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Transnational Corporations and Environmental Concerns in Less Developed Countries

Can cross border environmental management systems achieve public policy goals?

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Thanks to the Centre for Development and Environment (SUM) I got an excellent and most stimulating working environment. SUM was established to promote research in accordance with the recommendation made by the World Commission on Environment and Development. In chapter eight, page 231 of Our Common Future it is explicitly referred to the responsibility of TNCs: “...The transnationals should also institute environmental and safety audits of their plants measured against standards of other subsidiaries, not just against those of other local companies, which may have less stringent requirements”. I took this request at face value, and SUM and its staff motivated me to work on these issues of concern.

At SUM Professor Helge Hveem - from the Department of Political Science - introduced me to the complex world of international political economy. As part of his accommodating academic style, he also promoted collaboration among his master students from which I have benefited greatly. In addition to Helge, who later became my formal advisor, Professor Jan Hesselberg was instrumental in establishing SUMs research orientation towards the theme; “production and trade: environment and development”. Together with his colleagues and students of Human Geography, Jan provided very important input into my initial work. Despite that his general approach towards changes in the International Location of Polluting Industries (the F-I-L project) made me somewhat anxious, my chosen analytical orientation would not have been possible without the material provided by the human geographers working on the F-I-L project.

Early in the process I approached the United Nations Centre on Transnational Corporations (UNCTC) located in New York. The UNCTC soon became history, but I got in touch with a forthcoming Dane; Michael W. Hansen who was responsible for a very first benchmark survey on TNCs’ environmental management (UNCTAD 1993a). Some of the UNCTC staff became integrated into UNCTADs activities in Geneva, but Michael achieved an academic affiliation with the Copenhagen Business School. Michael became a good, reliable colleague and friend that really inspired my to finalize the thesis. In a period when other interesting tasks were tempting me to deviate my attention from the dissertation, he helped me putting some of my last pieces together.

The pieces that had to be put together were related to India. Eldrid, my wife, presented me to India. She convinced me that I could manage the challenge. We stayed nine months in the “city of joy” that sometimes can be experienced as the “junction of hell”. However, I got in touch with the environmental manager of ICI India, Mr. P.J.Nag. Thanks to him, his staff and his contacts within the eastern cell of the Indian Chemical Manufacturers Association (ICMA), my stay became more than mere frustrations. Actually, the field working in India became very exiting. Thanks to Nita and Kalyan Mukerji we were well settled in a nice flat in the outskirts of Calcutta. This city, however, is rapidly becoming a de-industrialized area. Firms have shifted to other Indian states. Despite the academic consciousness of the Bengali capital, few within the academia took any interest in my issues of concern. The Institute for Studies in Industrial Development (ISID) does not focus on environmental issues, but in contrast to some of the work being done in Calcutta, this Delhi located research centre headed by Prof. S.K.Goyal, is concerned with Foreign Direct Investment (FDI) and contemporary economic policy questions. Thanks to ISID I got a marvellous opportunity to understand relevant impacts of
the Indian policy reforms launched in 1991. On environmental issues I further benefited from contacts at the Institute of Economic Growth at the Delhi University and particularly Prof. M.N.Murti. ISID also provided me with reasonable accommodation. However, it is located close to one of the most congested areas of Delhi, the Indraprastha Marg. Thus, a visit to the Norwegian embassy compound located in New Delhi, was refreshing. Further when Thorbjørn Holthe offered me a beer at the poolside, I really got my batteries reloaded. During subsequent stays in Delhi I was even invited by some of his colleagues such as Tore Hattrem and Bjørn Midthun to stay overnight at the embassy. The Norwegian embassy compound is definitely not India, but I am not an Indian neither. Thank you.

