormous deficit of environmental infrastructure, especially in light of the rapid growth of urban areas in Juarez and El Paso. As he responded to the interview guide, this GO stated:

> (Question: *In your view, can a successful SD be achieved in the US-Mexico Juarez/El Paso region?*)
>
> Well, what I envision is from an environmental standpoint... Can it [infrastructure] handle the amount of pollutants that we are emitting? Do we need to limit growth of our industries? That's what I am concentrated on, and also growth of the city itself. Now we are outgrowing resources, and if we allow more people in the city they are going to consume more drinking water. But it depends on how you see it. In Juarez and El Paso we don't have the infrastructure, we are not even close to the path towards sustainable development in my opinion (3-GO/EP).

As shown in Table 7.2 above, the majority of bi-national, federal, state and local government officers interviewed responded *yes*, that SD *is part* of their everyday language. However, they held diverse perspectives on what SD discourse means. The majority of GOs interviewed underlined different, specific, elements of SD discourse, which form part of their agencies' environmental and SD policies and mission. The following categorisation of GOs' SD discourse and practices helps clarify the issue:

1. The Brundtland Commission definition of SD
2. Bi-national Co-operation Mechanisms: BECC and Border Agenda XXI
3. Development and social concepts
4. Planning and efficient management of natural resources

1. The Brundtland Commission definition of SD.

As discussed in chapter 2, in the 1980s, the Brundtland Commission onset a global debate around the possibility of establishing a 'new development formula' that would integrate environment and development. By the 1990s, the debate around the Brundtland definition of SD had been abandoned by many, along with the idea of finding new types of development and sustainable paths to a better quality of life and healthier environment. One of the most common criticisms of the Commission's definition has been its ambiguity, which has resulted in numerous interpretations of SD by different groups, including governments, businesses and NGOs.

In the case of the region of Juarez/El Paso, the discourse and practices of government agencies appear to have been strongly influenced by different aspects of SD discourse. Only two GOs interviewed in Juarez/El Paso, however, explicitly identified the Brundtland definition of SD as the central element of their SD discourse. These two GOs focused only on specific aspects of the Brundtland Commission's definition, mainly the link between development and environmental issues and the idea of future generations; they also mentioned the definition's weaknesses. The words of the two GOs that explicitly cited the Brundtland definition as a framework for their activities are worth quoting:

> (*Question: Where did your office get its SD concepts?*)
>
> Maybe it comes from that definition of sustainable development from Our Common Future that says that we can't compromise the right of future generations to enjoy and use natural resources. Or something like that, but I believe that [definition] is not very specific and it has been adjusted to different specific interests (10-GO/J).

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> I think originally it [sustainable development] comes from the sustainable development concept that talks about future generations and conservation of natural resources. But for us [in Juarez] sustainable development is a matter of survival (8-GO/J).

Although Corporate-Environmentalism dominates within the region of Juarez/El Paso, a small number of GOs expound EsD and Ecologism. Both respondents quoted above were sceptical about the usefulness of the Brundtland definition, which has been institutionalised since it was put forward by the Commission by means, for example, of agreements signed during the Rio Summit, such as the Rio Declaration and Agenda XXI.

The SD discourse of the two GOs quoted above is anchored in key elements of EsD, including the idea of re-integrating development and social issues. These two GOs reported that the social reality of the city of Juarez has made them more aware of the importance of attending to social needs as well as environmental ones. These individuals are critical of SD discourse and appear socially aware in general. The remarks of one of these informants illuminate this point:

> The idea of sustainable development emerges from our perception of reality and not from any environmental law or from an institutional mandate. We are trying to incorporate it officially, you know, but we haven't done it yet (8-GO/J).

It is also interesting to note that the two GOs who referred to the Brundtland definition of SD are from Juarez, where acute environmental and social problems prevail and are acknowledged.

GOs have a more diverse educational background than environmental managers and sometimes a diverse professional background as well. Such diversity appears to have influenced the views of some GOs on SD discourse. The GOs quoted above, for example, had professional careers within the governmental sector, but had different educational backgrounds – one was trained as an architect and the other as a biologist. The two GOs have post-graduate degrees, both had received environmental training from their agencies and both claim to have learnt from experience and practice. One of these GOs explained:

> I worked for the Urban Planning Office in the municipality. After that I went back to Tijuana and did a masters degree in Regional Planning. But I have learnt mainly through experience (10-GO/J).

The president of the Water Utility of the municipality of Juarez, and boss of one of the informants who quoted Brundtland (8-GO/J), expressed a managerialist vision of SD discourse markedly different from that of his colleague. When asked if SD was part of the agency's everyday language he responded:

> Yes, it [sustainable development] definitely is. It is part of a project that we are working on with the United Nations and there we will use sustainable development...I would say it [sustainable development] is strategic planning and management. If we take into account that our water resources are limited, then we need strategic management and planning (7-GO/J).

This informant had been in that position for less than one year and had never worked for a government agency before. This GO had, for over 20 years, worked only in the financial (banking) sector, and is an economist by training.

Whilst most environmental managers linked SD discourse with management, clean technologies and processes, continuous improvement and ISO 14000 environmental principles, a significant number of GOs are more aware of and knowledgeable about development issues in the region, partly because of the nature of their work. Such GO awareness, though, does not mean that government agencies always consider these issues in practice. Whilst SD and environmental policy in both the US and Mexico appear to have included some aspects of social justice and environmental ethics, environmental policy has frequently been influenced by different groups' interests. Moreover, 'political favours' and 'exceptions' are not uncommon, particularly in Juarez. The remarks of one ex-government officer now working as EM for a maquila plant in Juarez clarifies this:

> There are a lot of political interests and environmental law is not applied equally to everybody. There a lot of political favours, you know. One that I experienced is the case of big industry that produces paint. I won't say the name. The owner is the brother of one of the ex-Mayors. You just don't touch these people (20-EM/J).[218]

In addition, as detailed in the following chapter, NGOs have put pressure on governments and business groups in the region of Juarez/El Paso to include the social as well as the environmental dimension in their policies and practices. Once again, theory and practice are out of synch. Government responses to NGO demands have, in any case, been weak and tend to privilege Corporate-Environmentalism.

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[218] Discretionary practices are tackled in more detail later in this chapter.

A second central theme in the interviews with GOs was the need for *cross-sectoral* and bi-national co-operation and public-private partnerships. Indeed, since the early 1990s government agencies in Juarez have begun to develop a new relationship with the business community, and with some NGOs, in the search for solutions to environmental issues, including water quality and quantity, air quality, and municipal waste.

2. Bi-national environmental mechanisms: BECC and Border XX Programme.

A second group of GOs observed that their views of the SD discourse are associated with ideas put forward by bi-national environmental institutions such as BECC and Border XXI Programme. According to 45 percent of the GOs interviewed, bi-national co-operation and a higher participation of business groups and NGOs in the decision-making process are crucial to improve the environmental state of the region. A mid-level and a senior GO, working for a bi-national organisation and a local authority respectively, clarify this issue:

> *(Question: In your view, can a successful SD be achieved in the US-Mexico region? And, specifically, in the region of Juarez/El Paso?)*
>
> Yes, I think we can achieve it [sustainable development], but only if we manage to integrate the numerous projects that are being implemented in the region. I have seen a great number of projects out there, but they are isolated efforts. The problem is that even if we all agree on the fact that we need a sustainable development and that we all search for the same thing, sustainable development won't happen if we don't integrate our efforts and I mean with business groups and the community (18-GO/J).
>
> I would say yes... If I say no then what we do here in this office wouldn't make sense. However, I believe that the big challenge is that we all co-operate. When I say all, I mean all in the community (10-GO/J).

Substantial efforts have been made to create partnerships in which governments, NGOs and business groups can participate. The Border Environmental Co-operation Commission (BECC) is one of the bi-national organisations that has been established; it has facilitated the formation of such groups (see chapter 4).

As discussed in chapter 4, the BECC and the NADBank were created under NAFTA in the early 1990s. The BECC's mandate is to facilitate technical and financial assistance to border developers and respond to the need for environmental infrastructure in the Mexico-US border region, especially in the areas of water pollution, wastewater treatment, municipal solid waste, and related issues. Although critics call for reform to

make the Commission more proactive, strengthen its certification mechanism and expand its financial capacity, BECC and NADBank are generally regarded by other local, state, federal and bi-national government agencies as the advocates of SD policies along the border. The remarks of the GOs that follow are good examples of this:

(Question: Where did your agency get its SD concepts from?)

I do think I have to pay tribute to what is happening with BECC. When BECC came along with its Sustainable Development Criteria that is when we actually established a set of criteria and included one fundamental criterion on sustainability. I think we started to internalise that [sustainable development] more as an agency. So, I really give a lot of credit to BECC at least for highlighting it (16-GO/EP).

We have to accept that the engine that has persuaded (induced) this institution and others to adopt sustainable development is the BECC (15-GO/J).

This latter informant's SD discourse is dominated by social concerns and their relationship with environmental problems. He points out that developed and developing countries hold different views of SD discourse and that Mexico, along with other southern countries, include social issues in their SD discourse, in other words EsD. These mechanisms, however, have only worked partially. In Juarez for example few NGOs participate in BECC's certification procedures and other bi-national organisation meetings and always include the biggest organisations in Juarez/El Paso, namely *Movimiento Ecologista Mexicano* (MEM), *Federacion Mexicana de Asociaciones Privadas* (FEMAP), and the Environmental Defence Fund (EDF). Other more critical NGOs, which are understaffed and poorly funded, still have limited access to BECC and other bi-national co-operation mechanisms.[219] In 2001, the Border Information Outreach Service (BIOS) conducted a survey for a public assessment of BECC and NADBank's performance. The results were generally positive; both institutions are regarded as valuable. The survey results showed, however, that the public feels that greater political will and greater NGO and public participation are needed (BIOS, 2001:11-14). One GO working for a bi-national governmental organisation explained:

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[219] The wife of a rich and influential businessman from Juarez created FEMAP, and its offices in Juarez are located within the company owned by her husband. The President of MEM-Juarez is at the same time director of an environmental consultancy firm and the son (and business partner) of a senior official working for BECC. The small political and business elite in Juarez allows no room for more radical and smaller NGOs in the decision making process. It is likewise intolerant of other SD perceptions. The SD discourse and practices of NGOs in Juarez/El Paso are examined in depth in chapter 8.

> We have a greater participation of NGOs, of course there are groups that have their own interests, but I think there is greater participation of NGOs like EDF, FEMAP and others. So, we think there are people in the community pushing for a sustainable development (6-GO/J).

Bi-national co-operation, transparency and greater public participation may be the way forward in improving the state of the environment in the region of Juarez/El Paso. The Border XXI Programme is another example of an innovative bi-national co-operation mechanism created in the border region. The Border XXI definition of SD comes from the Rio Summit and Agenda XXI; its goal is to promote SD in the border 'by seeking a balance among social and economic factors and the protection of the environment in border communities and natural areas' (EPA, 1996: I.1). Border XXI Programme's core strategy incorporates three main elements: public involvement, decentralisation of environmental management (state and local capacity building) and improved co-operation among federal, state, and local government agencies. Two GOs working for a national and a bi-national government agency respectively in El Paso stated:

> The way we address sustainable development is through Border XXI Programme and the BECC Sustainable Development Criteria. Border XXI is our framework document and it came out of the Rio Summit and Agenda XXI (12-GO/EP).

> There are concepts that are put forward under forums like Border XXI, I think that is one place where there have been attempts to describe sustainability in the border as a whole. And it is translated into things like providing drinking water services, and wastewater services, and air quality improvements. So, it deals more than anything with infrastructure to support the growth along the border area. But I don't honestly think that we have yet seen the translation on how to achieve economic growth in a sustainable manner (16-GO/EP).

Border XXI in practice has failed to establish long-term planning projects, build local capacity and maintain the kind of active public participation that characterised its drafting. Decentralisation in Mexico, which is one of the central goals of Border XXI, has proved to be a very slow process. Mumme (2000: 123), for example, touches upon the issue of decentralisation in the northern Mexican border state of Sonora and argues that at present the dominant form of decentralisation in Mexico is dis-concentration rather than devolution and delegation of authority. One GO working for the municipality of Juarez related:

> There are issues that should be under our jurisdiction but they are not, they are still regulated by the federal government. One of the best examples is toxic waste. We simply don't have anything to do with it, and we should be the office responsible for it...really (6-GO/J).

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At the theoretical level, those GOs who claimed to have gleaned their SD discourse from bi-national organisations like BECC used the term SD interchangeably with three core components of Border XXI and BECC: public participation, local and state capacity building and improved co-operation mechanisms. BECC and NADBank have in fact made good progress with the 40-plus projects that have been certified along the US-Mexico border, resulting in the construction of new water, wastewater and municipal waste projects. These projects (some of them already in operation) will significantly improve aspects of the environment and public health in Juarez and El Paso and throughout the border region. It is also important to recognise the central role of Border XXI and BECC in at least opening the debate on capacity building not only in Juarez and El Paso, but throughout the border region.

Various authors have noted that capacity building only works at the project level, and that it has not reached the governmental system or the formal statutes (Mumme, 2000: 122; Spalding, 2000: 94). Overall, BECC/NADBank and Border XXI Programme have fused various key elements of EsD with the dominant Corporate-Environmentalism framework of their policies. In theory, central elements of Border XXI and BECC are also vital to EsD. In practice these institutions have not lived up to their EsD aspirations. These two agencies also stress key elements of Corporate-Environmentalism in their policies, including the creation of partnerships; their SD discourse is thus hybrid in nature.

One senior GO working for the local water authority in El Paso was sceptical about the possibility of achieving SD as a region. This GO does not see the cities as a region and stated that Juarez and El Paso have contrasting prospects of achieving SD:

(Question: In your view, can a successful SD be achieved in the US-Mexico region? And, specifically, in the region of Juarez/El Paso?)

I think that in the El Paso area we can. I have my concerns about Juarez, you know what I mean. The concern I have is that if Juarez runs out of water, obviously it would affect the whole region's economy, one way or another. The border is right there, it is not 20 miles away, and so it affects us all. But I've not seen Juarez respond very quickly to this issue, and it takes a long time to implement any programme. So, by the time they get to plan all those issues and they start looking at the financing and design construction... I don't know I would say that I don't have any real strong expectations that Juarez will get to sustainability (1-GO/EP).

3. Development and social concepts (education, health, quality of life, housing, and basic services).

Development and social issues were quoted directly by only a few GOs interviewed in Juarez/El Paso. These GOs espouse an SD discourse that includes key elements of EsD such as the improvement of quality of life, education, water culture and the introduction of alternative technologies. They are concerned about such issues as the overwhelming deficit of environmental infrastructure, social problems, rapid growth of the population in the region, and quality of life. All of these development/social problems are intrinsically connected to environmental degradation in the area and are key elements of EsD.

One informant was working on a project aimed at introducing alternative technologies to brick-makers in Juarez, whose activities are a source of air pollution and air emissions in the region. Brick-makers are among the poorest communities in Juarez and the environmental/development problems relevant to them include social justice, human rights, poverty, quality of life, environmental health, air quality and access to basic services. This informant pointed out that his main concern regarding the brick-makers community, in one of the poorest areas in Juarez, was to elevate their quality of life and introduce alternative technologies to their working practices. This GO reported that others do not share his views on the brick-makers' problems. He claimed that the main obstacles to getting funding for a brick-makers project had been the lack of interest of many within government agencies, NGOs and business groups. He stated:

> I have presented the brick-makers' project on several occasions at the meetings held by the Air Task Force or Joint Advisory Committee, where the other participants were invited to collaborate in the project. However, the response in both working groups was not very encouraging (4-GO/J).

Other GOs underlined the financial limitations and lack of interest of other groups in the region in participating in specific environment-development projects that touch upon social justice, poverty, democracy, human rights and/or ethics. A GO working for the state environmental agency's regional office in El Paso observed:

> I do a lot of work with the brick makers and if you want to call that sustainable development, I would call it [sustainable development]: Introducing appropriate technology to the brick-makers community in order to improve their quality of life (4-GO/EP).

The only other organisation involved in the brick-makers projects is FEMAP, an NGO in Juarez.[220] It seems that business groups and other governmental organisations are reluctant to get involved in projects that fuse difficult political, social justice and environmental dimensions.[221] Business groups appear reluctant to get involved in an issue that could mean financial costs and damage their green image in the local community. According to one informant, it is difficult to get people interested in this issue and attract financial support. His remarks are telling:

> *(Question: How are you going to get funding for this project with the brick-makers?)*
>
> 'I've tried from everybody and it seems that nobody wants to contribute. I tried from the smelters and local refinery and other people and nobody wants to get involved' (4-GO/EP).

The gap between environment and development keeps widening. Whilst the prevailing SD discourse in the region of Juarez/El Paso emphasises efficient management and administration of the region's limited resources, development issues in the poorest communities are marginalised. Those who promote Corporate-Environmentalism not only neglect environmental problems linked with the acute social depravation of some groups (like the brick-makers) but contribute to their problems. A further observation by the same GO expands on this point:

> Some maquilas give their trash to the brick-makers and they burn the trash and make bricks out of the trash. So, is that sustainable development? I don't think so (4-GO/EP).

This informant explained that some maquilas in Juarez 'donate' their solid waste to brick-makers, who burn the waste to make bricks. Interestingly, various EMs categorised the air emissions produced by brick-makers as one of the major environmental problems in the region (see previous chapter). One environmental manager working for an electronic maquila plant in Juarez observed:

> *(Question: In your opinion what are the main environmental problems in the border region?)*
>
> We could talk about the irregular situation of the brick-makers. Brick-makers, for example, affect this industrial park in particular and all the maquilas here. The

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[220] For a detailed analysis of FEMAP see chapter 5 below.

[221] The project attempted to introduce natural gas as an alternative fuel to make bricks. Presently, brick makers burn motorcar tires and any kind of waste they can get hold off. The introduction of natural gas meant that the price of bricks would rise, which meant that construction businesses and government agencies in Juarez would need to assume the cost and continue buying bricks from this community as a compromise to reduce air emissions and to improve the quality of life of brick-markers. Construction business did not compromise and the project failed (4-GO/EP; 3-NGO/J).

situation is irregular because no regulation is applied there. I can see their air emissions from here. I really don't know to what extent they are regulated. But something is true. What happens to a lot of environmental safety managers is that the smoke they emit is filtered into our plants and this smoke causes a general discomfort (12-EM/J).

This environmental manager believed that the overall environmental situation in the region of Juarez/El Paso is acceptable, while the brick-makers are mainly responsible for air quality problems in the region. This individual appeared totally unaware of the social justice, political, financial or environmental health problems of the brick-makers community.

4. Planning and efficient management of natural resources.

Finally, a fourth group of GOs focused on strategic planning and efficient management of environmental resources. The majority of GOs, both in Juarez and El Paso, working for different levels of government, privileged Corporate-Environmentalism, including issues of sustained growth, deregulation, eco-efficiency and pollution control. The remarks of a GO working for the local water authority in El Paso explains how old concerns (more related to Ecologism and EsD) have been overtaken by those of Corporate-Environmentalism:

...So, that is the challenge for El Paso's water supply in the future with a growing economy, growing population... Some people would say: 'Why don't you stop this growth?' Because with growth you get more water demand ...to tell you the truth, I would have said that maybe 10 -12 years ago... I also believed in limiting growth at one point, but now I see the possibilities of supply and demand being efficiently controlled and managed so that El Paso can still grow and meet its future water needs (2-GO/EP).

Those who support Corporate-Environmentalism also mentioned the need to understand and establish a better relationship with other groups, particularly the industrial sector, by creating partnerships. One senior GO working for the regional office of a federal agency in Juarez commented:

'I think at the beginning it was a bit difficult for us to understand what sustainable development means and I am talking about everybody in the office. ...Somehow, it was difficult to understand the process of linking economic growth, natural resource conservation, public participation, government and industrial participation' (14-GO/J).

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The quotes that follow, from GOs in both Juarez and El Paso, emphasise the efficient management of resources. These quotes also make plain how these GOs use these ideas interchangeably with SD discourse:

(Question: Is SD part of your agency's everyday language?)