The field working in Jamaica that took place prior to my Indian experiences, was conducted in a completely different manner. I went alone to Jamaica for a total of three short stays. Thanks to Arne Nielsen a former sailor who has settled in Kingston, nice accommodation was provided. The availability of relevant corporate data is always limited, but thanks to the forthcoming attitude of Jon Arild Larsen and Ståle Jørgensen of Hydro Aluminium, I got access to information concerning Alpart. The focus on Alpart, however, became challenging due to the less forthcoming attitude of the majority owner and managing partner, Kaiser Chemical and Aluminium Corp. After repeated requests for information, I was forced to reorient my focus to another bauxite/alumina project; Jamalcan, in which the cross border environmental management system of Alcan was more easily available for further studies.

I feel privileged having got the opportunity through a grant (rekrutteringsstipend for utviklingsforskning) from the Environment and Development divisions of the Norwegian Research Council to learn about various relevant issues referred to in Brundtland report. But the funding ended, while the thesis was still not ready. Again, thanks to SUM and the Department of Political Science I got new opportunities. During the spring of 2000, Professor William Lafferty, the research director of ProSus, offered me an affiliation with his programme. Thanks to Bill I got an opportunity to finish the PhD journey. I look very much forward to be part of ProSus, particularly as the activities are explicitly oriented towards documentation, research and information for a sustainable society.

There are others who deserve my appreciation. In the end, however, the most influential person is the one that “forced” me to go to India. Thanks to my wife and very best friend Eldrid - who has managed to submit her own doctoral dissertation despite giving birth to our three great children – we manage to combine our private and professional lives. I really appreciate her commitment and support. You gave me a lot of frustration by forcing me to extend the Caribbean and Latin American focus to India. However it turned out to be a positive experience. Today, quite surprisingly, sometimes it is the nice even beautiful aspects of India and Indians that remain in my memory. This is happening despite the fact that TNCs’ cross border environmental management systems seem to create islands of environmental excellence in an Indian “sea” that unfortunately becomes more dirty!

Oslo, February 2002

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LIST OF ACRONYMS

Alcan Jamaica Ltd (Aljam)
Aluminium Company of America (ALCOA)
Aluminium Company of Canada (Alcan)
Biochemical Oxygen Demand (BOD)
British Standard (BS)
Business Charter for Sustainable Development (BCSD)
Central Pollution Control Board (CPCB)
Centre for Science and Environment (CSE)
Chemical Manufacturers Association (CMA)
Chemical Oxygen Demand (COD)
Clarendon Alumina Production Ltd. (CAP)
Coalition for Environmentally Responsible Economies (CERES)
Commission for Sustainable Development (CSD)
Committee on Trade and Environment (CTE)
Common Effluent Treatment (CET)
Corporate Social Responsibility (CSR)
Cross Border Environmental Management System (CBEMS)
Det Norske Veritas (DNV)
Ecological and Technological Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD)
Economic and Political Weekly (EPW an Indian journal)
Environment, health and safety (EH&S)
Environmental Impact Assessment (EIA)
Environmental Management System (EMS)
Environmental Protection Agency (EPA used with reference to U.S.A.)
Export Oriented Industrialisation (EOI)
Federal Brazilian Institute for the Environment (IBAMA)
Food and Agriculture Organisation (FAO)
Foreign Direct Investment (FDI)
Foreign Exchange Regulation Act (FERA)
Foreign Investment Promotion Board (FIPB)
Global Environmental Management Initiative (GEMI)
Green Development Mechanism (GDM)
Gross National Product (GNP)
Headquarters (HQ)
Imperial Chemical Industries (ICI)
Import Substitution Industrialisation (ISI)
Indian Chemical Manufacturers Association (ICMA)
information and communication technologies (ICT)
International Bauxite Association (IBA)
International Chamber of Commerce (ICC)
International Political Economy (IPE)
International Standardisation Organisation (ISO)
Division for Investment, Transfer of Technology and Enterprise development (DITE - UNCTAD)
Jamaica Bauxite Institute (JBI)
Kaiser Jamaica Bauxite Company (KJBC)
Kilowatt-hours (KWh)
Less Developed Countries (LDCs)
Managing Director (MD)
Methyl isocyanides (MIC)
Minimum national emission standards (MINAS)
Ministry of Environment and Forests (MOEF in India)
Multilateral Agreement on Investment (MAI)
Multinational Corporation (MNC)
Multinational Enterprise (MNE)
National River Conservation Authority (NRCA)
Non Governmental Organisations (NGOs) (eller non-governmental??)
Official Development Assistance (ODA)
Pimpri-Chinchwad Municipal Corporation (PCMC)
Public Interest Litigation (PIL)
Research and Development (R&D)
Responsible Care Programme (RCP)
Secretariat of Industrial Assistance (SIA)
State Pollution Control Board (SPCB)
Thane Belapur Industrial Association (TBIA)
Total Quality Management (TQM)
Toxic Release Inventory (TRI)
Trade Related Investment Measures (TRIMs)
Transnational Corporation (TNC)
Transnationalisation Index (TNI)
United Nations Centre on Transnational Corporations (UNCTC)
United Nations Conference on Environment and Development (UNCED)
United Nations Conference on Trade and Development (UNCTAD)
United Nations Environmental Programme (UNEP)
United Nations Research Institute for Social Development (UNRISD)
United States of America (USA)
Utkal Alumina International (UALI)
Uttar Pradesh (UP an Indian state located in the centre of India)
Volatile Organic Compound (VOC)
World Business Council for Sustainable Development (WBCSD)
World Commission on Environment and Development (WCED)
1 INTRODUCTION