Yes, of course. The mission and vision of this office is that the city [Juarez] can manage its natural resources, that it can manage its waste and water; that everything becomes sustainable. We aim to create a culture of environmental protection and we focus on resource management and protection (6-GO/J).

It is the most important issue that we have, that we have to have. I mean without it [SD] we can't maintain our water resources and I think as of now we are doing pretty well. But, without the Sustainable Water Project[222] we can expect the Hueco Bolson to deplete in 25 years or so. I assume the community will support this policy and the changes that have to be made. Because I cannot imagine that the community will go against the project ...you know, that we all sustain the economy and a lot of resources... So, it is very important (1-GO/EP).

Pollution control and resource management projects, of course, may have a positive impact on public health. Corporate-Environmentalism, sustained economic growth, pollution control or *continuous improvement* in themselves cannot, however, ensure the overall quality of life of every group in the community. Whilst Corporate-Environmentalism prevails among GOs, a larger number of GOs support some ideas of EsD than EMs did nonetheless, they almost totally marginalise Ecologism. According to the data gleaned from the interviews, some GOs express a hybrid SD discourse that blends EsD and Corporate-Environmentalism. The economic situation and low salaries have compelled many GOs to seek work in the business sector, thus stripping local government agencies of valuable expertise and experience. Fundamental structural problems in Juarez have also hindered the political and financial autonomy of local authorities and thus made it more difficult for them to take action on these issues.

Section 3

Mobility of government officers (GOs)

As outlined in the previous chapter, local government environmental officers (GOs) frequently take up positions in the industrial sector in Juarez and, somewhat less often, in El Paso. Environmental government officers in Juarez, particularly PROFEPA's inspectors, tend to move into the maquila industry early in their professional careers.

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[222] The Sustainable Water Project aims to restore the Hueco Bolson (a shared aquifer that provides most of the drinking water to both El Paso and Juarez) and to make surface water into drinking water to stop the Hueco Bolson depletion. El Paso has calculated a preliminary budget for this of about 300 million dollars, of which they expect to obtain about 50 percent in loans from the water environmental infrastructure fund available from BECC and NADBank (1-GO/EP). See chapters 4 and 5 for more on these issues.

Graduate engineers are recruited by PROFEPA as inspectors, and are trained in environmental law and regulations through different courses, seminars and workshops organised by PROFEPA, SEMARNAP or INE; occasionally they attend bi-national workshops organised by a Mexican federal agency and the US EPA. PROFEPA's regional office has become a 'training centre' for environmental managers for the maquila industry in Juarez. The high mobility of GOs into the business sector is a serious problem for federal, state and local environmental agencies. The head of the office of the regional office of a federal environmental agency in Juarez made the following remarks; his comments are followed by those of an ex-government officer:

> ... Mobility is a problem... inspectors work here for an average of two years. It is a problem for me, and an advantage for the industry. Today two inspectors resigned. One due to maternity and the other found a job in the industry (14-GO/J).

> The turnover of inspectors is not a rare phenomenon in this region. It is, however, detrimental for PROFEPA's performance. Practically, all the time and money invested in training is lost. We did get good training, but it is lost and remains lost (22-EM/J).

Ex-government officers pointed out that in the *maquila argot* PROFEPA is commonly referred to as the 'environmental law school of the maquila,' in their view PROFEPA serves as a trampoline for graduate engineers who are looking for career opportunities in the maquila industry. Some ex-government officers commented:

> PROFEPA serves as the training centre of environmental specialists for the *maquila* industry. That is how it [PROFEPA] is known within the maquila (20-EM/J).

> Out of 10 inspectors that leave PROFEPA more that 50 percent find a job in the maquila industry. Only one or two go into environmental consulting firms or other environmental services and one or two move to a different area (8-EM/J).

This group of ex-government officers stated that the main causes of the high rates of GO mobility to the maquila industry include:

1. Low salaries
2. Long working hours and high work load
3. No assessment or merit reward system
4. No work benefits and no job tenure
5. Lack of authority (frustration due to the limited autonomy of PROFEPA's regional office in Juarez).

All of the above were common complaints among the ex-inspectors now working for the maquila industry. Low salaries appear to be the principal reason for GO mobility to the

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maquila sector. Indeed, an environmental engineer can make up to three to four times more (plus benefits) working for the maquila industry than working as an inspector for PROFEPA. The following quotations back up this point:

> In Juarez, you know, if you are working for the government you would earn maybe between US$300 or US$400 per month, whilst if you work for the maquila industry you can make up to US$1000. So, they are going to be making pretty good money... I haven't met too many people that have worked there [PROFEPA in Juarez] for five years. They are there for a short term... they learn their rules, you know, they learn all the rules that regulate the maquilas.... Then you become an asset for the maquila because the maquila needs to hire somebody who knows the rules to keep them out of trouble and that is important (4-GO/J).

Mobility of GOs has proved advantageous for the maquila industry, which can avoid training a graduate environmental engineer from scratch in how to deal with environmental regulations, or paying a higher salary to an experienced (senior) environmental professional. The maquila also benefits from the network established by inspectors within local government agencies. An ex-inspector working for the maquila will have to negotiate with his ex-colleagues in PROFEPA during an inspection and will be well prepared to meet PROFEPA regulations. An older ex-inspector may intimidate a new young inspector, who finds himself confronted with an environmental manager who has greater experience and knows how things work in PROFEPA. One ex-government officer now working as EM and one GO from El Paso noted:

> ...Now, the kids [new inspectors] come to us and instead of helping me to comply with regulations I just share my ideas. I have more knowledge and information than he does. We have more experience than they do. I have been there. Remember that I also started as an inspector. I know how it is like (22-EM/J).

> I go to a lot of meetings of the AMAC, and a lot of the people that work in the maquilas are my friends, both from school and from people who used to work with the government, you know... from PROFEPA, and *Gobierno del Estado*, and of *Gobierno de Ciudad Juarez*... You know a lot of people in the government move around... they find a lot better pay, much better. Even in the US, they leave to work for the industry. I know at least 20 people, 20 friends who worked for the government here [in El Paso] and in Juarez and they just move on to maquilas (4-GO/EP).

As shown in the previous chapter, even when ex-government officers in a maquila claimed to be genuinely interested in the state of the environment and the social problems of the region, they are either co-opted to adopt the Corporate-Environmentalism that permeates the businesses they work for. As one ex-government officer now working for a maquila in Juarez explained:

> The truth is that the Manager here and in the majority of the maquilas in Juarez solves the environmental problems by hiring an environmental engineer. This is the truth. Throughout the maquila industry we [environmental engineers] all complain about the same thing, because at the end we don't have any real authority, we take care of a lot of issues that are not related to the environmental area and distract us from what we are supposed to be doing, whilst the maquila Manager has solved his problem by employing us (22-EM/J).

Even if low salaries drive the high turnover of GOs more than any other factor, complex structural issues within Mexican government agencies also help explain why GOs move into industry so frequently. The complex and inefficient personnel system in the municipality, which also applies to federal and state levels, is a prime suspect. Under this system there are three main categories of government employees. The senior officers and policy makers occupy *puestos de confianza* (*trustee* positions), to which individuals are appointed at the discretion of the Mayor and which lack security of tenure. The second category involves skilled technical officers who are recruited on short-term contracts, mainly for the three years the municipal government is in office; career progression is not assured. The third category includes the administrative and unskilled workers, who have a high degree of job security, but have no guaranteed salary or career progression, and for whom no performance assessment or rewards for merit are available (Nickson, 1995: 203; Lopez-Guillen, 1996: 51). The remarks of an ex-government officer exemplify this:

> In addition to the salary being really slim and working without benefits, we work for the government on a contract basis. I worked five years like this for the government, on a contract, with no work benefits, without social health insurance of course! (22-EM/J).

Under this system skilled technical officers could remain in the same position for years without promotion or salary rise. Such is the lot of inspectors in PROFEPA; their salaries are three times less than those paid in the maquilas, in which career progression is possible. It is not surprising then that graduate-engineers get jobs as inspectors in PROFEPA and after just six months or a year of training in environmental law, they leave to easily find jobs as environmental managers in the maquila industry. PROFEPA has failed to retain inspectors because it lacks the resources to raise salaries and hire the additional inspectors needed to minimise the workload. A senior GO working for the regional office of a federal environmental agency in Juarez explained:

> Here we have 12 inspectors that are responsible for 1,200 businesses in Juarez. The majority of inspectors have backgrounds in chemical, industrial or environmental engineering. Some of them at least know something about environmental issues, but only on the technical side. The majority know nothing of environmental law. Therefore, we have to provide all the training on these issues (14-GO/J).

Most of the 'confianza' or senior officers tend to move from one government office to another, bringing with them some of their skilled technical staff. Every three years, when a new Mayor is elected and a new administration takes over, a good number of the 'personal de confianza' (or trustee personnel) tend to move jobs (sometimes they are compelled to do so). Senior officers and 'personal de confianza' usually move to a different position within the same government agency, a different government agency at the federal, state or municipal level, or into the business sector, depending on their personal contacts and political network. Promotion for both 'personal de confianza' and skilled technical staff depends on their level of attachment (or relationship) to the head of the office they work for, or again to their personal contacts elsewhere. Senior government officers move from one government agency to the other, taking with them their personal de confianza and skilled technical staff, draining the agencies they work for of expertise (Nickson, 1995:204).

The flow of GOs into the maquila industry jeopardises the performance of regional office of federal agencies, and of state and local government in Juarez, which are left without the personnel and expertise required to follow-up their programmes. The personnel system described above makes the performance of local government unpredictable and inconstant, leaving the implementation of environmental and SD policies and programmes at the discretion of the new, often inexperienced, GO; the system and the constant change it entails limit the possibility of fundamental structural reforms. The constant ruptures within the municipalities due to short periods of government, constant changes in personnel at senior and skilled technical levels, discretionary practices and corruption often result in superficial changes. Two ex-government officers explained:

> In the early 1990s, I'm talking about the period of 1990 to 1992, we used to work on good legal procedures. I mean enforcement was really rigid, inspections concluded in maquila closures. We can say that environmental law enforcement was even a little bit arbitrary, since we could close an industry for even minor errors. But it worked, really. In my view, here in Juarez we made a lot of progress on the matter. By 1993, however, everything changed. The number of inspectors was reduced, new Delegate [head of regional office] changes in the strategy, new regulations and changes in the local authorities as well. The impact of the change was such that most of the ongoing programmes went down the drain. One example is

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[223] After the Candados Presto plant was closed down, changes took place within PROFEPA and the toxic wastes that remained in the site were not returned or disposed of until years after. According to ex-government officers, the case of Candados Presto was neglected until 1995, when local media discovered that some people from the vicinity were using the waste containers to store water and were dropping the toxic materials into the sewage (8-EM/J; 22-EM/J).

the case of Candados Presto[223]... (22-EM/J).

(Question: In your view what are the main environmental problems in the region?)

Corruption at the higher levels of government and the lack of continuity of strategic projects and programmes (8-EM/J).[224]

In 1993, as my informant reported, the head of PROFEPA's office in Juarez changed, as did the strategy and programmes of the agency. The number of inspectors was cut, with only 15 inspectors out of the 30 inspectors who worked during the period 1991-1993 remaining. According to one ex-inspector the majority of the inspectors were forced to leave as a result of the changes in the administration of PROFEPA. The incoming *delegado* (head of regional office) changed the strategy implemented by the previous administration: his approach was based on the principle of 'fewer inspections and fewer inspectors' (22-EM/J).

An incoming administration responds to immediate-short term problems and current political imperatives. New administrations need to respond rapidly to the unstable situation inherent in change of administration, undermining the continuity and long term planning vital to solving social and environmental problems in the region. Structural changes in the administration appear to be more superficial than real. Substantive reforms, including modernisation of the organisational and operational structure of Juarez's government agencies, are exceedingly hard to realize within the present organisational system. The personnel system clearly contributes to the marginalisation of EsD practices and helps sustain centralised and discretionary practices and corruption.

Lack of continuity and long term planning.

The lack of continuity, particularly acute on the Mexican side of the border, constitutes a huge headache for the authorities in Juarez. For decades, it has been practically impossible to achieve long term planning and continuity of strategies and programmes from one municipal, state and even federal administration to another. It is unclear who is responsible for what within environmental government agencies at all levels; this makes environmental policy enforcement and policymaking an opaque and perplexing affair. This, together with the still centralised political system has undermined the performance and decision-making process of all levels of government, and reduced the effectiveness

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[224] For a detailed examination of corruption and discretionary practices in Juarez, see the sub-section that follows below.

of law enforcement, thus exacerbating environmental problems in Juarez (Mumme, 2000: 124). Mexican federal and state legislation reflects the ambiguous division of labour between the different levels of government and tends to push crucial environmental and SD decision making to the higher levels of government. Two glaring examples are toxic waste and water issues, both still under federal jurisdiction in Mexico, as discussed in chapters 4 and 5. This situation diminishes public confidence in municipal government's autonomy, performance and the continuity of programmes. As a GO working in El Paso for the regional office of a state government agency reported:

> Sometimes they [Juarez's local government officers] have the desire but most of the times they don't have the money that they need to make it happen. The money has to come from the federal government, from a higher level or they'd have to start increasing the taxes. You know the big-ticket items like the big water treatment plans, toxic waste, infrastructure, highways, roads, electricity; all that is still very controlled. PEMEX, gasoline that is still very controlled, very centralised (4-GO/EP).

Structural problems hinder the possibility of meaningfully integrating social concerns into the heart of the policy-making process and of SD discourse, thus marginalising EsD as well as conservationist-style Ecologism. Such structural problems, particularly centralisation of power in the hands of the federal authorities, has also contributed to the promotion of Corporate-Environmentalism. The federal monopoly on key environmental issues (including toxic waste and water resources), for example, means that the managerial ideas and economic interests of powerful groups foreigner from (from other parts of Mexico) Juarez influence the ways in which such key issues are dealt with.

Discretionary practices and corruption

Discretionary practices and corruption are also particularly problematic on the Mexican side of the border, and are intrinsically related to the highly centralised political and economic system. Despite efforts in recent years to stamp out the traditional discretionary practices within and between Mexican government agencies, such practices are still common and limit both government agencies' performance and the continuity of their programmes. In 1996, an amendment to the LEGEPA laid down specific norms to promote legality and juridical transparency and to limit discretionary practices among environmental officers (Gutierrez-Najera, 1999: 2-4). In practice, however, local senior government officers and heads of governmental agencies appear to have the authority to stop an environmental procedure started by PROFEPA with no explanation or challenge from junior GOs, who fear for their jobs. The lack of

transparency can be explained in various ways, all of which involve corruption of some sort. Discretionary practices can range from bribery to political favours to the owner of a polluting industry. Two ex-PROFEPA inspectors presently working in the maquila industry concur in their remarks on the frustrating and disappointing experience of discretionary practices. Ex-government officers reported that after months of working on an environmental procedure, an 'influential' phone call to the head of PROFEPA's office in Juarez brought the whole thing to a premature close. The head of PROFEPA risks losing his/her job if he/she challenges such orders. The following remarks are revealing:

(Question: When you say corruption is one of the main environmental problems in the region, do you refer to a specific case?)

Yes, of course. But let me remind you that an action doesn't need to really take place, to be a corrupted act. For example, I had been in situations where I was offered some kind of 'gratification' by one maquila and by the owner of a business here in Juarez. I didn't take it, but there are some people that could have accepted the 'offer'. On the other hand, at higher levels of government where big decisions are taken you can see that there is money involved, for example, in the concessions given to a construction company. There is a specific group of companies that always works with the state or municipal government. Everybody knows who they are; it is common knowledge...When I was in PROFEPA I participated in the case of a paint factory. This factory belongs to a very important person here in Juarez, who later was candidate for governor of Chihuahua. We took with us our only weapon: the law. But I guess his position saved him from a possible sanction. We did our work, carried out the inspection and all the work, but a point came were the case was just out of our hands and that is all we knew (8-EM/J).

Cases like this [paint industry] are managed at a level that we don't have access. I suppose one of those levels is the Governor, one phone call... One phone call and all the procedure can be stopped. This was one of the aspects that were not nice when working for PROFEPA (22-EM/J).

Discretionary practices and corruption, according to these informants, also discourage and frustrate GOs trying to do their job. In the early 1990s, environmental law enforcement and the enforcing authorities were perceived by the industrial sector as a necessary evil. The relationship between government and industry has been changing rapidly since Mexico began implementing neo-liberal economic policies and particularly in the wake of NAFTA. The technocrat 'ruling class' began to reformulate their mutual distrust and at times uncomfortable relation with the business sector. A new and closer relationship between governmental agencies and business groups would, some claimed, promote democratic practices, but this has not as yet proved to be the case; instead, in many cases, such partnerships have helped 'loosen up' environmental policy enforcement.

According to a senior government official at PROFEPA, SD practices within the agency have been focused on improving the relationship with industry in order to improve enforcement and compliance. This new approach includes more 'flexibility' and 'different' interpretations of the environmental law and regulations when circumstances require it (14-GO/J). This flexible approach allows the inspector to evaluate and negotiate a compliance period (generally a period of 30 days) when irregularities are found during the inspection. Under this new approach, the inspector considers the size of the business and the nature of the irregularities found and allows the business a 'reasonable' period to correct them. If the business does not follow the inspector's recommendations during the period agreed, the business can renegotiate an extension of the compliance period. If the corrections are not made, ultimately the business is closed down. According to ex-government officers, PROFEPA's new approach to environmental law enforcement has not always raised levels of compliance within the industrial sector (8-EM/J; 22-EM/J). The remarks of one ex-GO illuminate this issue:

> You know, environmental law is not applied in the same way to everybody. There are two famous cases, one of a paint factory, which belongs to a very influential person in Juarez, and the second was a chemical factory. Both procedures were simply stopped with not much explanation (20-EM/J).

PROFEPA's new approach aimed to establish a better dialogue with business groups and to create an atmosphere of 'mutual trust.' One of the primary means of achieving this was the promotion of self-regulatory mechanisms, a central element of Corporate-Environmentalism. Ex-government officers, though, cast doubt upon whether the state of environment in the region of Juarez/El Paso would benefit from such partnerships and from the 'mutual trust' between government and industry. Such 'mutual trust' has in any event failed to materialise. As discussed in the previous chapter, the number of maquilas that actually 'trusted' the government, in particular PROFEPA's Voluntary Audits Programme (VAP), is very low (less than five of the 31 EMs interviewed).[225] Whilst a closer relationship between government and business groups is thought - by the majority of environmental managers interviewed - to have had a positive impact on the natural environment, other groups including LG and NGOs are suspicious of these new partnerships. Some GOs and NGO members argued that they could lead to political favouritism and discretionary treatment of those maquilas whose managers have good personal contacts with the federal, state, or local government.[226]

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[225] The trend to implement self-regulatory mechanisms within the maquila industry, however, is strongly focused on ISO 14000 certification. See previous chapter.
[226] The SD discourse and practices of NGOs are analysed in detail in chapter 8.

Discretionary practices have discouraged and hindered the performance of skilled technical employees, who often start their careers full of enthusiasm and hoping for a promotion. More importantly, discretionary practices diminish civic confidence in the capacity and autonomy of local authorities, and contribute to the deterioration of the natural environment by allowing polluting practices to persist. Overall, inspectors had little incentive to remain in their job; PROFEPA's new approach towards the industry, which includes self-regulatory mechanisms, is one of the primary causes of their discontent. This new approach has reinforced Corporate-Environmentalism.

Mobility at the second stage of GOs' career

GOs in El Paso also take up positions with business groups, though less often than their counterparts in Juarez. In El Paso, though, they tend to do so at a later stage of their career. El Paso local government agencies have greater political and financial autonomy from the state and federal governments. The personnel system in El Paso allows room for career progression, an assessment and merit rewards system, and work tenure; salaries are competitive, though rarely better than those in the business sector. One GO put it like this:

> *(Question: Does turnover or mobility of government officers happen on both sides of the border?)*
>
> Oh, yeah! Here too... The regional director of this office, you know, he retired and moved into the maquilas. So, either they create their own business on environmental issues or move into the maquilas... Mr. Padilla created his own business here in El Paso, an environmental business... if somebody has a waste water problem, he'll take care of that, an emission problem, he helps them with that...as a consultant and has engineers working for him (4-GO/EP).

> *(Question: What are the main reasons for this mobility?)*
>
> Money! Basically to make good money. Better paid... here in El Paso they'll be paid more than with the state and usually the private industry has better and different benefits (4-GO/EP).

Nevertheless the El Paso personnel system has enabled continuity; senior officers can remain in their positions for a long time. The General Manager of El Paso Water Utilities (EPWU), for example, has been in the same position for 10 years, since 1989, and has always worked within the governmental sector. His counterpart in Juarez, the Director General of the *Junta Municipal de Agua y Saneamiento* (JMAS - Juarez Water Utility), had been in that position only for eight months to the date of the interview (December

1998 – June 1999) and this was his first time working for the government sector. He had worked mostly in the banking sector, where he held various positions over a 20 year period. The personal history of a senior GO in El Paso is typical:

> I've been the manager here for about 10 years, since 1989. I started in the public sector and I was with the City of Albuquerque for about 13 years in various positions. When I left the City of Albuquerque I was the City Director for Public Works. Then I did a masters degree on management, so my background is both technical as well as in business now (1-GO/EP).

Whilst continuity and a better personnel system do not necessarily translate into better environmental and social practices (EsD), they help bolster control over the urban planning and development of environmental infrastructure that each city requires. The inefficient personnel system in Juarez makes it more difficult to remedy the severe deficiencies in the environmental infrastructure.

Section 4.

GOs categorisation of the state of the environment in the region of Juarez/El Paso.

The majority of GOs perceived the state of the environment in the region as a group of separate environmental problems amenable to managerial solutions. They did not, on the whole, view the state of the environment in the region holistically, as a single 'ecological crisis'. Those GOs who support in managerial solutions pointed out water issues, for example, are critical whilst toxic waste and air quality issues are manageable. The scarce water resources in the region have driven local authorities to take urgent measures to prevent serious water shortages in both communities. Interestingly, little information is available on the total amount of toxic waste production in the maquila industry in Juarez; the only information available concerns waste returned for disposal to the US, but all the waste produced is not necessarily returned. The following quotes provide good examples of how GOs categorise environmental problems in the region of Juarez/El Paso.

> The biggest problem is the lack of wastewater treatment in Juarez. You know they [Juarez] are going to build these two wastewater treatment plants but they are going to be limited. I guess I was very disappointed that they are going to be only primary treatment plants. They will remove only 35 to 40 percent of the pollutants in the water, so wastewater can only be treated for irrigation and not as drinking water (1-GO/EP).

For me water is a serious problem. Firstly, water infrastructure to provide all of the population with drinking water and secondly, to protect the aquifer (7-GO/J).

We have the normal problems, the problems any *municipio* with this large number of immigrants would have: infrastructure, transport and housing are big issues. But the biggest problem is water (6-EM/J).

The majority of GOs interviewed described a number of problems but did not perceive any connections between them. GOs in the region agree that the biggest problems are water quality and quantity. When GOs described the state of the environment in the region they identified water, infrastructure and air quality as critical or serious problems. Other pressing issues such as environmental health, municipal waste, loss of bio-diversity, and environmental education were mentioned only two to four times each. Development, pollution levels, quality of life, financial resources, population growth and other elements of EsD were mentioned once each by different GOs. The following quotes show how those GOs who mentioned quality of life as one of the major problems in the region tend to make connections between different environmental problems and regard the environmental situation as critical or serious:

Well, the quality of life is extremely important and it is related to another critical issue: water. Water is in bad shape and I would say is critical. The environment is not good at all, it is in a serious state... and if we don't attend to it soon, I don't know what is going to happen to this region (4-GO/EP).

A small number of GOs described the state of the environment in the region and it was evident that they felt the different problems they mentioned were interlinked. The majority of GOs, however, did not. The quotes that follow provide good examples of GOs considered the environmental situation in the region to be serious or critical:

I think it is critical... in terms of water (8-GO/J).

To be honest. I think it is a difficult question, but I would say it is serious (10-GO/J).

I would say it is stressed, very stressed. The Hueco Bolson is very stressed, the air quality is stressed, the waste water system in Juarez is stressed, and our water system is too (1-GO/EP).

'I don't want to be an alarmist. Now we are fine, but if we don't take the proper steps we are going to be in serious trouble. I think we are working on it' (18-GO/J).

Toxic waste management and disposal was a sensitive topic for the majority of the GOs interviewed. Gaps are apparent in the information available on the nature and quantity

of toxic waste produced by the maquilas in Juarez. One explanation for this may be that toxic waste issues are still the responsibility of federal environmental agencies; local authorities have little say on the matter. A senior GO working for a local environmental authority in Juarez remarked:

> Well, the federal government regulates toxic waste and we don't do much on that area. All I can say is that there are problems in this area that need attention (6-GO/J).

Only one senior GO working for a bi-national organisation thinks that toxic waste may become a major problem for the region. This GO stated:

> One problem that is probably not considered as often as it needs to be is hazardous waste disposal. It is a very difficult subject but it is one I think will be even more critical than water. Specifically as we get more maquila development in the region (16-GO/EP).

In short, the GOs quoted above regard the environmental situation in the region as a set of problems that can be solved and controlled one by one through good management. With the exception of water issues, most environmental problems in the region of Juarez/El Paso were categorised by GOs as manageable problems with different degrees of 'complexity', ranging from critical to non-problematic. Like environmental managers, GOs argued that water is or will soon become a critical issue.

More than half of the GOs interviewed stated that the environmental situation in the region of Juarez/El Paso is generally 'good and/or is getting better'. The GOs that categorised water as a critical issue did not make connections with other problems rooted in the lack of water resources in the region. The quotes that follow are from GOs who considered water critical for the region. The same GOs considered the state of the environment in the region as generally good.

> *(Question: How would you characterise the environmental situation along the US-Mexico border and specifically in the region of Juarez/El Paso?)*
>
> As achievable. I very definitely believe that now (2-GO/EP).
>
> Getting better. I think that when you look at what has been invested in environmental infrastructure in the last five years... There is a lot of attention on the border these days and there is hope for at least trying to address current problems (16-GO/EP).
>
> I don't see any of our environmental problems as irreversible...we couldn't say the damage is irreversible (15-GO/J).

Whilst the majority of GOs tend to prioritise the *environmental problematique*, a small but significant number of GOs perceive an environmental crisis (in line with EsD). Those who espouse EsD, however, tend to doubt that real SD, including development and social issues in the region, can be attained.

A smaller number of GOs believe that the region faces an ecological crisis that requires urgent attention. Although the difference between the number of GOs that evoke an *environmental problematique* and those who perceive an ecological crisis is small (smaller than in the case of environmental managers), Corporate-Environmentalism is still the order of the day. There appears to be no significant differences between those GOs in El Paso and those in Juarez that perceived the state of the environment in the region as crisis, a similarity, however, was observed, for example: those GOs that believe the region faces an ecological crisis, both in Juarez and El Paso, tend to hold mid-level positions, whilst those GOs who hold senior positions (and who appeared to be less critical of their government and business groups in the region) support the idea of an *environmental problematique*.

Section 5
Summary and conclusions

GOs appeared to be more aware than environmental managers of the need to fuse the social and development needs of their communities with their environmental needs. Most GOs, though, exemplified the public policy trend towards deregulation, rational use and optimisation of resources, environmental planning and continued growth, all prominent within Corporate-Environmentalism. The minority of GOs who expressed concern about social development and environmental issues doubted that the elements of EsD incorporated into the government's SD discourse have been put into practice.

GOs often end up working for BGs, particularly the maquila industry; this helps spread Corporate-Environmentalism. The majority of ex-government officers stated either that they felt much the same as they did in their previous position - that is, pessimistic - about the possibility of solving environmental problems in the region, or said they felt frustrated, with no choice but to conform to the SD discourse that dominates the maquila industry, namely Corporate-Environmentalism.

Structural problems, particularly within the personnel system of Mexican government, are perceived as major obstacles to the continuity of environmental programmes

needed to advance new ideas and strengthen environmental policy. Financial problems, low salaries, arbitrary and discretionary practices are all linked to the flight of expertise from government agencies, which reduces the performance of GOs and undermines public confidence in the government's ability to regulate SD and environmental issues. Those GOs who supported Corporate-Environmentalism pointed out that significant progress has been made in terms of access to information and public participation in the region, particularly within BECC and NADBank. Some GOs, however, argued that if public accountability is to be achieved, institutions at all levels of government still have much to do to procure participatory mechanisms that include all sectors of society, above all the poorest communities in the region of Juarez/El Paso.

Finally, the chapter examined GOs' categorisation of the state of the environment in the region. Like environmental managers, the majority of GOs saw water issues - including water quality, wastewater treatment and depletion of groundwater resources - as a critical issue. Most GOs believed in an *environmental problematique,* that is, a series of environmental problems that can be managed and solved. Some think an ecological crisis is occurring, and perceived this issue in a holistic fashion. Whilst some GOs embraced EsD, this was far outweighed by espousal of Corporate-Environmentalism. A small number of GOs from El Paso believed that their city would eventually become a sustainable city, even if Juarez failed to do so. These few GOs felt that Juarez GOs would be unlikely to introduce sustainable practices in their city.

Chapter 8

SD discourse: NGOs in the region of Juarez/El Paso

This chapter draws on data from 19 interviews with NGO members (see Appendix III) in the region of Juarez/El Paso to analyse mutations in ideology, social practices, policy and operations within NGOs engaged, in one way or another, with the SD discourse in the region; it also explicates how much SD discourse has influenced NGOs and, conversely, assesses how environmental NGOs have responded to and shaped SD discourse. NGOs differ from business groups and local governments in the nature of professional mobility, partnerships and exchange. While more and more NGOs appear to rely on partnerships with governments and business groups, their relationship with these groups, as detailed in this chapter, is less dynamic than the relationship between local governments and business groups. NGOs' SD discourse and practices display features distinct from the other two groups.

To increase the comparability between the SD discourse and practices of BGs, LGs and NGOs, this chapter follows the same structure as chapters 6 and 7. The analysis of the 19 interviews with NGO members in Juarez/El Paso has thus been organised in five main sections:

Section 1. Definition and analysis of NGOs in the region of Juarez/El Paso.
Section 2. The SD discourse and practices of NGOs in the region of Juarez/El Paso.
Section 3. Mobility of NGO members.
Section 4. NGOs' categorisation of the state of the environment in the region
Section 5. Summary and conclusions

NAFTA negotiations stimulated the emergence of a wide range of cross-border environmental activism and organisations. As discussed in chapters 4 and 5, the prospect of a 'new *maquila*' boom along the border generated great concern, particularly among border NGOs, which although having a common goal undertook different strategies in the search for common goals to protect the natural environment of the region. Since NAFTA negotiations began in the late 1980s, partnerships among NGOs (based in the region of Juarez/El Paso) have become a key part of some NGO attempts to influence SD and the environmental policy and regulations of the region. In the post-NAFTA era, NGO members/leaders on both sides of the border became more aware

that cross-border co-operation projects, programmes and campaigns could enhance the effectiveness of their work (Hipple, 2001: 1). The NAFTA debate thus inspired a series of bi-national partnerships and networks of NGOs; these continue to act as 'watchdogs', assessing post-NAFTA developments and their effects on the natural environment along the international border. Examples in the region of Juarez/El Paso include the Rio Bravo-Rio Grande Coalition, the Environmental Defence Fund (EDF), *Movimiento Ecologista Mexicano* (MEM), and the Mexican Federation of Private Health and Community Development Associations (FEMAP). Most Mexican and US NGOs based along the border wish to build a sustainable region. They have, however, failed to forge a common environmental and SD project. Despite sharing development and environmental objectives, differences between and within Mexican and US organisations undermine cross-border action and the building of a common front.

Section 1
Definition and analysis of NGOs in the region of Juarez/El Paso

Mexican NGOs in Juarez

NGOs on the Mexican side of the border face numerous challenges. These include limited access to environmental information, lack of financial resources, and various forms of control and/or co-optation by government and business groups. The majority of NGOs in Juarez are concerned with solving the social and environmental problems of their immediate constituencies, and tend to work on several issues at the same time, including gender, environmental health, water quality, human rights and quality of life. Mexican environmental NGOs are relatively young organisations; the majority of them do not have a solid membership base or a long activist tradition. Simon (1997: 245) notes that 'there is no mass membership organisation or political movement associated with environmentalism in Mexico' and argues that the Mexican environmental movement remains an elite phenomenon. Simon's observations are relevant to Juarez, however, she does not tell us who forms this 'elite'. In the case of Juarez/El Paso, the 'elite' Simon refers to comprises a small group of mid-level and senior environmental professionals working for business groups, local government and NGOs. This 'elite' tends to move from one NGO to another or from NGOs to other groups, notably business groups and local government. Hernandez & Fox (1995: 196-197) argue that during the 1970s and 1980s, most environmental organisations in Mexico had urban, middle-class origins and had few poor members. In the case of Juarez, the majority of NGO members/leaders

interviewed, who work for local organisations, are indeed young urban middle-class professionals or researchers, trained locally or in other Mexican states; their work is directly concerned with addressing the needs of poor communities, including their environmental needs. The observations and data collected in the field suggest that a small 'elite' of environmental professionals working for different organisations forms NGOs in El Paso and Juarez. Members of the environmental movement, as described in more detail below, have established bi-national coalitions/partnerships both with other NGOs and with governments and business groups throughout the Juarez/El Paso region.

Another group of NGOs in the region has struggled to establish autonomy from government agencies and business groups by maintaining a strong and, at times, indiscriminate opposition to the government's environmental policy. This group of NGOs has restricted its 'lobbying' and 'policy-oriented' role to 'denouncing', which at the same time undermines its ability to formulate coherent opposition to environmental policy and to be marginalised from the policy-making process (Hogenboom, 1998: 147; Hipple, 2001: 2). Other NGOs in the region, meanwhile, have sacrificed their political autonomy from either governments or business groups (or both) in exchange for material benefits and better access to bi-national forums. These NGOs have clearly been co-opted. This co-optation has entailed, to a greater or lesser extent, aligning their some of their objectives with the interests of governments and business groups (Hernandez & Fox, 1995: 185).

US NGOs in El Paso

North of the border, the majority of NGOs are well funded (in comparison to their Mexican counterparts), long established, and membership-based. According to Camacho (1998: 10) the US environmental movement has been dominated by three broad and competing agendas. The first manifests itself in conservation groups that privilege natural resource management; these encourage the efficient administration of extraction and consumption. The second is typified by groups focussed on the restoration and preservation of wilderness and wildlife; these seek to limit the extraction and consumption of natural resources. The third agenda incorporates global environmental issues and human ecology. These three agendas have blurry boundaries, so that organisations often promote one or more aspects of each agenda at the same time. Within this framework, US NGOs also specialise in single environmental issues such as endangered species, toxic waste, nuclear waste, deforestation, pesticides, water resources or air pollution. The capacity to specialise in a single issue

depends largely on the capacity to influence specific legal and policy changes through US institutions. Camacho's (1998) analysis of the US environmental movement does not include development related issues, and this accurately mirrors the situation on the ground. In the region of Juarez/El Paso, the majority of mainstream US NGOs do not incorporate EsD into their activities, which are rooted in the three agendas proposed by Camacho, all of which espouse Ecologism or Corporate-Environmentalism. Small local groups (particularly those working in the colonias in El Paso), however, do tend to grapple with EsD. These organisations work on many of the social and environmental problems that also afflict poor communities in Juarez.

Generally, US NGOs are larger, have national reach and feature regional offices. Large environmental organisations based in El Paso are mainly formed by 'underpaid' researchers and volunteers, have good access to communication technologies, and tend to produce periodical publications and newsletters. In contrast, (with a few exceptions) the majority of NGOs based in Juarez are understaffed, consist of a small office, perhaps a fax machine, have poor access to communication technologies and cannot afford to invest in producing their own publications (11-NGO/EP; Carruthers, 2002: 14; Hernandez & Fox, 1995: 194).

The multidisciplinary and multifunctional nature of civic organisations makes it difficult to draw clear lines between different types of NGO in Juarez and El Paso. Vakil (1997) analyses the dilemma around NGO classification and proposes a tentative definition of as a basis for their analysis. Vakil (1997: 2060) defines NGOs as 'self-governing, private, not-for-profit organisations that are geared to improving the quality of life of disadvantaged people.' Whilst her definition may provide a good basis for the analysis of NGOs in general, it fails to include what most environment NGOs regard as an intrinsic component of their work, namely, the protection of the natural environment. The lack of consensus on how to define and classify NGOs has undermined both the theoretical and empirical research efforts to explain and analyse NGOs at a global level, and indeed in the region of Juarez/El Paso. This chapter, however, does not attempt to review and discuss the debate about NGOs classification/definition; nevertheless, it acknowledges its importance and the need for more empirical research in this area.

Carruthers (2002: 6) notes that the majority of development NGOs along the US-Mexico border work on a wide range of activities and are incorporating the environmental dimension more and more in their services, projects and programmes. He classifies active NGOs along the Mexican-US border by their area of activity, namely, lobbying and policy, advocacy, service oriented, network-organisations and education. Carruthers, like other authors, recognises the overlapping and blurred boundaries within

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his classification. Taking into account previous classifications (particularly that provided by Carruthers) and based on empirical data collected in the region of Juarez/El Paso, the NGO sample analysed in this chapter has been classified first in terms of geographical scope:

1. Local NGOs (including grassroots organisations)

2. National NGOs (working locally)

3. Bi-national & international NGOs (working locally)

The sample has also been classified in terms of *area of activity* (i.e. human rights, women, education, environmental health, quality of life), *social base* (number of members) and *funding sources* (funding agencies and/or persons). The categorisation of the NGO sample presented in this chapter clarifies the analysis of the differences and similarities between and within the SD discourse and practices of NGOs in Juarez/El Paso.

Local NGOs

Local organisations cover grass roots, social, environmental, and development NGOs that have emerged in Juarez or El Paso. The majority of these organisations, however, were not specifically created to deal with SD and environmental issues. Local NGOs incorporated the SD discourse at a later stage of their development and were originally created to tackle different social issues including women's rights, education, access to public services, and health. Generally, local NGOs are service-oriented, have little or no membership base, no national reach, poor access to communication technologies and are physically located within the community or close to the area in which they work. They are underfunded and understaffed and tend to collaborate and obtain grants (on a project-by-project basis) from religious organisations, local authorities and educational institutions such as the University of Texas at El Paso (UTEP), *Universidad Autonoma de Juarez* (UACJ) and the JMAS (*Junta Municipal de Agua y Saneamiento* -Juarez Water Utility). This group of NGOs tends to focus on development-related issues, particularly three key topics: health, access to basic public services and sanitation, and the improvement of the quality of life of poor urban/rural communities. Two good examples of local NGOs in the region of Juarez/El Paso region are CASA (*Centro de Asesoria y Promocion Juvenil AC*) and OPI (*Organisacion Popular Independiente*). CASA and OPI act as support organisations for the community, as facilitators of information, intermediaries and channels of communication between the community and

local authorities. They also are the promoters and providers of educational services both for youngsters and adults (6-NGO/J; 7-NGO/J).

Most local NGOs in the region of Juarez/El Paso espouse EsD. These organisations tend to be concerned with development issues; the eradication of poverty and attainment of a better quality of life for all *Juarencez,* for example, are regarded as a first step towards SD in the region. The NGO members/leaders working for these organisations are involved in, and well known by, the communities or *colonias* they work with. This type of NGO also exists in El Paso where they work on behalf of the most disadvantaged people who also live in *colonias* on the US side of the border. Two examples of local NGOs north of the border are Valley Interfaith and EPISO (El Paso Inter-religious Sponsoring Organisation). Both organisations have been working for more than a decade towards increasing the quality of life of El Paso's poorest communities and have succeeded, for example, in getting a good government response in the area of infrastructure (11-NGO/EP; Ward, 1999: 144-145). One NGO leader working in a *colonia* in Juarez explained the origins of her organisation:

> We started working on the social problems of young people in the colonias and carried out some educational activities. After a couple of years we had established a good relationship with the community in general, particularly with young people in the colonias. To establish such relationship takes time, a lot of time, even years, but it is only when you have that insight that you as an organisation can start looking at other possibilities and projects to improve their quality of life (7-NGO/J).