On 3 December 1984, a poisonous gas - methyl isocyanides (MIC) - used in the production of the pesticide Sevin,1 leaked from a Union Carbide plant, located in the Indian city of Bhopal. The leakage of MIC gas killed at least 3,500 and over 200,000 were injured (Shrivastava 1987).2 An audit made by the parent US based company in May 1982, revealed ten major deficiencies in the MIC tank (George 1993). It is not clear whether the deficiencies had been eliminated by the local Indian management3 at the time of the disaster. Efforts had been made by Union Carbide Ltd. to strengthen safety, health and environmental measures by ordering the local management to take action, but little had apparently been done. Was this disaster caused by conscious decisions made by Union Carbide? Were publicised improvements in safety and environmental management headquarters merely a lip service for external stakeholders in the US, or can the Bhopal tragedy be viewed as the unfortunate outcome of global corporate mismanagement? Among studies of the disaster, some, like Everest (1985), found Union Carbide Ltd. to be fully responsible. This study suggested that the tragedy was an inevitable outcome of corporate decisions and priorities to delegate all responsibility to local managers. Others, like Shrivastava (1987), presented a more balanced account. Bhopal was a case of corporate misconduct, Union Carbide Ltd. was fully responsible, but it had made efforts to strengthen safety and environmental measures at this Indian plant. Local procedures, however, did not comply with defined standards and guidelines. Rather than merely condemning an enterprise which was trying to strengthen local manufacturing procedures in a less developed country (LDC) like India, Shrivastava (1987) suggested that more studies into how and why the disaster actually took place ought to be conducted.

This dissertation is inspired by Shrivastava’s argument. Part of my study is related to TNC activities in India. The study is based on empirical observations made fifteen years after the Bhopal disaster, at a time when Union Carbide had left India. The study is undertaken in a period when India, as with almost all LDCs, are inviting TNCs to become more directly involved in local hazardous manufacturing activities. To a certain extent, TNCs are responding, and Foreign Direct Investment (FDI) is enabling TNCs to assume more direct control of local manufacturing activities. Consequently, host LDCs such as India are becoming increasingly dependent on TNCs in order to realise development objectives and public policy goals.