National NGOs working locally

This covers large NGOs working on diverse environmental topics; their strategies include lobbying and advocacy to influence policy-making and they may also be service-oriented. The majority of these organisations have several regional offices; they may be multi-sectoral, multi-function or single-issue groups and they campaign on air quality, water quantity and quality, bio-diversity and trade-environment related issues. National NGOs have more access than local NGOs to information, financial resources and to specialised professional personnel. Co-operation mechanisms and/or partnerships, projects and programmes with government agencies and business groups are becoming a common strategy and a source of financing for some or all of their activities. Business groups have created a few of this type of NGO themselves. Members/leaders of national NGOs defined their organisations as self-governing; nevertheless some admitted the influence that funding institutions have over their projects, campaign strategies and lobbying capacities (3-NGO/J). Good examples of national NGOs active

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in the region of Juarez/El Paso are MEM (*Movimiento Ecologista Mexicano*), FEMAP (*Federacion Mexicana de Asociaciones Privadas de Salud y Desarrollo Comunitario*), EDF (Environmental Defence Fund) and the Sierra Club. The director of the regional office of a national NGO explained the following:

> In 1993 I started working on an environmental project on the improvement of industrial processes. We work directly with the managers of the maquilas to find areas where the maquila can make improvements and at the same time it can minimise costs. We try to work from their logic, if you know what I mean (15-NGO/EP).

International and bi-national civic alliances, coalitions and networks working locally

This group of NGOs consists of mainstream, membership-based international organisations with national and local representation. In the interviews with international or bi-national NGOs, the majority of their members/leaders reported that the organisations they work for are single-issue organisations and concentrate their activities on environmental issues such as water quantity, bio-diversity conservation, wilderness, toxic waste, nuclear waste or air quality. One good example is WWF-Las Cruces, which focuses on the restoration of the bio-diversity of the Rio Grande and the Chihuahuan Desert. The strategies of international NGOs are also specific to each, and include advocacy, lobbying and policy-oriented strategies. Various international NGOs, mainly those based on the US side of the border, work on a membership-based system, and rely on their members, partnerships and alliances with government and/or business groups for most of their funding. Their relationship with government and business groups seems to fall into two categories. The first type includes those NGOs that are building up a closer co-operative relationship/partnership with business groups and governments, and the second includes those NGOs that are trying to maintain their autonomy from both governments and business groups.

The majority of international NGOs with a local presence in the region of Juarez/El Paso are physically located on the American side of the border. They have greater access to environmental information, government forums, international workshops, international scholars and environmental experts and more financial resources. International NGO branches in Juarez/El Paso are well funded and work on specific issues such as river ecosystem restoration (bio-diversity). The majority of this group of NGOs participated in the NAFTA process and whilst some continue to be active in post-NAFTA related issues, others directed their attention elsewhere once the agreement was signed. This

type of organisation includes Nature Conservancy and the National Wildlife Federation (Hogenboom, 1998: 148).

It is the bi-national or transnational environmental organisations that tend to 'keep an eye on' the NAFTA process and that are more concerned with the environmental impact of free trade along the border; these tend to support EsD and, to a lesser extent, Ecologism. The majority of bi-national alliances, networks or coalitions in the region were created locally or by the local representations of international or national NGOs. The strategies and activities of bi-national alliances tend to be diverse and include lobbying, policy, education, conservation and service-oriented practices. However, the most important characteristic of border alliances is their ability to maintain constant communication, and exchange of information, human resources and expertise. One of their notable achievements has been the promotion of public awareness, particularly on key issues like water quantity and quality, environmental infrastructure and environmental health. Border networks tend to rely on a few individuals or organisations that are responsible for promoting and creating public spaces for discussion and information exchange - key elements of EsD. These public spaces have taken the shape of bi-national workshops and meetings and more importantly of periodical publications and newsletters, distributed on hard copy or available on the Internet. Good examples of this group of NGOs in the region of Juarez/El Paso are the Del Rio Project and the Rio Grande Coalition (9-NGO/J; 10-NGO/EP; 12-NGO/EP).

Table 8.1 below shows the distribution of the NGO sample by location and level of activity.

Table 8.1.   Distribution of interview sample: NGOs in Juarez/El Paso

Location	Total No. of Interviews	Local	National	International & Bi-national
Juarez	9	6	2	1
El Paso	10	1	3	6
Total	19	7	5	7

Source: Interviews carried out during fieldwork with NGO leaders in Juarez/El Paso, 1997 & 1999.

NGO responses to part three (sustainable development) of the fieldwork guide can help us untangle how SD discourse has influenced NGOs in the region of Juarez/El Paso (see Appendix IV, section 3). NGO members/leaders responses to the following two questions are particularly relevant to this analysis:

1. Is SD part of your office/agency's everyday language?
2. Where did your office get its SD concepts?

The first question may elicit a *yes* (strong), *no* (weak), and *not yet* (moderate) response, and indicates whether SD discourse is or is not central to the organisation's principles and activities. Table 8.2 shows the distribution of NGO responses by level of activity. The majority of NGOs in the region of Juarez/El Paso appear to have been strongly influenced in one way or another by SD discourse and seem to have introduced different elements of SD discourse into their projects and programmes. Out of the 19 NGO members/leaders interviewed, only four said that they were not sure if SD was part of their everyday language (two local, one international and one bi-national NGO). Approximately, 78 percent of all NGO members/leaders interviewed responded that SD is part of the everyday language, while 16 percent responded that the term SD is *not yet* part of the organisation's practices and principles. Finally, only one respondent affirmed that SD is *not* (an explicit) part of their organisation's central principles and everyday language.

Table 8.2 SD: NGOs' everyday language, Juarez/El Paso (1997 & 1999)

NGOs by level of Activity	No. of interviews	Yes	No	Not yet
Local	7	5	1	1
National	5	5	0	0
International & Bi-national	7	6	0	1
Total	*19*	*16*	*1*	*2*
Percentage (Rounded)	*100%*	*78%*	*6%*	*16%*

Source: Interviews carried out with NGO members/leaders in Juarez and El Paso (1997 & 1999)

The significance of the NGO sample analysed in this chapter rests with the research 'objects', that is, NGO members/leaders, their relevance to the subject researched in this thesis, and the level of new insights they add to the research study (Flick, 1998: 65; Neuman, 2000: 170-172).

Section 2

The SD discourse and practices of NGOs in Juarez/El Paso

Local NGOs in the region of Juarez/El Paso

NGOs in the region of Juarez/El Paso appear to promote EsD more than government agencies or business groups do. The majority of local NGOs in the region seem to be very aware of the need to improve the quality of life of the poorest and most disadvantaged people in the region. The poorest and most disadvantaged communities live in *colonias* in Juarez and El Paso that have little or no access to basic public services including electricity and drinking water, as discussed in chapter 5. Local NGOs and grassroots organisations generally argued that, to meet the acute basic needs of poor communities and protect the environment in the region, government agencies and business groups must incorporate development issues as a priority in their environmental agendas. Most local NGOs work in or very close to the *colonias* in Juarez or El Paso and tend to incorporate the communities' social and development problems, that is, EsD) into their SD and environmental agendas. For this group of NGOs, humans are strongly positioned at the centre of their SD discourse and practices; such NGOs argue that environmental protection efforts become irrelevant if people's problems are not solved. The director of one NGO working with *colonias* in Juarez linked the lack of basic infrastructure in the *colonias* (specifically in *colonia Anapra*) to the presence of the maquila industry in Juarez and described problems in one of the *colonias* as follows:

> Anapra keeps growing even when this area has been 'punished' in terms of access to basic infrastructure and services. The local government had resisted providing the area with access to basic public services. According to local authorities this is done as a measure to discourage growth. But people keep coming and living in very bad conditions. The truth is that since the last maquila boom between 1987-1993 the public services shortage in Juarez has increased enormously, mainly because the city authorities invest all of the little resources we have as a city in developing infrastructure for the maquila industry. I'm talking about access to water, sewage and paved streets! (7-NGO/J)

The support for views of Ecologism seems to have declined significantly. Out of the 19 interviews conducted in Juarez/El Paso, only two NGOs specifically promote activities on ecosystem and species conservation. According to a government officer there are only one or two persons in the whole region are working on and are genuinely concerned for the flora and fauna of the Rio Grande:

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The local NGO interviewees stated that only one local NGO is strictly working on conservation of the Rio Grande ecosystem and on protecting areas such as the Lower Rio Grande Basin, from large scale degradation and bio-diversity loss. This NGO consists largely of two environmental activists who campaign to overcome institutional barriers to habitat restoration. This local NGO interviewee pointed out that SD *is not* part of his organisation's everyday language, and explained that his greater concern about the use of the SD discourse is that it tends to marginalise the conservation of bio-diversity, that is, Ecologism. Throughout the thesis it has been argued that key elements of Ecologism (namely conservationism) lost significant support during the 1990s and was marginalised (as well as EsD) by those who support and promote the dominant school of SD discourse, namely Corporate-Environmentalism. The remarks of this NGO member/leader support this argument:

...I've seen so many definitions. My concern is that it often leaves out bio-diversity. I mean many peoples' definitions seems to leave out bio-diversity, the rest of the life forms on the planet, it seems very human focused. So, our interests are the plants and animals as well. In any case if we used sustainable development it would be something like 'a development that meets the basic needs for an everyday reasonable quality of life but still allows for the survival of other life forms (14-NGO/EP).

This informant claimed that the numerous definitions of SD make the term imprecise; this, as discussed in chapters 2 and 3, has long been one of the major criticisms of the Brundtland definition. Moreover, he stressed that his organisation did not want to be associated with mainstream NGOs or other groups in the region that emphasise development or market-oriented elements of the SD discourse – in other words, that have incorporated elements of Corporate-Environmentalism - and continue to promote growth and the extraction and management of natural resources. In his view, the dominant views of SD discourse have been promoted and used so extensively by leading NGOs, government agencies and business groups in the region that the simple use of the term can imply agreement with the managerial approach (or indeed with Corporate-Environmentalism). The director of a local NGO based in El Paso stated:

(Question: Is SD part of your organisation's everyday language?)

No. We don't use that term [SD] very much because I don't know what it means. But those words don't occur on the mission statement. We just don't use that language. I just find the language so imprecise that is, open to too many interpretations. I think one example of how imprecise the term SD is, is the name the authorities are calling their water project, 'Las Cruces-El Paso-Juarez Sustainable Water Project'. I know very well what the purpose of that project is, and it is not my definition of sustainability (14-NGO/J).

The 'Las Cruces-El Paso Sustainable Water Project' is a water management project proposed by the authorities of Juarez, El Paso and Las Cruces, New Mexico to deal with the use of the waters of the Rio Bravo in that area. As shown in chapter 5, the main objective of the project is to use more Rio Grande surface water for municipal and industrial purposes and reduce the dependence of these communities upon non-renewable groundwater in the Hueco Bolson, which will be depleted in the near future. The director of this conservationist NGO in El Paso argues that water management affects his work, which consists in restoring the year-round flow of the river so that fish can survive. His remarks on this issue explain this point further:

Water management does affect the most important aspect of our work, particularly the water project [the Sustainable Water Project]. You know, the most important part of restoring the river is getting water for the river itself, because now the river doesn't have any water because of the way it is managed. The floods are for irrigators mostly in the US, they don't farm in the winter time when the floods are basically close and the amount of water the river gets depends on what comes out of the dams upstream (14-NGO/J).

The two NGO leaders/members who pointed out that SD is *not yet* part of their organisation's everyday language highlighted the difficulties they had experienced in trying to include some EsD elements into their policies and practices. These NGOs members/leaders stressed the link between poor environmental health and environmental degradation and the lack of access to sewage, drinking water and lack of pavements in the *colonias,* all of which affects quality of life. The director of a local NGO working in the *colonias* in Juarez stressed that there is no use in thinking about the SD discourse if the quality of life of present generations is not improved radically, since otherwise it will be impossible to secure a sustainable life style for future generations:

In our view, sustainability is also related to development problems that these communities [*colonias*] have been dragging for years and that are still not solved at all. From our point of view, under the conditions in which these people live, it is impossible to attend or think about future generations and sustainable development (7-NGO/J).

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This informant pointed out the relevance of social, cultural, environmental and health issues in the *colonias*, not only for future generations but also for the survival and reproduction of present generations. He stressed that development issues tend to be pushed into a different category of problems and are usually not perceived as central issues within the SD discourse:

> In my opinion these issues are not discussed in terms of their relevance for the quality of life and environmental situation of the border. Generally, problems like education or other development problems are not included as central problems within sustainable development or environmental discussions (7-NGO/J).

The second local NGO leader/member who responded that SD is *not yet* part of the organisation's everyday language expressed the same ideas on SD discourse as the informant quoted above. He also works in support of the *colonias* in Juarez, and said that co-operation and financial aid received from other groups (including mainstream NGOs, business groups or government agencies) should not be conditional on the nature of their activities within these communities. The director of a small but very active local NGO pointed out that the discourse and practices of SD requires co-responsibility between different groups in the region, such as the maquila industry and the local government, to solve the acute problems in the *colonias* on both sides of the border:

> We call sustainable development the empowerment of poor communities in the *colonias*. Capacity building of the community in general. It is important to push for a greater involvement of the maquila industry and the government in the problems of *colonias*. In our view, the maquila industry and the *Municipio* are co-responsible for the situation that prevails in the *colonias* and therefore responsible for participating in the search for solutions to their problems... Sustainable development will only be possible if the economic, cultural, urban, social and environmental conditions are evaluated and understood in an integrated manner. (6-NGO/J)

The rest of the local NGOs (five organisations) responded that SD *is part* of their everyday language are also based on the Mexican side of the border. Local NGOs in Juarez are mainly concerned with solving the complex and interrelated development and environmental issues of poor communities. The SD discourse and practices of this group of NGOs include different strands of EsD such as quality of life, environmental health, education, cultural values, access to public services and basic needs. The following quotes illustrate this:

(Question: Is SD part of your organisation's everyday language?)

> Yes, it is the mission of our organisation. We aim to contribute to sustainable development by promoting a water culture in the region. If cultural values, education and social issues are not incorporated in the work towards sustainable development, it won't be possible (1-NGO/J).

> Yes, sustainable development should follow the logic of localisation. This means that local development efforts and policies should integrate economic, social, cultural and environmental issues (8-NGO/J).

According to a local researcher and NGO consultant, the SD and environmental problems of Juarez and El Paso should be approached from a regional perspective, with both cities being viewed as a single community. This informant pointed out that a critical environmental problem in the region is water, however, in his view this problem is handled from two different approaches not only at the institutional level, but also at the social and cultural levels. In his opinion it is urgent to develop a water culture for the region, not one in Juarez and another in El Paso. According to this informant, despite the bi-national efforts of NGOs, government and business groups there are still two different and at times contradictory approaches to the environmental and development problems in the region:

> We are two cities in the middle of the desert, however, if you look around there is nothing. So, geographically we are one city and what we do with our resources is a matter of survival for the region, the cities, community or whatever you want to call it. I would much rather say that I come from the region of El Paso del Norte... because this obliges me to keep in mind the problems of others in El Paso, of both sides. If we insist on belonging to Juarez or El Paso we go back to the position of just contemplating the problems of the other side and to manage natural resources as if they really belong just to one side (8-NGO/J).

The majority of local NGOs (including grassroots organisations) appear to be concerned with the social, development and environmental issues of poor local communities. This group of NGOs appears to have resisted the co-optation strategies of government agencies and business groups and instead co-operates with academics and educational institutions in the region. These NGOs tend to exchange information, and promote access to basic public services, paved streets and environmental health issues.

Local NGO (particularly grassroots) resistance to co-optation strategies, however, reflects their marginalisation; they lack the power of mainstream government environmental agencies, business groups, and those NGOs (that participate in cross-sectoral partnerships even though they embrace EsD or Ecologism), all of which are

able to shape environmental and SD policy-making in the region. Such marginalisation can be related to their strong support for aspects of EsD, including the need for a meaningful and active involvement of the maquila industry in the search for solutions for poor communities in the region. Local organisations have maintained a certain level of political autonomy from government agencies and business groups by opposing public environmental policy on key issues such as toxic waste disposal. During the fieldwork it became apparent that these local NGOs were not invited to participate in bi-national workshops and meetings. According to one NGO member/leader the reason why they are not welcome in bi-national working groups is related to the perception of local authorities, business groups and co-opted NGOs that these local NGOs hold radical views (7-NGO/J).[227] On the other hand, the limited impact of local NGOs on public opinion, limited access to media, lack of resources and lack of publications mean that they do not pose a significant threat to the interests of other groups in the region (business groups, local government or co-opted NGOs).

In *Sociology, Environmentalism, and Globalisation* Yearley discusses NGOs' impact on policy makers and public awareness. He underlines (1996: 91) the presence of North-South distinctions among environmental organisations. Large, Northern, membership-based, and wealthier environmental organisations tend to be more influential both at the local, national and transnational levels, whereas Southern organisations are more concerned about social justice issues and tend to be under-represented and have less influence on local, national and transnational policy-making. Whilst the North-South distinction pointed out by Yearley does apply to border NGOs, it is also true that local NGOs working with poor communities in El Paso are as under-represented in the bi-national or transnational forums as are their counterparts in Juarez. In El Paso, however, local NGOs capacity to influence local policy making is greater than that of local organisations in Juarez, but at the national and international levels their influence is still limited.

National NGOs' presence in Juarez/El Paso

Nonetheless, as will become evident later in this chapter, support for elements of Corporate-Environmentalism also features (explicitly or implicitly) in the SD discourse and practices of (a few) local, national and international NGO members/leaders in the region. The majority of national and international NGOs (but also a few local organisations) appear to have been strongly influenced by the mainstream views of the

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[227] This information derives from participant observation in the various bi-national workshops and meetings I attended during my field research and during informal conversations with members of these groups.

SD discourse within business groups and government agencies in the region. These strong links often originate through personal/working relationships and networking among environmental managers, government officers and NGO members/leaders, which facilitate access to financial resources, exchange of information, the development of shared projects and participation in cross-sectoral groups. Some groups genuinely share the Corporate-Environmentalism of business groups and local government in the region, whilst other NGOs sacrifice their political autonomy to avoid being totally marginalized from the decision-making process. The remarks of the director of the branch of one national NGO in El Paso clarify how some NGOs build closer relationships with and are influenced by business groups and government agencies:

> Our organisation's strategy differs with that of many other national and international organisations. This difference is easy to spot and you can see it in the way we develop and conduct our projects and programmes, and that is our main criteria. Therefore, the private sector, the business sector, and the economic sector are invited to participate in our projects. We also work with academic leaders and scientists of the locality in order to introduce an in-depth knowledge of the current legislation; this is because we also work very closely with local authorities here and in Juarez (15-NGO/EP).

The strategy described by the NGO leader cited above is followed mainly by a small number of influential NGOs in the region. Local, small and less influential organisations either resist following this trend or are marginalised from participating in these partnerships as they hold a more radical approach (including EsD and Ecologism).

Most national NGO members/leaders in Juarez/El Paso espouse a broad array of SD discourse and practices. However, all of the members/leaders of this group of NGOs seem to share a common strategy and follow the trend of building partnerships and associations with other groups in the community, namely business and local government agencies. The director of the Juarez office of a well-known national NGO stated that his organisation has taken a different path from other national, international, local and/or bi-national groups. According to the president of the local representation of a Mexican national environmental organisation, his organisation has adopted a more co-operative approach with both governments and business groups:

> We have opted for a more co-operative approach, different from what other NGOs in the rest of the country do. Generally, NGOs have a bad name because they are sensationalist and they are always against everything. This organisation in Juarez believes that if you are going to confront and oppose the development of a specific project you should also have a solution or alternative to offer and this is why we try to co-operate both with government agencies and the maquila in the locality. (4-NGO/J)

This informant claimed that SD does form part of the everyday language of the NGO he works for and asserted:

> Sustainable development is part of our principles. We believe that sustainable development means equilibrium. That is industrial development: yes! But with equilibrium. In my view sustainable development is starting to go global with the ISO 14000. The ISO 14000 is pushing industry to invest in changing their technology and production process, to change their philosophy, and that is a good thing. (4-NGO/J)

This informant reported that his NGO supports industrial growth and self-regulatory mechanisms, both central to Corporate-Environmentalism. His SD discourse matched that of business groups in the region and focused on NAFTA-related issues. The personal background of this informant sheds light on the relationship of this influential NGO to other groups in Juarez/El Paso. He was trained as an engineer and had two jobs at the same time: he is president of an NGO and director of an environmental consultancy that works for a significant number of maquila plants in the city of Juarez. The head offices of his NGO in Juarez are physically located in the same building as his consultancy firm. In the consultancy firm, the informant reported to have a partner (his father), who also has two jobs: one at the consultancy firm and the second as the project development director in one of the most influential bi-national organisations in the region. Contrary to small local NGOs, this national NGO was always present in bi-national workshops and meetings and appeared to have the ability to influence the decision-making process; it appears to have succeeded in the promotion of Corporate-Environmentalism.