Eight months after the Bhopal accident, a similar, though less devastating, release occurred at Union Carbide’s plant in West Virginia, USA. Stock prices plummeted and Union Carbide was forced to divest major segments of its corporate portfolio, including Battery Products4 and Home and Automotive Products.5 From sales of $12.5 billion in 1984, the

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1 Sevin was a commercially successful pesticide distributed in India, especially effective on soya bean crops.
2 The estimated numbers of dead and injured vary. According to New York Times, 15 February 1989, up to 500,000 valid claims had been filed for death and injury.
3 This was underlined in an article, published on 16 January 1985, written by Ingo Walter and Thomas Gladwin, who had become quite well known after publishing "Multinationals under Fire" in 1980 (Gladwin & Walter 1980).
4 Union Carbide was the world's leading flashlight and small appliance battery business.
5 Union Carbide had built leading consumer brands such as Prestone Antifreeze and Glad Bags. While Battery Products were sold to a competitor; Ralston-Purina, Home and Automotive Products was sold to former
annual revenues in 1999 were less than $6 billion. Rather than being considered an environmental and ethical leader, the Bhopal tragedy earned the company a place in the Guinness Book of World Records as being responsible for the worst industrial chemical disaster ever. For several observers concerned with developmental and environmental issues in LDCs, the Bhopal disaster became a symbol which confirmed that TNCs in general were operating affiliated manufacturing units in such countries. Using Bhopal as an example, Castleman (1985) argued that TNCs were avoiding stricter environmental regulations in USA by relocating hazardous industries to LDCs like India. Subsequent research, however, has not documented such a wholesale process of relocation due to environmental factors (Leonard 1988, Low 1992). On the contrary, increased efforts to strengthen corporate environmental control across borders seem to prevail (Rappaport 1991, Himmelberger, Hansen 1998, Kolk 2000). Even scholars initially motivated to conduct research to verify the industrial flight hypothesis, have not been able to document significant, wholesale relocation of pollution-intensive industries to India (Knutsen 1996).

This does not at all signify that environmental regulations are irrelevant for the understanding of corporate environmental practices. The role of environmental regulation in influencing corporate environmental behaviour has been considerable. Studies from industrialised countries document that firms have traditionally been forced to comply with environmental regulations (Andrews 1994, Vedung et. al 1998). At the beginning of the 1990s, however, partly triggered by the Bhopal disaster, a strategic reorientation emerged among certain TNCs. Corporate environmental strategies were presented that went beyond formal regulatory requirements. Despite being proposed by TNCs, efforts were mainly referred to the national political level and particularly to the countries where the parent company was located. However, the strategic environmental reorientation has increasingly been related to global issues. With explicit reference to the Bhopal disaster, and stated global environmental commitments made by certain TNCs, my dissertation is questioning the modality and impact of this reorientation. The study addresses what we might term the political economy of environmental protection.

It is asserted by several scholars that the political interaction between states and markets are changing (Stopford & Strange 1991, Sally 1995). This dissertation proposes that this is also applicable to the modality of pollution control exercised by legitimate public authorities in FDI hosting LDCs. Inspired by Etzioni (1975), Vedung (1998) presents a threefold typology of public policy instruments; regulations (sticks), economic means (carrots) and information (sermons). All three typologies refer to a relationship between the governor and governee in which the governor illustrated by a central or a local environmental regulatory authority - is assumed to be capable of implementing the policies chosen. The Bhopal disaster indicates, however, as suggested by Shrivastava (1987), that few public efforts to reduce chemical risks had been taken by the Indian authorities. This dissertation does not focus on public environmental policies as such, but nevertheless questions whether TNCs’ environmental management systems through FDI projects, can achieve public environmental policy goals in FDI hosting LDCs. The focus is on TNCs and affiliated manufacturing units in LDCs, but the focus of the study is extended beyond plant specific efforts.
In several industrialised countries collaborative efforts between public authorities and particular firms are documented. Firms are given opportunities to find environmental remedies in accordance with corporate priorities. In Norway, a voluntary agreement between the Norwegian primary aluminium smelters and the Norwegian Government was established in 1997 to reduce climate gas emissions by 55% by 2005. This is proposed despite that the “governor”, the environmental authorities, do have the institutional strength as well as the defined political commitments, to implement more traditional environmental policy tools (Reitan 1998). The Bhopal tragedy reminds us that possessing such institutional capacity is not always the case worldwide. In terms of enforcing political regulations, this situation is particularly prevalent in LDCs. Consequently, when LDCs promote a stronger market oriented approach towards environmental protection, these “collaborative” efforts ought to be treated with caution.