This NGO has developed a close working relationship with government agencies such as the Texas Natural Resource Conservation Commission (TNRCC), the US Environmental Protection Agency (EPA), the Border Environmental Co-operation Commission (BECC), *Municipio de Juarez* and mainstream NGOs. Small local NGOs were rarely present in the meetings and working groups co-ordinated by this NGO. The comments of the director of the El Paso office of a US national NGO are revealing:

> *(Question: in your view, can a successful SD be achieved for the region of Juarez/El Paso?)*
>
> What I see is that in the border we already have the institutional framework, the instruments and the projects that guide us to achieve a sustainable region. La Paz Agreement, Border XXI, NAFTA parallel agreements on environmental issues, and NAFTA border institutions like BECC form this framework (15-NGO/EP).

This informant said that in his view SD in the region is impossible without economic growth and expressed mainstream SD discourse, that is, Corporate-Environmentalism. One of the objectives of this NGO is to promote joint actions that solve environmental problems without diminishing or neglecting economic growth. Whilst this informant claimed that participation and accountability are two central elements of all the projects in which his NGO is involved, during meetings it was evident that it was always the same mainstream NGOs that participated in the bi-national workshops, seminars or meetings. His remarks speak for themselves:

> To put it in simple words. How do we apply sustainability criteria to our projects and programmes? We can say that we work on joint-actions that aim to achieve economic prosperity, efficient management of the natural environment and a healthy community. But the participation of the three sectors is vital. You need the industrial sector, governments and NGOs (15-NGO/EP).

Despite such sentiments, however, small local NGOs do not seem to be included in his equation for co-operation.

A government officer working for a highly influential US federal environmental agency in El Paso described the work of the interviewee quoted above (the director of the El Paso office of a US national organisation) in the region as follows:

> We work a lot with the [representations of national NGOs] here in El Paso, with C. Rincon, who is involved in many, many things. I don't think he sleeps. He is one of the NGOs dealing with air issues, and they really do a lot. They give a lot of support for the Task Force, like for instance Carlos through his NGO would apply for grants to basically do projects under the Task Force. So, sometimes the line between his NGO and the Task Force are blurred, I don't mean that in a bad way or anything... (12-LG/EP).

This NGO member/leader demonstrates a legalistic, 'official' approach that focuses on economic prosperity as a prerequisite for improving the state of the regional environment. This informant reported that he had participated in a joint project related to environmental protection with the maquila industry:

> In 1993, we started working on a project with the maquila industry known as 'pollution prevention' in which environmental managers and my organisation looked for cost-effective opportunities, you know for continuous improvement. Business opportunities that contribute to improve the environmental standards of the business and the health of their workers (15-NGO/EP).

This NGO member/leader seems to have been strongly influenced by Corporate-Environmentalism, and to have adopted the concept of continuous improvement, used by the maquila industry as a synonym for SD.

Some Juarez-based national NGOs, however, work closely with the city's poorest communities. One good example is a national service-oriented organisation that concentrates its work on development, health and environmental problems of the poorest communities in Juarez. This NGO has been working in Juarez since the 1970s and according to its director the SD discourse has been part of their language, principles and objectives since it was created:

> [SD is part of our organisation] ...since we were born. We work for and with the community. We have social promoters that work directly with the community. We started working on birth control and women's health, it took a long time to introduce the pill into these communities, but women realised they can control their fertility. Moreover, women in the colonias started pointing out different problems and issues that were a matter of concern for their communities and asked social promoters if they could do something about access to drinking water, for example. So, we began to incorporate the needs of the community, their demands into our activities to improve their quality of life. This for us is sustainable development (2-NGO/J).

This organisation has a good reputation within the *colonias* and among other NGOs, business groups and government agencies in the region. They co-operate with smaller NGOs in specific projects, have distanced themselves from mainstream NGOs, publish an annual report, statistics and academic studies, and maintain a more critical position towards government environmental policy. This organisation provides a successful example of cross-sectoral co-operation. The wife of a rich and influential businessman from Juarez created this organisation. Despite its direct association with this company, the organisation has managed to maintain its political autonomy, the trust of the community and has achieved financial independence (self-financing) through the services it provides. The director of this NGO explained:

> We are a self-governing organisation. This doesn't mean that we don't receive donations, we do. But these donations are very specific and the information is open to everybody. We have a hospital, operational costs are 22 million pesos; the hospital produces a little more than that. Just to cover the operational costs. That is how we work. We work with academics and produce reports, studies and statistics and sell them. So, when I say we are self-governing it is because we can really do what we think is important (2-NGO/J).

This NGO espouses EsD. The organisation is mainly anthropocentric and focuses on the improvement of quality of life and the environmental health of the poorest urban and rural communities. The environmental programme officer of this NGO appeared sceptical when he addressed the possibility of achieving a sound SD in the region of Juarez/El Paso:

(Question: In your view, can a successful SD be achieved for the region of Juarez/El Paso?)

No, I don't think sustainable development is feasible. It is simple to explain why. Each group here in Juarez has a different understanding of what sustainable development means. The ecologists, for example, see it from a different point of view. They are concentrated on issues such as water, bio-diversity loss or soil erosion, but they simply don't have the ability, the vision, to incorporate human beings in their concerns (3-NGO/J).

Finally, the last national NGO member/leader interviewed also takes a strongly anthropocentric position; his main concern, he stated, is to improve the quality of life in the region of Juarez/El Paso. This national NGO focuses on the problem of overpopulation and immigration to urban areas of Juarez and El Paso; its strategy is to create a regional consciousness to halt the rapid growth of the region. According to this informant SD discourse is a central part of the principles of his organisation:

Yes, I think sustainable development is our driving word. Everything is hitched upon that notion. We are all aware at the rate we are going in the developed world, there are demands upon the rest of the earth in terms of consumption. We are driving on horrific agendas of environmental damage everywhere (13-NGO/EP).

This organisation is centrally concerned with EsD, including population growth, consumerism, limits to growth and the idea that a global ecological crisis is unfolding. However, this informant was also concerned with the ideas underlying EsD, namely consumerism. He was the only respondent concerned about the consumerist culture and how Mexicans are rapidly adopting what he called the 'American consumerist culture' (13-NGO/EP). This interviewee also pointed out that there is a clear division within his organisation regarding what the NGO should focus on. The radical fraction of this NGO focuses on limits to growth and consumerism, whilst the moderate fraction focuses on environmental management within the globalisation of markets. This NGO member/leader notes:

There is the issue of over-population and limits to the growth. There has been a lot of controversy in the Sierra Club about immigration and on whether we should look at these problems in terms of being part of the main problem. In my view this society has an incredibly consumerist life style comparing it with the rest of the world. The whole notion that some at the Sierra Club think you can solve ecological crisis through controlling other countries' population growth or to say that immigrants are somehow caught up. I mean it is a much more complex issue than that. I guess I would say that I would at a national level, from a sustainability stand point we should start to educate people [in the US] on the fact that we simply are consuming far too much (13-NGO/EP).

International NGOs with a presence in the region of Juarez/El Paso

The international NGO members/leaders interviewed are based on the US side of the border. One organisation is the regional branch of a large, well-known, international NGO dedicated to the protection of wildlife. The regional office was started in 1996 with the aim of working on a long-term project of restoration and conservation of the Chihuahuan Desert. This NGO promotes different aspects of Ecologism and focuses mainly on the conservation of bio-diversity in the region. The project co-ordinator of this NGO stated that her organisation promotes mainly non-anthropocentric views and that she was more concerned about nature preservation rather than focusing on human welfare. The comments of the head of the regional office clarify this point:

> I am a biologist and I don't know much about the theory of sustainable development. I just know that people are going to live here and they have to change their behaviour if they want it to last... Our mission is to protect nature and the biological diversity that we all need to survive. I am thinking about everything but humans in this area (16-NGO/EP).

This informant maintained a strong non-anthropocentric position, arguing that economic and population growth should be halted for the sake of the region's ecosystem. The use of alternative and clean technologies are also central to the views of the NGO she works for, which clearly emphasise elements of Ecologism.

The leader of an international NGO stated that her organisation recognises that people need to make use of their natural resources, but believes that drastic changes are required in how those resources are used to preserve and recover the ecosystem of the Chihuahuan Desert. The Chihuahuan Desert is one of the most biologically important deserts on the planet: it has more mammal, fish, plant and bird species than any other desert in the world. However, the Chihuahuan Desert has very few protected areas; less than two percent of the desert is formally protected as a park (WWF, 1998). The project on the protection of the Chihuahuan Desert was started by this international environmental organisation in 1997. The NGO member explained their approach to such projects as follows:

> We think that people can live on their land, but they have to change their behaviour drastically and they can't extract as much water as they do now, they can't continue to farm as they do now, so we are not necessarily about locking-up nature. We know that people will need to use it and live along with the plants, the animals, but in harmony, not exploiting and exhausting natural resources. So, I think we do. We don't necessarily think about sustainable development (16-NGO/EP).

Heap's (2000: 212-213) finding that two different levels exist within the relationship (or partnership) between Living Earth-UK and Shell is also pertinent to the Juarez/El Paso NGOs. These two levels involve on the one hand, the belief of those working at the Shell head office in London that their partnership with Living Earth-UK is a 'highly innovative and progressive' idea. The second level refers to those working as programme officers on the ground who seem to think that the relationship between Living Earth-UK and Shell is 'merely financial and with very limited meaningful interaction.' This dissonance between head office staff and those working in the field clearly exists in organisations in other parts of the world as well. In the case of business groups in Juarez/El Paso, differences are apparent between the corporate environmental and SD policies on the one hand, and the SD discourse and practices of environmental managers working in Juarez on the other. As discussed in the previous chapters, the gap between the SD discourse of those working at the head office of business groups, local government and NGO and those working at the ground level (developing corporate programmes in developing countries) reveals fruitful avenues for further research. It would, for example, be enlightening to investigate the extent to which partnerships between NGOs and business groups generate meaningful environmental and social practices at the local level, particularly in developing countries, and why and how the schism between SD discourse and practices of NGOs' (and indeed of business groups or governments) headquarters and those working on the ground in developing countries emerge. When asked whether SD was part of his organisation's everyday language, the international NGO member explained:

> Not here, in this office. You might want to do an interview with our
> Washington office. There are 300 people there and I don't know if they use
> the term [sustainable development], that phrase anymore (16-NGO/EP.

Within large organisations (like this one and the national NGO discussed above), however, different types of SD discourse are apparent. Communication between the head office and the programme officers at the ground level seems inefficient, insufficient and random. The local representatives of national and international NGOs stressed that they could not speak for the organisation as a whole: the SD discourse is dealt with by social-economists in the central office, whose work is out of synch with activities on the ground. The remarks of this informant are illuminating:

> *(Question: Is SD part of your organisation's everyday language?)*
>
> Our mission is to protect nature and the biological diversity... I don't know, I
> would say, no. I don't know if the whole institution has the same viewpoint as
> me. I've never been based at the DC office, so I don't know (16-NGO/EP).

According to this informant, large organisations face another obstacle to defining their stand on SD in a precise and concrete manner: the contrasting agendas and strands of SD discourse that jostle within them. As a result, formulating a clear policy to serve as an overall framework is a tricky business.

The comments of the NGO member quoted above help explain the marginalisation of Ecologism, not only at a regional level, but also within this particular organisation. There appears to be gap between the dominant views of SD discourse at the NGO headquarters (mainly Corporate-Environmentalism, but also some elements of EsD and Ecologism) and this specific local office, which espouses Ecologism but appears to have a low profile, struggling to get financial resources and understaffed.

Section 3

Mobility of NGO members/leaders

The mobility of NGO members/leaders does not seem to conform to any particular pattern. Furthermore, activists or NGO members/leaders seldom get jobs with business groups or local government. Most of the NGO members/leaders interviewed in the region of Juarez/El Paso, with a few exceptions, have always worked for non-profit organisations and were trained within the social sciences. Two NGO members/leaders, working for local NGOs in Juarez, exemplify this:

> I've always worked in projects with these communities from different places and organisations. I've been working in this organisation since it was created. I have a BA in Community Sciences and a Masters degree in education (7-NGO/J).

> I have a BA in history and a dual master's degree in Latin American Studies and Community and Regional Planning. I've worked for other organisations before. Organisations such as the Midwestern Regional Office of World Relief in Chicago, where I directed the refugee resettlement programme (12-NGO/EP).

Only one NGO member/leader working for a national NGO said they had previously worked in the maquila industry. This informant pointed out that he worked for the maquila industry for only one year and realised that the work was not what he expected; he decided to change the direction of his professional career. This NGO member/leader points out:

> Well, I worked for the maquila industry before. I worked for Fleck Manufacturing as Material and Production Control Supervisor and for other company in Chihuahua until 1993. I am an industrial engineer that is my

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training. Then an opportunity to work for FEMAP was there and I took it. I don't regret having changed my professional career, but I really didn't know what to expect. I like and believe in what I do now and I have been with FEMAP since 1993 (3-NGO/J).

Mobility among NGO members in Juarez can also be seen as a result of NGO-BG or NGO-LG associations (or the blurry boundaries between these groups). Local government and/or business groups have, in several cases, been directly involved in the creation of NGOs in Juarez. A local NGO in Juarez provides a good example of a civil organisation created with the financial support of local businessmen or government officials. This NGO was formed by the director of the Coca-Cola Company in Chihuahua and by the brother of the ex-Mayor of Juarez. This NGO has attracted savage criticism due to its connections with two of the most influential personalities in the region. The creation of this NGO provides a good example of the efforts of the local dominant class to influence the environmental movement, in line with Sklair's (2001:207) argument that the transnational capitalist class (TCC) is more or less in control of a portion of the environmental movement. Mobility, therefore, can be explained in terms of the efforts of local politically and economically dominant elites to co-opt the environmental movement in Juarez. The director of a local NGO in Juarez explained the origins of her organisation thus:

> [This organisation] was created by a group of five businessmen from Juarez, four out of the five come from the construction sector and one is the director of Coca-Cola in Chihuahua. They [the five businessmen] realised that there was a great need to do something about the urban-social and environmental situation that characterises our city (5-NGO/J).

The NGO director reported that her organisation had been stigmatised precisely because it is associated with these five influential *Juarencez* and explained:

> *(Question: Has the close link of your organisation with the business affected the work of your NGO, and if so in which ways?)*
>
> I have to say it [our NGO] is a little stigmatised, because in our country everything ends up being related to political parties. This organisation was born with the blessings, to put it this way, of the former Governor of Chihuahua who belongs to a different political party from the present administration. Moreover, we have been criticised because one of our top directors is a relative of the ex-Governor. However, the philosophy of our organisation is completely independent from any political party (5-NGO/J).

Other local NGOs working for poor communities in Juarez expressed a certain level of suspicion about the gap between their publicity materials (vast amounts) and their

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impact on the *colonias*. This NGO indeed seems to spend a significant amount of money (compared to other local NGOs) on publishing numerous reports describing numerous programmes and projects on environmental education, health and housing in the *colonias*. It is relatively easy to access this material as it is available free of charge. The head offices of this NGO are located in a residential area in high-class office building and far from the communities the organisation works in. This business-like approach to poor communities aroused a great deal of suspicion among other NGOs and the local media. During the interview this NGO member/leader pointed out that the organisation was involved in a media scandal about substantial financial donations (believed to have come directly from the Mayor) and about how the NGO was spending its money. The informant explains:

> There was a significant financial donation made to the organisation by an influential personality in Juarez. But we have explained where it came from and how we spent it, yet there was a big scandal. Today we finance ourselves with private donations. However, because of all the politics and criticisms around this particular donation we have decided to maintain our activities in a low profile. We think all this scandal was part of a political strategy to damage the image of the previous administration (5-NGO/J).

Whilst finding out what exactly happened is far from easy, it seems that the 'association' between this NGO and local government and business groups did not assist them in their work with the *colonias* in Juarez. A researcher interviewed in the local university was emphatic:

> Have you interviewed someone at PROGRESO? This NGO is a joke, they do have money and they spend it in publishing little pamphlets of their projects. But to be honest as of now that is all we have seen from the projects, the pamphlets, nothing else. They never came out clean from that scandal (17-NGO/J).

The organisation changed its approach, and started building more transparent partnerships with government agencies on a project-specific basis. It is important to note that this NGO participates (keeping a low profile) in bi-national workshops and meetings along with other mainstream organisations, local government and business groups.

The line that distinguishes government agencies and business groups from some NGOs (like the one examined above) in the region of Juarez/El Paso seems to be blurred. The representation of a well-known (national) Mexican NGO in Juarez is a good example of an NGO *'association'* with both local government and business groups, where the boundaries between each of these groups is far from clear. The president of a national

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NGO in Juarez (see above), for instance, also owns and directs one of the largest and best-known environmental consultancy firms in the region. This consultancy provides environmental services (i.e. environmental impact assessments and air emission control mechanisms) to a great number of maquila plants and other businesses in Juarez and El Paso. At the same time, the president of the NGO and director of the environmental consultancy owns and manages one of the few recycling companies in Juarez. Mexican environmental legislation required that all maquilas return their waste (toxic or not) to the country from which the materials were imported in the first place.[228] However, in the case of recyclable solid waste (i.e. paper, plastic or cardboard) Mexican environmental law states that the only way that such waste can remain in Mexico is through the donation of the money earned by recycling maquila solid waste to NGOs or other civil organisations. Thus, the president of the NGO, director of a consultancy firm, and owner of a recycling company seems to get both the maquiladora donations and the money for the recycling.[229] When he was asked about his professional background and his present position he explained:

> Well, as you know I am the general manager of Franco & Asociados, but I am also the president of *Movimiento Ecologista Mexicano* here in Juarez and the treasurer of AQUA XXI – another NGO here in Juarez. As *Movimiento Ecologista Mexicano* we are very active and participate in almost every bi-national forum... Like the Air Force Task Group. We have developed an excellent relationship with the government and with the maquila industry through the years. I also started one of the only recycling businesses in Juarez; we recycle mainly waste from the maquila, including plastic, cardboard, and paper (4-NGO/J).

NGO members/leaders rarely take up positions in BGs and/or government agencies. The majority of the NGOs members/leaders interviewed have worked only within NGOs or the academic sector. Generally, NGOs tend to search for financial resources through building partnerships with other groups, increasingly with business groups and government agencies. Some authors regard these NGO-private sector partnerships as an 'innovative way of interaction between the NGOs and the private sector, motivated by the commitment to civil society participation' (Heap, 2000: 221). However, the evidence presented here suggests that in most cases partnerships do influence and compromise the activities of NGOs, which exchange autonomy for material benefits, and that such partnerships do not necessarily promote civil participation or a healthier environment. Some partnerships or associations have been successful, as in the case

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[228] In 2001 environmental legislation changed with regard to the return of toxic or solid waste to the country from which it was imported. As part of NAFTA, toxic or solid waste can be 'properly disposed' of in Mexico. Some NGOs and government agencies expressed great concern about a possible decline the still deficient enforcement of environmental law and the possible improper disposal of these wastes since Mexico has few adequate (or inadequate) disposal sites.
[229] I carried out two interviews with this person: one as Director of the consultancy firm, the other as president of a national NGO. It is also important to note that his father, who is also his partner in the consultancy firm, works for the BECC in the position of Director for Border Project Development.

of FEMAP, but the majority are regarded by some local NGOs as an innovative strategy of business groups and government agencies to promote the dominant managerialist strand of SD discourse, in other words, Corporate-Environmentalism. For local NGOs, many of these associations have captured elements of the local environmental movement and are mainly motivated by the political and economic interests of dominant groups (Sklair, 2001; Yearley, 1996; 6-NGO/J; 7-NGO/J).