At the same time, Piasecki (1995) suggests that the Bhopal disaster can be perceived as the environmental equivalent of Pearl Harbour: a violent wake-up call for alternative corporate action. The Bhopal tragedy triggered a widespread “chemophobia” (Gladwin 1987). The Bhopal disaster impacted the corporate community, and particularly those involved in hazardous chemical manufacturing worldwide, to propose and publicise reliable environmental initiatives and solutions to the public. Through the signing of the Sullivan Principles of Business Ethics in 1982, Union Carbide supported greater transparency towards the public (Piasecki 1995). Nevertheless, until the disaster of 1984, little had really changed. In the wake of the disaster, Union Carbide’s Board of Directors hired Arthur D. Little to reorganise the company’s entire environmental review process. An aggressive USD twelve million restructuring plan for the environmental management programme was launched, and safety, health and environmental audit reports were given higher priority. Environmental control measures were strengthened as environmental risk considerations were placed more centre stage in the corporate strategic work of Union Carbide. Not only Union Carbide made such strengthened environmental efforts. In the wake of the Bhopal tragedy, a number of environmental commitments and guidelines were publicised by other chemical firms as well as branch organisations.

In 1986, the Canadian Chemical Producers Association introduced the Responsible Care Programme (RCP). This voluntary programme, which has currently been introduced by national chemical producer associations in more than 45 countries worldwide, is meant to be a public commitment by member companies to achieve and demonstrate continuous improvement in all aspects of safety, health and environmental performance. The focus is on relevant processing activities, but RCP explicitly states that all related parties shall be involved, including customers, suppliers, local communities and other relevant bodies connected to the implementation of the programme. RCP was not only introduced in response to the Bhopal tragedy. Perhaps more important is the fact that this, and subsequent initiatives, occurred while political efforts were being taken to strengthen formal environmental regulatory controls. Furthermore, RCP may also be related to greater corporate sensitivity towards increased public scrutiny. As a consequence of the occurrence of several chemical disasters, the public have become increasingly concerned with

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7 As reflected in the magazine Tomorrow: [http://www.tomorrow-web.com/](http://www.tomorrow-web.com/)
8 During the 1970s and 1980s several industrial incidents with major ecological and societal consequences occurred. The dioxin leaks in Seveso in 1976, the Amoco Cadiz oil spill in France in 1978, the Three Mile Island Nuclear Plant accident in Harrisburg, USA in 1979, the Chernobyl nuclear reactor explosion and the Rhine pollution from the Swiss Sandoz factory in 1986, and, the Exxon Valdez oil spill in 1989, were all major industrial disasters.
corporate environmental management, or lack of such. Public opinion has developed into what Murphy & Bendell (1999) currently call ‘civil regulation’. Thus, due to political efforts to strengthen formal and civil regulations, the environmental performance and particular products of individual TNCs were assessed and challenged by a variety of external stakeholders, including environmental Non Governmental Organisations (NGOs) and consumer organisations. To comply with formal political regulation, firms establish what can be termed a ‘compliance strategy’, specified by transparent political standards. ‘Civil regulation’, however, is less predictable and often functions contrary to traditional political priorities. As illustrated by the booklet “Greenwash: The Reality Behind Corporate Environmentalism”, written by Greer & Bruno (1996), TNCs, including Norsk Hydro, the UK based Imperial Chemical Industries (ICI) and Aluminium Company of America (ALCOA) were put under a critical and less than flattering spotlight. Alleged abuses due to corporate misconduct were publicised. Based on documentation, the authors demanded that these TNCs improve their environmental performance.

By the end of the 1990s, TNCs had begun to respond to these challenges. Initiatives to establish ‘stakeholder dialogues’, or what Utting (2000) calls ‘reputation management schemes’, were taken by an increasing number of TNCs. However, the dialogues were normally limited to activities adjacent to corporate HQ, and, thus, limited to OECD operations. The Responsible Care Programme of the chemical industry can be treated as an example of global reputation management, as global environmental concerns and LDC activities are mentioned. My dissertation aims to study more thoroughly the global environmental performance of TNCs: Do environmental commitments and practices transferred to affiliated TNC units in India and Jamaica contribute to public policy goals of enhanced environmental protection?