Section 4

NGOs' categorisation of the state of the environment in the region of Juarez/El Paso

The majority of NGO members/leaders categorised the environmental situation in the region of Juarez/El Paso as a single holistic ecological and social crisis. Generally, NGO members/leaders highlighted connections between environmental and social problems. The majority, but not all the NGOs in region, thus categorised the situation as critical or serious and stressed the need to attend to environmental problems in all their dimensions, incorporating the development needs of poor communities in the region. However, these informants claimed that other groups in Juarez and El Paso do not perceive the environmental situation as a holistic ecological and social crisis, but as an *environmental problematique*. The remarks of two NGO members/leaders working for the *colonias* provide good examples of this point:

> *(Question: How would you characterise the environmental situation along the US-Mexico border and particularly in the region of Juarez/El Paso?)*
>
> The situation is critical and the problem is that it is not perceived as such. It is critical and will become even worse. The problem is that people don't see the connections, for example environmental pollution and violence are related problems; there are studies that demonstrate it... The connections made between the levels of lead in the blood and violent behaviour...Or the relationship between poverty and environment (2-NGO/J).
>
> There is a critical situation and it hasn't been recognised enough. I would say that the most urgent thing is to construct a common vision that really integrates the problems of both cities (17-NGO/J).

The connections between environment and development were mentioned explicitly by a few NGO members/leaders. Notably, only one NGO member/leader (cited above) made a connection between consumerist culture and the region's deteriorating environment. The chairman of the local representation of one national NGO in El Paso stated:

> I am afraid that Mexico as a country is beginning to emulate us and in some ways we are emulating things from Mexico. But the worst thing they [Mexicans] are getting from us [Americans] is the consumerism stuff that I see now among Mexicans. They try to be like our society, Mexicans now think in terms of: *I buy this, and that; and I need this... and I need that....* And I feel that we stand at a really destructive pattern to rest of the world. A pattern that is not sustainable and we should set a better example, not that one. (13-NGO/EP)

This informant also considered issues like poverty and poor housing to be part of the ecological crisis in the region of Juarez/El Paso and characterised the present situation as critical and unsustainable. He explains his concerns as follows:

> I took the tour of Juarez. We took a photographer to Anapra [*colonia*] and we finished down in the lower valley.... And I was depressed for a week after the tour... I couldn't believe the roads, the housing...I could not believe what is going on. The word I kept using, as I was shaking my head, is unsustainable... This is unsustainable... this is unsustainable.... This can't be sustained....(13-NGO/EP).

Whilst the majority of NGO members/leaders categorised the environmental situation as critical, not all of them saw environment and development problems in terms of EsD. Two NGO members/leaders strongly supported Ecologism and associated the ecological crisis in the region specifically with the loss of bio-diversity. The remarks of two NGOs member/leaders that support Ecologism provide good examples:

> My concern is habitat and water availability for the rivers. So, I wouldn't come from an air quality standpoint or a quality of life standpoint. I am thinking about everything but humans in this area and I think the situation is extremely degraded. Critical (16-NGO/EP).

> The situation is pretty bad. The river is in crisis, I mean the Rio Grande eco-system is very degraded and needs urgent attention (14-NGO/EP).

A few NGO members/leaders categorised the state of the environment in the region as a group of separate environmental problems amenable to managerial solutions. This group of NGOs seems to believe in an *environmental problematique* in the region. This group does perceive specific environmental problems as, individually, in a critical state. The majority of such NGOs pointed out that water and/or air are critical issues in the area but did not make any connections between these and other environmental and social problems in the region. Some NGO member/leaders support Corporate-Environmentalism and work closely with government agencies and business groups in the region:

It is not an environmental chaos. We are on time for initiating activities that help to mitigate environmental problems. We need to pay attention to water, this is important. But it is not chaos, I repeat (4-NGO/EP).

I don't think the environmental situation here is serious. Yes, we have to admit that there are problems that are bad. For example, the budget of the local government is the same as four years ago, only we are a lot more people now (5-NGO/J).

One of these informants' works for a local NGO financed by business groups and government agencies. Even though the director of this NGO claimed to be closely involved in improving the quality of life in the colonias in Juarez, she seemed to be more concerned about establishing partnerships with local businesses and local government agencies. Figure 8.1 shows the distribution of the categorisation of NGO members/leaders of the state of the environment in the region of Juarez/El Paso.

Figure 8.1 NGOs' categorisation of the state of the environment in the region (1997 & 1999)
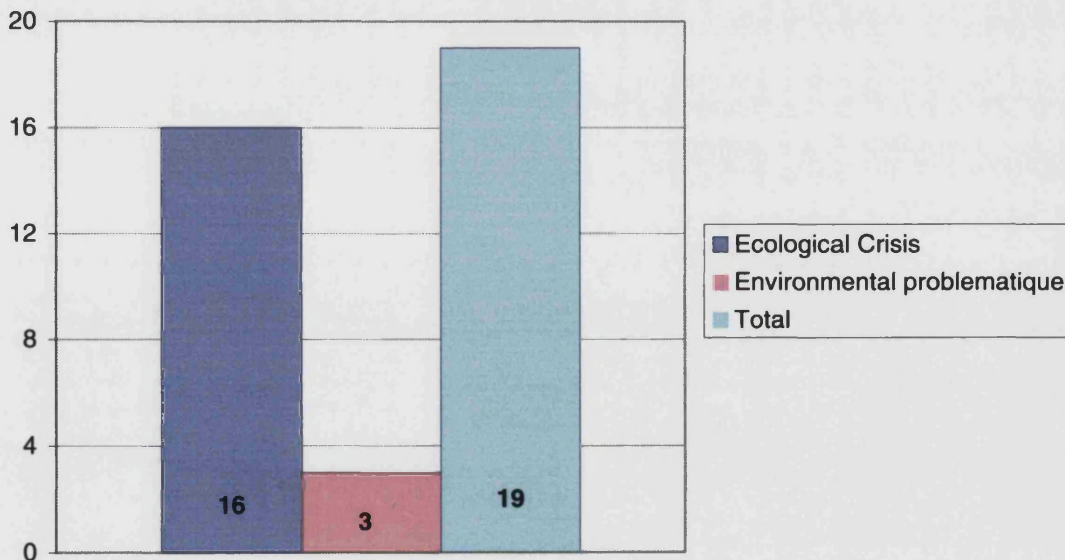
Source: Fieldwork interviews with NGO members/leaders in Juarez and El Paso.

Section 5

Summary and conclusions

This chapter has probed the SD discourse and practices of NGOs in the region of Juarez/El Paso, beginning with a definition and classification of the sample of NGO workers interviewed in the region. Generally, NGO members/leaders espoused EsD to a far greater extent than business groups and local government. EsD is strongest in local NGOs, but national, bi-national and international NGOs express the same ideas; support for EsD among NGOs coexists with the Corporate-Environmentalism that dominates in the region. Figure 8.2 shows the categorisation of the state of the regional environment. Most NGOs espouse elements of EsD, but these elements continue to be marginalised as more and more NGOs rely on cross-sectoral partnerships. More and more, NGOs get their funding from governments and business groups, blunting their critical edge. The majority of NGOs prefer to participate in such cross-sectoral partnerships, rather than remain in 'denouncing' mode, financially broke and at the margins of the decision-making process.

Figure 8.1 Categorisation of the state of the environment in the region of Juarez/El Paso: Business groups, local government and NGOs (1997 & 1999).
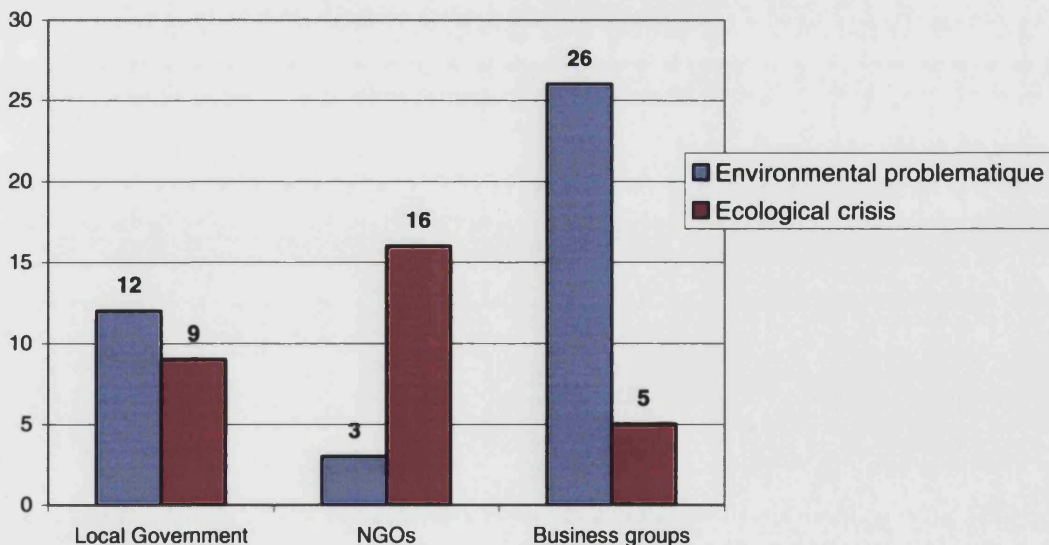
Source: Fieldwork interviews with environmental managers, government officers and NGO members/leaders.

A few NGO members/leaders appeared to have been strongly influenced by, and to espouse, Ecologism: the NGOs these individuals work for campaign on the conservation and restoration of bio-diversity. A third group of NGOs is permeated by Corporate-Environmentalism. These NGOs have developed a close relationship with business groups and local government, to the point that a fuzzy boundary demarcates each group; their SD discourse privileges a legalistic approach coupled with managerial solutions.

Chapter 9

Conclusions

> The discourse of sustainable development...[is] a powerful one precisely because it suggests that no reasonable policy-maker would want to do anything else ...so, sustainable development colonises environmental policy by offering an objective from which one apparently *could not wish* to diverge (Yearley, 1996: 132-133).

> If we forget that the environment is part of history, and part of the development process, we not only abdicate responsibility as social scientists, we also abdicate responsibility towards future generations...on both sides of the North/South divide (Redclift, 1994: 137).

Section 1

Conclusions

The present work has investigated how and why Corporate-Environmentalism came to saturate SD discourse in the 1990s.

This concluding chapter first turns to the theoretical discussion at the heart of this thesis. As documented in chapter 1, a great deal of research has been conducted during the 1990s on the process known as the 'greening of corporations' but little systematic attention has been paid to how Corporate-Environmentalism rose to prominence, and why Ecologism and EsD were left struggling on the sidelines of the environmental debate during the 1990s. A vast number of academic studies have demonstrated that SD discourse is entwined with social and environmental change and the global capitalist system. The three schools of SD discourse have dominated at different periods of time, reflecting specific historical events. As discussed in chapter 2, the historical analysis of the rise to prominence of Corporate-Environmentalism in the 1990s shows how events such as the 1988 Brundtland Report and 1992 Earth Summit, along with the discussions that unfolded in these forums, influenced the growth of SD discourse during that decade. The analysis in chapter 2 also showed how Ecologism ruled the discursive roost in the 1970s, while EsD prevailed within 1980s SD discourse. The analysis in chapter 2 demonstrates the usefulness of the SD discourse categorisation presented and developed in chapter 3.

The thesis argues that it is meaningless to examine 1990s SD discourse in terms of the debates and ideas that dominated the 1970s or 1980s. The present work has therefore put forward a different categorisation of SD discourse, which then serves as a guiding framework for the analysis of the SD discourse of business groups, local government and NGOs in the region of Juarez/El Paso.

Chapter 3 goes beyond the historical analysis of chapter 2 and critically engages with the work of diverse authors; it argues that the theories or concepts underlying each of the three variants of SD discourse are similar enough to be grouped under one category (Ecologism, EsD or Corporate Environmentalism). At the same time, the three discursive variants identified in this study are sufficiently different to be distinguished from one another as: *Ecologism, Ecologically-sustainable-Development, and Corporate-Environmentalism.*

The case study was introduced through a detailed analysis of the environmental policy and socio-economic dynamics of the region in chapters 4 and 5. Throughout these chapters, the data collected make clear the gap between the SD discourse of business groups, local government and NGOs and what really happens on the ground. The evidence suggests that the majority of business groups, local governments and NGOs had introduced elements of SD discourse - emphasising Corporate-Environmentalism - into their policies, both in Juarez and in El Paso. It was argued that NAFTA, and the environmental debate around it, marked the start of a new period in Mexican SD and environmental policy and in bi-lateral environmental co-operation between Mexico and the US. During the 1990s, NAFTA introduced, for the first time, central elements of SD discourse into the border area, emphasising eco-efficiency, self-regulation, voluntary programmes and environmental management. Business groups, environmental authorities, and NGOs established new partnerships within and between the two countries. At the same time, important political changes were undertaken by enabling different groups within the community to 'participate' in the decision-making process and by introducing mechanisms to increase public participation and greater access to environmental information. However, the institutions and mechanisms created to promote public participation, particularly at the local level, have proved limited. At the same time, however, it is important to acknowledge that environmental public awareness and participation along the Mexico-US border has grown significantly (from none to some) since the late 1980s, particularly since the NAFTA negotiations.

Whilst it is true that aspects of Ecologically-sustainable-Development appear to have influenced the North American Agreement on Environmental Co-operation (NAAEC), particularly the incorporation of long-term planning and mechanisms to encourage

public participation, overall NAFTA and NAAEC - due to the nature of the trade agreement - are dominated by Corporate-Environmentalism. Similarly, a managerial approach tends to dominate, on paper, among business groups and local government (and the most influential NGOs). The analysis of the empirical research casts light on how and why Corporate-Environmentalism and the managerial practices of these groups do not always correspond to their actual practices on the ground.

The environmental image of the *maquila* industry has changed dramatically since the 1970s. During the 1970s Ecologism dominated the SD discourse, numerous regulatory systems were developed and the industry was regarded as dirty and polluting, not only in Juarez, but also around the world, as pointed out in chapter 2. Border communities perceived the *maquila* of the first phase, as classified by Sklair (1994), as the main source of environmental degradation, public health risks and pollution. The *maquilas* of the first phase had an antagonistic relationship with government agencies and NGOs during the 1970s and mid-1980s. The 'dirty' image of the *maquilas*, however, turned into a 'green image' during the 1990s, particularly since NAFTA was signed. The greening of *maquilas* took roughly five to eight years to materialise along the US-Mexico border. The presence of the maquila industry in the region of Juarez/El Paso also stimulated the creation of new local social movements and the 'reconstitution' of local political power groups that favour capital investment through the relocation of assembly plants in Juarez (Nieblas, 1998: 20). Since the 1980s, the maquiladoras have become the second most important economic force in Mexico, after the oil industry; the northern region of Mexico has become one of the most 'economically successful' and 'developed' areas in the country (Municipio de Juarez, 1999:10). Byrnes (2003: 103) reports that Mexico has over 3,600 maquilas, which generate US$10 million in revenue and employ 1.3 million workers. More than 50 percent of all maquila plants are located in six border cities.[230]

A number of border scholars have probed the extensive institutional response to the state of the environment and to SD discourse, a response expressed in numerous bi-lateral projects and programmes designed to protect and improve the border environment. Undoubtedly, US and Mexican federal, state and local government agencies, but also business groups and NGOs in the region have incorporated SD discourse as the framework for regional environmental goals. Chapter 5 argued that

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[230] According to *Sistema de Informacion Emprasarial Mexicano* (SIEM, 2003 – http://www.siem.gob.mx/portalsiem/) the total number of maquiladora plants in Mexico by May 2003 was 3,235 maquiladora plants. Some disagreement exists on this figure. The figures presented by different sources (i.e. Byrnes, 2003; SIEM, 2003 and www.inegi.gob.mx, September 2003) vary and the total number of maquilas seems very high. The disagreement on this particular figure might be attributed to double counting, since in recent years -particularly during the last Mexican economic crisis many small factories were re-classified as maquilas.

environmental elites along the border region are formed by a relatively small group of environmental professionals, who strongly influence the SD discourse and often move from one social group to another. The mobility of environmental professionals has helped maintain and spread support for the dominant school of thought of SD discourse in the 1990s, namely Corporate-Environmentalism. At first sight, the objectives and SD policies put forward along the border appear to be well defined and constructed towards achieving a common goal. No one in the region, though, is asking how the border SD discourse was constructed and whether business groups, local government and NGOs in the region share any common understanding. These issues were probed - based on the interview data collected during fieldwork - in chapters 6, 7 and 8.

The SD categorisation also guided and framed the analysis of chapters 6, 7 and 8 based on the interviews and the fieldwork data. The data presented in these chapters suggest that Corporate-Environmentalism is the undisputed discursive hegemon in the region of Juarez/El Paso. Business groups, local government and NGOs, though, perceive and evoke SD in distinct but overlapping ways.

By the 1990s, SD discourse had transcended politics. Propelled mainly by business groups and their associates in NGOs and governments around the world, this discourse had become one more girder holding up the global capitalist system. Business groups performed a 360-degree turn, ditching their polluting image and shouting their green credentials from the rooftops. Whilst this 'environmental management' has had positive impacts within the geographical areas in which particular firms are located, in terms of recycling, waste management, air emissions and water pollution, it cannot tackle the ecological crisis. With the introduction of environmental management and social responsibility policies, a new notion of discrete, manageable (under control) environmental problems, that is, an *environmental problematique,* has displaced that of a global (holistic) ecological and social crisis. Chapters 6, 7 and 8 presented evidence indicating that ideological commitment to an *environmental problematique,* particularly among business groups and local government, is hardening. NGOs in the region, however, differ in ways that are worth reiterating. The evidence presented in chapter 8 shows that the majority of NGO members felt that the region faces an ecological crisis. The most influential NGOs, however, - those with greater access to policymaking - evoke an *environmental problematique.* These NGOs regard partnerships with government and business as a more effective way of influencing environmental policy-making in the region, and as a means of avoiding marginalisation; Corporate-Environmentalism thus dominated, whilst Ecologism and Ecologically-sustainable-Development were largely elbowed out.

Corporate-Environmentalism, anchored in pollution control and resource management, has dominated the environmental policies of various international organisations such as the World Bank, particularly since the late 1980s. In 1987, the Bank announced the introduction of a new policy prioritising environmental issues: the WB's environmental staff increased and more financial resources were designated for environmental programmes (Porter & Brown, 1991: 54). Two years after the WB put forward its environmental and SD policy, it announced that its energy strategy would focus on the development of natural gas in order to improve energy efficiency, and that it would adopt a major role in population control programmes (Porter & Brown, 1991: 53; Williams, 1995: 59). Since then, the WB has introduced a number of SD discourse related policies. However, it has proceeded on the assumption that environmental protection and economic growth are compatible, a central claim of Corporate-Environmentalism (Williams & Petesch, 1993: 5). Such policies are shared by the IMF, the General Agreement on Tariffs and Trade (GATT), the *World Trade Organisation* (WTO), and became a central theme during the negotiations on the North American Free Trade Agreement (NAFTA) during the late 1980s and throughout the 1990s. These trade organisations and agreements assume that economic growth and free trade contribute to environmental protection and can achieve SD; in other words, they are imbued with Corporate-Environmentalism. Whilst such organisations have recognised that trade and economic growth without environmental safeguards lead to depletion of resources and pollution, their underlying search is for a means to increase growth without overusing the natural resources they depend on. Growth comes first, together with increasing profits. Proponents of EsD ask how to redirect development, through problematising what development and sustainability mean within the present global capitalist system; but such matters have been pushed to the sidelines. If Corporate-Environmentalism continues to hog the discursive limelight, the term SD may come to equal economic growth that requires incorporation of one more (environmental, not developmental) variable.

In chapter 6 the thesis probes the ubiquitous concept of *continuous improvement*, put forward by ISO 14000, which is used interchangeably with the term SD within the industrial sector. By breaking down the ecological crisis into discrete, supposedly solvable problems, EMs have established different degrees of responsibility for different environmental problems. Whilst EMs admit some responsibility for water pollution, for example, the business contribution to air pollution is regarded as insignificant. Indeed, they argue that air pollution is mainly caused by the growing volume of traffic in the region of Juarez/El Paso. This problem, though, is intrinsically linked to the maquila

presence in Juarez: the increasing number of cars, and the lack of transport and infrastructure, are in part the consequence of maquila growth and the population increase in the region.

Chapter 7 shows that, like environmental managers, the majority of GOs underline the severity of water problems, including quality, wastewater treatment and depletion of groundwater resources. Most GOs adhere to the concept of an *environmental problematique,* or a series of environmental problems amenable to managerial solutions. Some, with a more holistic perspective, perceive an ecological crisis. Whilst some GOs espoused EsD, overall ESD attracted meagre support in comparison with Corporate-Environmentalism.

GOs frequently took up posts with BGs, particularly in the maquila industry, helping to spread Corporate-Environmentalism far and wide. The majority of ex-government officers stated either that they had begun to change their minds a little and had adopted some aspects of Corporate-Environmentalism or felt frustrated and compelled to conform to the Corporate-Environmentalism that saturates the maquila industry.

Structural problems, particularly within the personnel system of the Mexican government, are perceived as major obstacles to advancing new ideas and appear to scupper the continuity of environmental policy programmes. Decentralisation, financial problems, low salaries, arbitrary, discretionary practices and corruption encourage expert workers to leave government agencies for pastures new, damage the performance of those GOs who remain in their posts, and undermine public faith in the government's ability to regulate SD and environmental issues. GOs who supported Corporate-Environmentalism pointed out that significant progress has been made in improving access to information and widening public participation in the region, particularly within BECC and NADBank. However, some GOs argued that institutions at all levels of government have much to do to procure the participatory mechanisms that include and integrate all sectors of society, particularly the poorest communities in the region of Juarez/El Paso.

NGO members/leaders espoused EsD to a greater extent than business groups or local government. Local NGOs are the most committed to EsD; some national, bi-national and international NGOs, though, also include elements of Corporate-Environmentalism. This NGO espousal of EsD jostles uneasily with the Corporate-Environmentalism that is, of course, far more powerful in the region as a whole. Chapter 8 brought out the marginal status of NGO-based EsD as more and more cross-sectoral partnerships are

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established, and more and more NGOs look to governments and business groups for funding, thus blunting the NGOs' critical edge. Many NGOs have opted to participate in such partnerships, rather than remain financially broken at the margins of the decision-making process, like some small NGOs, whose strategy continues to be direct opposition as a means to maintain their autonomy.

Section 2

Methodological limitations

The case study centres on the analysis of business groups, local government and NGOs in the region of Juarez/El Paso through the qualitative analysis of semi-structured interviews conducted with environmental managers, government officers and NGO members/leaders in the region. To clarify the practices and interactions of these three groups, each group has been divided into Juarez and El Paso sub-samples. The reader may feel that the total number of interviews for each group is too small to be divided into sub-samples. The research findings may appear limited by the apparent un-representativeness of business groups, local government and NGOs in the region. However, as argued previously, participant observation and the collection of primary sources during cross-sectoral and bi-national seminars, conferences and meetings on environmental and SD-related issues furnished me with an exceptional 'picture' of the dynamics between different groups in the region. Such meetings included:

1. The Paso del Norte Water Task Force (12 April 1999, El Paso Club, El Paso, Texas)
2. Second Meeting of the Joint Advisory Committee for the Improvement of Air Quality in the Ciudad Juarez (Chihuahua), El Paso (Texas), and Dona Ana County (New Mexico) Air Basin (18 February 1997, Cultural Centre of the Autonomous University of Ciudad Juarez-PRONAF, Ciudad Juarez, Chihuahua).
3. International Forum: 'Water in the desert' (21-27 March 1999, Centro de Convenciones de Ciudad Juarez, Ciudad Juarez, Chihuahua)
4. The Southwest Centre for Environmental Research and Policy (SCERP) 1997 Technical Conference: A shared future. The US-Mexico Border (10-12 September 1997, Camino Real Hotel, El Paso, Texas)

These are a few examples of the forums I had access to during my fieldwork. Such access enabled me to observe negotiations between business groups, local government

and NGOs from Juarez and El Paso, and provided access to primary sources (meeting minutes, draft documents, reports and other material); it also allowed for a great deal of participant observation, and direct contact with the representatives of the most influential business groups, local governments and NGOs in the region (who were present in every meeting). The insights and evidence gleaned from meetings, conferences and workshops suggest that the sample and findings presented in the present work accurately represent the major regional trends in the SD discourse and practices of business groups, local governments and NGOs.

Section 3

Suggestions for further research

By the end of the 1990s EsD had made up some ground. During the Sustainable Development Summit (Johannesburg, 2002) in particular, developing countries attempted to reinstate development issues within the SD debate; the division between rich and poor countries captured the Summit's attention. Poverty became a priority in the Summit's agenda for developing countries. Other issues such as technology advances and technology transfer to the Third World, environmental health, GM products, and biotechnology also received much attention. Space and time restrictions make it impossible to present here a thorough analysis of the debates at the World Summit on Sustainable Development (WSSD) and the discourse and practice of the different groups within developed and developing countries that participated. Recent events at the World Trade Organisation (WTO) seem to replicate and magnify what took place during the WSSD in Johannesburg: once again, poverty took centre stage. In November 2001, WTO members agreed to negotiate on a set pro-development issues (Doha Development Agenda) which included agriculture, technology transfer, environment, and biotechnology. However, trade liberalisation talks during the World Trade Organisation (WTO) Summit - that took place between 10-14 September 2003 in Cancun, Mexico - ended without any consensus. Whilst it is early to pass judgement on the stalling of negotiations, it is clear that the alliance of developing countries (G-21) succeeded in resisting the trade liberalisation agenda of the Northern bloc. This polarisation between rich and poor countries has been captured in the media:

> If, one day, an international agricultural agreement could be reached that did not exacerbate the social tragedies free trade [sic] has inflicted on so many countries, and that went some way to correcting the lacerating and dangerous asymmetries that humanity has to bear, it would be accepted and supported by every lucid social movement in the world. But that's not what was being cooked up in Cancun; it was just the opposite. And that's why it is a relief to see it fail (La Jornada Editorial, Mexico, September 16).

> Any hope that the US would take the moral high ground at Cancun...was dashed by the disgraceful manner in which the American negotiators rebuffed the rightful demands of west African nations that the US commit itself to a clear phasing out of its harmful cotton subsidies.... For struggling cotton farmers in sub-Saharan Africa, and for millions of others in the developing world whose lives would benefit from the further lowering of trade barriers, the failure of Cancun amounts to a crushing message from the developed world - one of callous indifference. (New York Times Editorial, September 16)

> Note: Both of the above quotes were translated and cited in: The Guardian, Wednesday September 17, 2003; http://www.guardian.co.uk/wto/article/0,2763,1043717,00.html).

These new alliances between developing countries are ripe for future research. For example, with respect to the argument of this thesis, will the emergence of a 'new' North (rich) -South (poor) configuration allow space for SD discourse that incorporates at its centre EsD? Could recent developments at WSSD and WTO be considered a temporary reversal for the dominance 'Corporate-Environmentalism'? If so, how will EsD proponents (and indeed Ecologism) respond to the continuing dominance of Corporate-Environmentalism in the future?

Certain key areas appear natural candidates for follow-up research, on the ground, in the region of Juarez/El Paso. One question is how far small and micro businesses, such as car garages in Juarez, have or have not adopted SD discourse and, if they have, which elements? These businesses may well be less concerned about environmental issues, including building a 'greener' image, since the focus of public attention is on maquila environmental performance. Small and micro businesses are not represented in the BG sample analysed in this thesis for various reasons, including time and space restrictions; the study of this particular group of businesses deserves close and detailed examination and is a good area for future research.

Another key area for follow up is the investigation of the relationship between Corporate-Environmentalism in the maquila industry in Juarez, particularly with regards to ISO 14000, and labour issues in the region of Juarez. *Rotacion de personal* (Personnel Turnover) has been a constant problem for the *maquila* industry located along the US/Mexican border. Whether a corporation's 'green image', or more specifically its ISO 14000 certification, has had a direct impact on annual rates of

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rotacion de personal in Juarez/El Paso maquilas remains unclear; in my view, this is an excellent candidate for future research.

Finally and to conclude, whilst the thesis points out that some environmental issues might have been positively affected by managerial approaches, it shows that Corporate-Environmentalism alone will not solve the world's environmental and social problems as its proponents claim. The growing gap between rich and poor cannot continue to be ignored by those who maintain that Corporate-Environmentalism can lead us to a sustainable world. The need to recognise that the world faces a social and ecological crisis - and to re-incorporate EsD at the centre of SD discourse - has never been more apparent. If environmental and development problems are to be solved, they must be addressed in a holistic manner. Acknowledging the fundamental importance of EsD is the *sine qua non* of achieving real progress.

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Section 1. Internet Sources

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US Census Bureau US Department of Commerce	http://www.census.gov/	22 July 2003
University of New Mexico State. College of Health and Social Services	http://www.nmsu.edu/~hlthsci/	22 July 2003
Economic Overview: Employment & the labour market, City of El Paso	http://www.ci.elpaso.tx.us/econdev/eddepeo1a.htm	24 July 2003
City of El Paso	www.ci.el-paso.tx.us	11 August 2000
Texas Natural Resources Conservation Commission (TNRCC)	www.tnrcc.state.tx.us	3 February 2002
Texas Commission on Environmental Quality (TCEQ)	http://www.tceq.state.tx.us/index.html	24 July 2003
US General Accounting Office	http://www.gao.gov/	
El Paso Water Utility	http://www.epwu.org/	
Texas Centre for Policy Studies	http://www.texascenter.org/	24 July 2003
Endangered Species in Texas	http://ifw2es.fws.gov/EndangeredSpecies/lists/	12 May 2003
Texas Environmental Centre	http://www.tec.org/	24 July 2003
Borderlands Information Centre	http://www.bic.state.tx.us/	24 July 2003
Internatinal Boundary Water Commission (IBWC)	http://www.ibwc.state.gov/	20 April 2003
North American Agreement on Labour Co-operation (NAALC)	http://www.naalc.org/	
Border Environmental Co-operation Commission (BECC)	http://www.cocef.org/englishbecc.html	23 September 2003
Environmental Co-operation Commission (ECC)	http://www.cec.org/home/index.cfm?varlan=english	23 September 2003
World Trade Centre El Paso/Juarez	www.wtcepj.org	24 July 2003
Twin-Plant News	http://www.twin-plant-news.com/issues/mar02/ElPaso.htm	15 June 2002
Gobierno del Estado de Chihuahua (The Ecological Law for the State of Chihuahua)	http://www.chihuahua.gob.mx/default.asp	24 July 2003
Procuraduria Federal de Proteccion al Ambiente (PROFEPA)	http://www.profepa.gob.mx	24 July 2003

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Instituto Nacional de Ecologia (INE)	http://www.ine.gob.mx/	17 January 2003
Secretaria de Medio Ambiente y Recursos Naturales (SEMARNAT)	http://www.semarnat.gob.mx/wps/portal	23 September 2003
Instituto Nacional de Estadistica, Geografia e Informatica (INEGI)	http://www.inegi.gob.mx/	24 July 2003
Commission for Environmental Co-operation (CEC)	http://www.cec.org/home/index.cfm?varlan=english	
Friends of the Earth e-bulleting of October 2002	http://www.foei.org/wssd/implement2.html/.	22 October 2002
Grupo de los Cien	www.gulfbase.org,	22 July 2003
Red Mexicana de Accion frente al Libre Comercio (RMAFLC)	www.rmalc.org.mx	22 July 2003
Food First	http://www.foodfirst.org/media/printformat.php?id=176/	20 April 2002
Environmental Defence Fund (EDF)	www.edf.org	15 April 2003
Corpwatch	www.corpwatch.org	23 September 2003
El Norte	http://www.elnorte.com/	23 September 2003
Diario Digital (El Diario de Juarez)	http://diario.com.mx/portada/juarez/	23 September 2003
Organisation of Economic Co-operation and Development (OECD)	http://www.oecd.org/home/	12 July 1999- April 2003
International Organisation of Standardisation (ISO)	http://www.iso.ch/iso/en/ISOOnline.frontpage,	24 July 2003
Global Reporting Initiative (GRI)	http://www.globalreporting.org/	11 May 2003
United Nations Environmental Programme (UNEP)	www.unep.org/Documents/	
World Business Council for Sustainable Development (WBCSD)	www.wbcsd.com	12 July 2003
World Development Movement (WSSD Press realise, 27 August 2002)	http://www.wdm.org.uk/presrel/current/wssd_threat.htm	1 August 2002
The Opinion Journal, The Wall Street Journal , 20th November 2002 & January 2002	(http://www.opinionjournal.com/columnists/tbray/?id=100 001698)	5 November 2002
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Lomborg's Web Page: The Skeptical Environmentalist	http://www.lomborg.com/critique.htm	5 November 2002
Fondo Nestle para la Nutricion	http://www.fondonestlenutricion.org.mx/english/publicatio ns/magazines/nclinica/nclinica.htm/	17 January 2003

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European Union (EU)	http://europa.eu.int.	1 August 2003
The Guardian	www.guardian.co.uk	1 August 2003
Federal Reserve, Bank of Dallas (Business Fronteir - A newsletter from the El Paso Branch of the Dallas Fed that emphasizes developments affecting the economies along the U.S.– Mexico border	http://www.dallasfed.org/index.html http://www.dallasfed.org/research/busfront/index.html	1 August 2003
Sistema de Informacion Empresarial Mexicano (SIEM)	http://www.siem.gob.mx/portalsiem/	8 September 2003
United Nations Framework Convention on Climate Change (UNFCCC)	http://unfccc.int/	23 September 2003
World Summit on Sustainable Development (WSSD)	www.johannesburgsummit.org	18 June 2003
Organisation for Economic Co-operation and Development (OECD)	www.oecd.org	
The Opinion Journal of The Wall Street Journal on the 20th November 2002.	http://www.opinionjournal.com/columnists/tbray/?id=100001698	3 February 2002
Lomborg's critics including the World Wildlife Fund (WWF) and the Scientific American (January 2002)	http://www.lomborg.com/critique.htm	3 February 2002
Word Trade Organisation (WTO)	(http://www.cnn.com/2001/WORLD/asiapcf/central/11/10/china.WTO/).	23 September 2003
Mercosur	www.mercosur-comisec.gub.uy	11 November 2002

Appendix I
Environmental Managers (EMs): List of interviews

Code	Position	Business	Location
1-EM	Environmental Engineer	General Motors (1997)	Juarez
2-EM	Industrial Hygienist	General Motors (1997)	Juarez
3-EM	Environmental Engineer	DELPHI Automotive Systems	Juarez
4-EM	Environmental Support Administrator	DELPHI Automotive Systems & General Director for Environmental Committee of AMAC	Juarez
5-EM	Regional Audit Manager	DELPHI Automotive Systems	Juarez
6-EM	Environmental Engineer	COCLISA, SA de CV	Juarez
7-EM	Environmental Engineering	Federal Mogul & Environmental Committee Director of AMAC	Juarez
8-EM	Security and Environmental Co-ordinator	Maquilados Tecnicos, SA de CV	Juarez
9-EM	Environmental Engineering	A.O. SMITH Electrical Products Division	Juarez
10-EM	Technical Service Manage	Eaton Corporation (Cutler-Hammer Products)	Juarez
11-EM	Development and Environmental Manager	YAZAKI	Juarez
12-EM	Environmental Manager	Key Tronic Corporation	Juarez
13-EM	Safety, Environment and Plant Manager	SAESA Bosch Group	Juarez
14-EM	Manager	Gas Natural de Juarez, SA de CV	Juarez
15-EM	Environmental Manager	Johnson & Johnson Medical	Juarez
16-EM	Environmental, Health & Safety Manager	Mexico Operations UT Automotive – A United Technologies Company	Juarez
17-EM	Plant Engineer	Phillips Components	Juarez
18-EM	Industrial relations & environmental control Co-ordinator	TOSHIBA	Juarez
19-EM	Security Manager	SHURE Electronics	Juarez
20-EM	Manufacturing Technology Environmental Engineer	ELAMEX	Juarez
21-EM	Environmental & Safety Co-ordinator	ENERGIZER – Sistemas de Baterias SA de CV	Juarez
22-EM	Environment, Safety and Engineering Co-ordinator	VDO Control SystEM de Mexico, SA de CV	Juarez
23-EM	Environmental Engineer	Haromex, SA de CV	Juarez

24-EM	Environmental Manager	ASARCO Incorporated	El Paso
25-EM	Environmental Engineer	PHELPS DODGE Mining Company	El Paso
26-EM	President	EDM International	Juarez/ El Paso
27-EM	Sales	MONARCH LITHO INC	Juarez
28-EM	General Manager	FRANCO Y ASOCIADOS -Environmental Consultants	Juarez
29-EM	Vice President/ Environmental	ECM – Engineers Construction Managers	El Paso
30-EM	Environmental Co-ordinator	JUVER DE MEXICO	Juarez/ El Paso
31-EM	President	LINTEL de Mexico	Juarez

Appendix II
Local governments officers (GOs): List of Interviews

Code	Position	Organisation	Location
1-GO	General Manager	El Paso Water Utilities (EPWU)	El Paso
2-GO	Water Systems Division Manager	El Paso Water Utilities (EPWU)	El Paso
3-GO	Waste & Water Sections Manager	Texas Natural Resources Conservation Commission (TNRCC)	El Paso
4-GO	Project Co-ordinator	Texas Natural Resources Conservation Commission (TNRCC)	El Paso
5-GO	Urban development & Ecology Director	Ciudad Juarez Municipal Government 1996-1998 Administration	Juarez
6-GO	Urban development & Ecology Director	Ciudad Juarez Municipal Government 1998-2000 Administration	Juarez
7-GO	President	Ciudad Juarez Water Utility (JMAS)	Juarez
8-GO	Water Treatment Director	Ciudad Juarez Water Utility (JMAS)	Juarez
9-GO	Director General	Municipal Planning & Research Institute (IMIP)	Juarez
10-GO	Deputy Director	Municipal Planning & Research Institute (IMIP)	Juarez
11-GO	Information General Co-ordinator	Municipal Planning & Research Institute (IMIP)	Juarez
12-GO	Boarder Outreach Co-ordinator	Environmental Protection Agency (EPA)	El Paso
13-GO	Regional Sub-delegate	Ministry of Environment Natural Resources & Fisheries (SEMARNAP)	Chihuahua City
14-GO	Delegate (interim)	Office of the Attorney General for Protection of the Environment (PROFEPA)	Juarez
15-GO	Mexican Commissioner	International Boundary & Water Commission (CILA/BWC) 1997 & 1999	Juarez
16-GO	US Commissioner	International Boundary & Water Commission (CILA/BWC)	El Paso
17-GO	Director General	Border Environmental Co-operation Commission (BECC)	Juarez
18-GO	Environment and Sustainable Development Review Manager	Border Environmental Co-operation Commission (BECC)	Juarez
19-GO	Project Development Director	Border Environmental Co-operation Commission (BECC)	Juarez
20-GO	Public Outreach Co-ordinator for Mexico	Border Environmental Co-operation Commission (BECC-1997)	Juarez
21-GO	Public Outreach Co-ordinator for the US	Border Environmental Co-operation Commission (BECC)	Juarez

Appendix III
Non-Governmental Organisations (NGOs): List of Interviews

Code	Position	Organisation	Location
1-NGO	Office Manager	Aqua 21	Juarez
2-NGO	Director	Federacion Mexicana de Asociaciones Privadas de Salud y Desarrollo Comunitario (FEMAP)	Juarez
3-NGO	Environmental Director	Federacion Mexicana de Asociaciones Privadas de Salud y Desarrollo Comunitario (FEMAP)	Juarez
4-NGO	President	Movimiento Ecologista Mexicano (MEM)	Juarez
5-NGO	Director	PROGRESO	Juarez
6-NGO	Director	Organizacion Popular Independiente (OPI)	Juarez
7-NGO	Director	Centro de Asesoria y Promocion Juvenil (CASA)	Juarez
8-NGO	Advisor	Centro de Asesoria y Promocion Juvenil (CASA)	Juarez
9-NGO	Director for Juarez	Proyecto del Rio	Juarez
10-NGO	Director for El Paso	Proyecto del Rio	El Paso
11-NGO	Director	Rio Grande Coalition (1997)	El Paso
12-NGO	Director	Rio Grande Coalition (1999)	El Paso
13-NGO	Chairman of El Paso's Group	Sierra Club	El Paso
14-NGO	Director	Southwest Environmental Centre	El Paso
15-NGO	Director for El Paso	Environmental Defence Fund (EDF)	El Paso
16-NGO	Project Co-ordinator	World Wildlife Fund (WWF)	El Paso
17-NGO	Co-ordinator	Masters on Social Science and Public Policy, Universidad Autonoma de Ciudad Juarez	Juarez
18-NGO	Director General	Centre for Environmental and Resource Management (CERM), University of Texas at El Paso	El Paso
19-NGO	Director	MSc on Environmental Management, Universidad Autonoma de Ciudad Juarez	Juarez

Appendix IV
Fieldwork Guide

Section 1. Personal history

1. Do you have a CV I could have?
2. Could you talk about your professional career and experience?

Section 2. About the organisation

1. When was this office created and why?
2. Was this office created as a response to government, NGO or NAFTA pressures to enforce environmental law?
3. Which are the main environmental issues this office deals directly or indirectly with?
4. What specific actions have your business, government agency or NGO taken to deal with such issues?
5. Do other businesses, government agencies or NGOs deal with the same environmental issues or similar ones?
6. How often do you meet with other businesses, government agencies or NGOs to discuss environmental issues?
7. If so, what are the central environmental issues discussed at such meetings?
8. Would it be possible for me to attend one of these meetings?
9. Does your office collaborate or work with other businesses, government agencies or NGOs on specific environmental projects or issues?
10. If so, could explain more about the relationship between your office and other businesses, government agencies or NGOs?

Section 3. About sustainable development (SD) discourse and practices

1. Is SD part of your business's -government agency's or NGO's- everyday language?
2. From where did your business –government agency or NGO- get its SD concepts?
3. In your view, how relevant are the concepts of SD to your business, government agency or NGO?
4. Does your business –government agency or NGO- established SD or environmental principles, codes of conduct or policies?
5. If so, which are the central SD or environmental principles, codes of conduct or policies?
6. Is there any printed material on your SD or environmental principles I could have?
7. In your view, can a successful SD be achieved in the region of Juarez/El Paso?
8. What would be the position of your business –government agency or NGO- on this issue?
9. Does your business –government agency or NGO- discuss SD and environmental related issues with other businesses, government agencies or NGOs?
10. In your view, is there a common understanding of what SD means for the border region among businesses, government agencies and NGOs?

Section 4. About the state of the environment in the region of Juarez/El Paso

1. In your opinion what are the main environmental problems in the border region?
2. How would you characterise or qualify the environmental situation along the Mexico-US border and specifically in the region of Juarez/El Paso?
3. What would be the position of your business –government agency or NGO- on this issue?
4. In your opinion, has the environmental situation in the region pushed your business – government agency and NGOs to carry out important changes in terms of ideology, political strategy, processes and practices?
5. In which was the need to address the environmental situation along the border region has affected (or not) your relationship with other businesses, government agencies or NGOs?
6. Has your business, government agency and NGO help not the environment situation in the region?

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┌─────────────┐
│ President   │
└─────────────┘
  The Executive Office of the President
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White House Office

Overall policy
Agency coordination

Council on Environmental Quality

Environmental policy coordination
Oversight of the National Environmental Policy Act
Environmental quality reporting

Office of Management and Budget

Budget
Agency coordination and management

Office of Science and Technology Policy

Advises president on issues involving science, technology, and engineering

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Environmental Protection Agency

Air & water pollution	Solid waste
Pesticides	Superfund
Radiation	Toxic substances

Department of the Interior

Public lands	Wilderness
Energy	Wildlife
Minerals	Endangered species
National parks	Continental shelf

Department of Agriculture

Forestry
Soil conservation

Department of Commerce

Oceanic and atmospheric monitoring and research
Coastal zone management
Marine mammal protection

Department of State

International environment
Population
Development assistance

Department of Justice

Environmental litigation

Department of Defense

Civil works construction
Dredge & fill permits
Pollution control for defense facilities
Environmental cleanup and restoration

Department of Energy

Energy policy coordination
Nuclear waste disposal
R & D
Waste management
Environmental restoration

Department of Transportation

Mass transit
Roads
Airplane noise
Oil pollution

Department of Housing and Urban Development

Housing
Urban parks
Urban planning

Department of Health and Human Services

Health
Family planning

Department of Labor

Occupational health

Nuclear Regulatory Commission

Licensing and regulating nuclear power

Tennessee Valley Authority
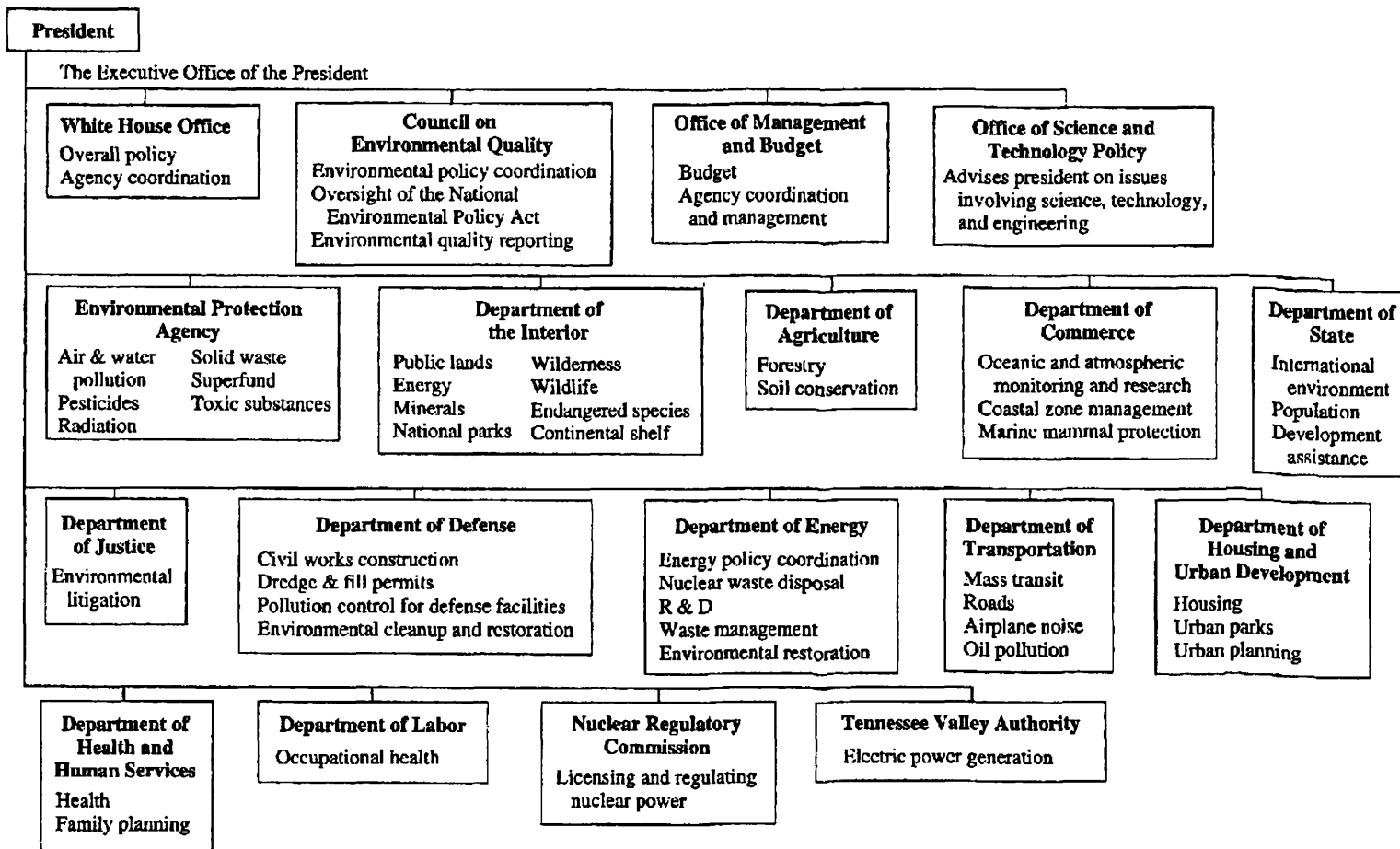
Electric power generation

Figure 2.1

Executive Branch Agencies with Environmental Responsibilities

Source: Vig, N. J., and Kraft, M. E., eds. (2000). *Environmental policy: New directions for the twenty-first century.* 4th ed. Washington, DC: CQ Press, p. 7. Reprinted by permission.

POLITICA AMBIENTAL

COCLISA, SA. DE CV.

EN COCLISA NOS COMPROMETEMOS A IMPLEMENTAR Y OPERAR NUESTRO
SISTEMA AMBIENTAL BAJO LOS REQUERIMIENTOS DEL ESTANDAR ISO-14001,
ASIMISMO A IDENTIFICAR, ADMINISTRAR Y CONTROLAR LOS ASPECTOS
AMBIENTALES SIGNIFICANTES EN NUESTRAS OPERACIONES TALES COMO:

\ USO EFICIENTE DEL AGUA.
\ CONTROL DE LAS EMISIONES DE LAS OPERACIONES DE LA PLANTA.
\ REDUCCION, REUTILIZACION Y RECICLAJE DE DESECHOS Y EMPAQUES.
\ INCREMENTO DE LA EFICIENCIA EN EL USO DE LA ENERGIA Y CONSERVACION
DE LOS RECURSOS NATURALES.

The above document is a copy of the original COCLISA Environmental Policy card, which was translated and discussed in chapter 6. This material was provided during the interviews conducted in the region of Juarez/El Paso in 1997/1999. As can be appreciated -in the layout of- COCLISA requires all its employees to carry around their neck the industry's environmental policy. One EM explained that ISO 14000 requires that all the employees of an industry certified with this standard learn ('memorise') the industry's policy. Therefore, all those maquilas in the BGs sample analysed in the thesis (chapter 6) that had been certified by ISO 14000 use different methods to display their environmental policy and assure that all the employees can have rapid access to it in the event of an ISO 14000 inspection.

Principios Medio Ambientales de General Motors

GM

Como una empresa socialmente responsable, General Motors está dedicada a la protección de la salud humana, de los recursos naturales y del medio ambiente global. Esta dedicación va más allá del cumplimiento de las leyes, para abarcar la integración de prácticas que aseguren la protección ambiental en nuestra diaria toma de decisiones.

Los siguientes Principios Medio Ambientales sirven de guía al personal de General Motors de todo el mundo en la conducción cotidiana de sus prácticas de negocios.

1. Estamos comprometidos a las acciones necesarias para restaurar y preservar el medio ambiente.

2. Estamos comprometidos a reducir los residuos y contaminantes, conservando los recursos y reciclando los materiales en cada etapa del ciclo de vida del producto.

3. Continuaremos activamente nuestra participación en la educación del público respecto a la conservación del medio ambiente.

4. Seguiremos persiguiendo vigorosamente el desarrollo e implantación de tecnologías para minimizar los contaminantes.

5. Seguiremos trabajando con las entidades gubernamentales para desarrollar leyes y reglamentos medio ambientales que sean técnicamente y financieramente responsables.

6. Seguiremos evaluando el impacto de nuestras plantas y productos en el ambiente y en las comunidades en que vivimos y operamos con continuas mejoras como meta.

The above document is a copy of the original General Motors (GM) –now DELPHI- Environmental Policy, which was translated and discussed in chapter 6. This material was provided during the interviews conducted in the region of Juarez/El Paso in 1997/1999.

Política de Protección de Recursos Humanos y Naturales

Protección de Recursos Humanos y Naturales

Política

Es Política de United Technologies Corporation proporcionar a sus empleados un lugar de trabajo libre de riesgos y peligros ocupacionales y la protección del medio ambiente natural. La Corporación conducirá sus operaciones en todo el mundo de una manera que salvaguardará la salud de los empleados, su seguridad y la del medio ambiente, y al hacerlo, acatará todas las leyes, regulaciones y estandares internos.

La Corporación participará con las agencias gubernamentales, asociaciones comerciales y demás, para desarrollar leyes, reglamentos y estandares de equidad, además trabajará constructivamente con las autoridades gubernamentales en su esfuerzo legítimo para la protección de los recursos humanos y naturales.

Las condiciones de seguridad en el trabajo y la protección ambiental son componentes integrales de nuestra estrategia de negocio. Por tanto, la administración en todos los niveles, es responsable de identificar y alcanzar metas dentro de cada organización para asegurar la implementación de esta política.

La corporación proporcionará a la administración la asistencia profesional para ayudar a cubrir las metas de protección a los recursos humanos y naturales.

Cada empleado juega un papel importante al seguir los procedimientos establecidos y recomendando el mejoramiento de las prácticas donde esto resulte apropiado.

UNITED TECHNOLOGIES

The above document is a copy of the original United Technologies Automotive (UTA) Environmental Policy, which was translated and discussed in chapter 6. This material was provided during the interviews conducted in the region of Juarez/El Paso in 1997/1999.

Appendix IX

The 7 Principles of Environmental Stewardship for the 21st Century
By
Lawrence I. Sperling, EPA-U.S. Embassy, Mexico City
Charles Cervantes, Legal Advisor, U.S.-Mexico Chamber of Commerce
Carlos Gonzalez Guzman, Office of the Mexican Federal Attorney for Environmental Protection (PROFEPA)
Ricardo Castañón, Special Advisor to the General Manager, BECC

Business leaders and environmental authorities in the United States and Mexico are forging a new strategic alliance to promote sustainable development in the U.S./Mexico border region and throughout both countries. Last June, the U.S.-Mexico Chamber of Commerce (the Chamber), the U.S. Environmental Protection Agency (EPA), Mexico's Secretariat of Environment, Natural Resources and Fisheries (SEMARNAP), and the Border Environment Cooperation Commission (BECC) announced the cornerstone of this new strategic alliance: a groundbreaking commitment among the two governments, industry leaders, and binational organizations to jointly promote "Seven Principles of Environmental Stewardship for the 21st Century" (the Seven Principles) among the U.S./Mexico business and trade community.

The Seven Principles urge companies, wherever they operate in both countries, to take voluntary action beyond simply complying with environmental laws and regulations. Emphasizing the goals of pollution prevention, energy efficiency, improved overall environmental performance, public accountability and adherence to international environmental standards, the Seven Principles identify a range of tools to ensure that these goals become integral parts of the company's culture and day-to-day operations. They envision flexibility in how a company uses these tools, encouraging participation in voluntary programs developed by the public and private sectors as non-prescriptive options to help achieve these goals.

The Seven Principles also exhort action beyond the company's doors. They encourage voluntary disclosure to the public of information concerning the company's environmental performance. They advocate openness to feedback and dialogue about the company's environmental performance. They also urge industries to show leadership by working with other companies to improve environmental performance, and to promote local sustainable development through investments in environmental infrastructure, health, and public awareness.

At a meeting in Mexico City on February 23, a number of additional trade associations and environmental groups joined the original signatories of the Seven Principles in committing to promote their implementation. These new partners are: the Border Trade Alliance, Mexico's National Council of Ecological Industries (CONIECO), the Private Sector Center for the Study of Sustainable Development (CESPEDES), the National Council of Industry Chambers (CONCAMIN), the National Chamber of Transformation Industries (CANACINTRA), the National Employers Council (COPARMEX), Mexico's Global Environmental Management Institute Group (Grupo GEMI México), the Union of Environmental Groups, the local environmental group *Puebla Verde*, and the U.S. Environmental Law Institute (ELI).

As part of its commitment to promote the 7 Principles, BECC presented an overview of the Principles and their linkage with this binational Commission's work during the *"Bilateral Agenda 2000: Successes, Strategies & Challenges in the U.S.-Mexico Market"* Conference, hosted by the U.S.-Mexico Chamber of Commerce. The Conference took place this past May 11 and 12 and was designed for private and public-sector executives and management personnel to learn how U.S.-Mexico policy influences business and environmental compliance practices. Recommendations derived from several roundtables will be compiled and presented to officials immediately following the July elections in Mexico and November elections in the United States.

On May 24, 2000, both BECC and the Chamber sponsored the first workshop in the United States at the University of Texas, El Paso. Javier Cabrera, BECC's General Manager spoke about the importance of implementing these principles, not only for what it means for environmental compliance, but "because the very notion of promoting these Principles in the business, industry and our own communities forces us to move from a mentality of solving immediate problems to a proactive culture of prevention." "Once fully embraced and accepted", he added, "the principles will actually force us to apply sustainability concepts that will actually improve the quality of life in our communities and that of our children."

The next 7 Principles workshop is scheduled for July 19 in San Diego, California. The 7 Principles document signed by Secretaries Browner and Carabias, Al Zapanta, President of the U.S.-Mexico Chamber of Commerce and Mr. Cabrera of BECC is below.

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U.S./MEXICO BUSINESS AND TRADE COMMUNITY:
THE SEVEN PRINCIPLES OF ENVIRONMENTAL STEWARDSHIP
FOR THE 21ST CENTURY

In furtherance of the goals of the Border XXI Environmental Framework, these Principles have been developed through a public/private partnership to promote sustainable development in the U.S./Mexico border area;

In recognition of the objectives of the North American Agreement on Environmental Cooperation to: foster environmental protection and improvement throughout North America for the well-being of present and future generations; promote sustainable development; enhance environmental compliance; promote economically efficient and effective environmental measures; and promote pollution prevention;

In recognition of existing obligations to comply with domestic environmental laws;

The signatories below will work together, and in conjunction with other federal and state government agencies and industry representatives, to promote voluntary implementation of the following Principles of Environmental Stewardship by corporate entities and their affiliates throughout the United States and Mexico, at all of their operational locations, consistent with the domestic laws of each country:

1. **Top Management Commitment:** Make substantive top management commitments to sustainable development and improved environmental performance through policies that emphasize pollution prevention, energy efficiency, adherence to appropriate international standards, environmental leadership, and public communications.

2. **Compliance Assurance and Pollution Prevention:** Implement innovative environmental auditing, assessment and improvement programs to identify and correct current and potential compliance problems and utilize pollution prevention and energy efficiency measures to improve overall environmental performance.

3. **Enabling Systems:** Through open and inclusive processes, develop and foster implementation of environmental management systems which provide a framework for ensuring day-to-day compliance in process operations, pollution prevention, energy efficiency, and improved environmental performance. Encourage the use of environmental audits, pollution prevention assessments, and employee training and involvement as integral parts of the company's culture at home and abroad.

4. **Measurement and Continuous Improvement:** Develop measures of environmental performance to demonstrate adherence to these Principles. Periodically assess the progress toward meeting the organization's environmental goals and tie results to actions in improving environmental performance.

5. **Public Communications:** Consistent with the sovereign host country's domestic laws and policies governing environmental protection and the protection of confidential business information: voluntarily make available to the public information on the organization's environmental performance and releases, as well as on the performance of its environmental management system relative to these Principles, based on established objectives and targets; and voluntarily provide avenues for receiving suggestions from and establishing dialogue with the public about the company's environmental performance.

6. **Industry Leadership:** Work with other companies operating in the same region or industry sub-sector to improve industry-wide environmental compliance, pollution prevention practices, energy efficiency, and overall environmental performance. For example, explore cooperative strategies such as by-product synergy, joint industry sub-sector efforts, or technical assistance to smaller enterprises, including in the implementation of environmental audits.

7. **Community Environmental Stewardship:** Promote and give support to environmental stewardship and sustainable development in the community in which the organization operates, for example through investments in local environmental infrastructure, health, education, and improving public environmental awareness.

The above document is available at the Border Environmental Co-operation Commission (BECC) website: http://www.cocef.org/englishbecc.html