1.1 Research questions

In 1990, official development assistance (ODA) flows accounted for more than 50 percent of total net resource flows to LDCs. By 1998, ODA flows were reduced to only 15 percent (UNCTAD 1999a). Significant changes in the content of resource flows to LDCs are apparently taking place. Furthermore, the character and modality of these flows are changing as FDI flows are becoming more important, both in relative and absolute terms. In 1990, FDI represented approximately 50 percent of private net resource flows to LDCs. The rest was generated primarily by portfolio flows and commercial bank loans. By 1998, the share of FDI flows had increased to 80 percent of total private flows. Bearing in mind the relative decrease of official financial flows to LDCs, FDI flows controlled by TNCs have become more important as a foreign source of financial resources. Consequently, TNCs are becoming

However, only the Bhopal disaster involves a TNC operating explicitly in a North-South dimension. Consequently, the Bhopal disaster is chosen both to exemplify the potential negative impacts of TNC activity in LDCs, and to establish empirical terms of reference for the subsequent analysis of transnational corporate environmental initiatives.

9 The book was an expanded version of the 1992 report “Greenpeace Book on Greenwash”, released at the Earth Summit in Rio de Janeiro.
10 Collected partly by Greenpeace as well as the Third World Network, based in Kuala Lumpur, Malaysia.
11 Subsidised loans such as those provided by multilateral development banks are treated as ODA flows.
12 During the earlier parts of the 1990s, we saw an explosion in portfolio investments, increasing to almost USD150 billion in 1996. However, due to the financial crisis erupting in Thailand in 1997, these flows have subsequently decreased, both in absolute and relative terms. Preliminary figures indicate that net flow of portfolio investments in 1999 were approximately USD40 billion. Total private flows were estimated at almost USD200 billion (UNCTAD 2000).
Introduction
correspondingly more important as a source of capital for LDCs receiving FDI inflows. This, in itself, ought to justify a shift of focus from developmental aid to commercial transnational and economic globalization in general.

At the same time, the environmental regulatory capacities of FDI hosting LDCs vary. The growth in FDI inflows raises concerns about environmental impacts. Environmentalists argue that the regulatory gap between OECD countries and LDCs will attract the worst performing firms and dirtiest industries to the least regulated countries, creating ‘pollution havens’. Korten (1995:31) argued that “Economic globalization has greatly expanded opportunities for the rich to pass their environmental burdens to the poor by exporting both wastes and pollution factories”. Advocates of neo-liberal economic policies, on the contrary, argue that FDI is positive for the environment because OECD firms typically possess newer and cleaner technology, and better management practices than local firms. Rather than pollution havens, ‘pollution halos’ \(^{13}\) are created. Hadlock (1994) argues that environmental performances of TNC affiliates are strengthening protective measures regarding hazardous emissions, waste treatment and energy production at LDC locations.

Evidence to support the pollution halo hypothesis has been found by Eskeland and Harrison (1997). They found that foreign ownership was associated with cleaner and lower levels of energy use in Mexico, Venezuela and Cote d’Ivoire. \(^{14}\) A subsequent study conducted by Blackman and Wu (1998) also found significant support for the conclusion that foreign investment in electricity generation in China increased energy efficiency and reduced hazardous emissions. According to these investigations, relative environmental improvements can be directly related to FDI inflows of new resources, enabling the use of modern and more efficient processing technologies. Although Blackman and Wu (1998) mentioned the role of local management, the importance of transnational relations and corporate environmental management across national borders were discussed neither by Eskeland & Harrison (1997), nor Blackman and Wu (1998).

According to OECD (1997), the relationship between FDI and environment protection can be approached in three ways: the environmental effects of FDI based technology development and diffusion, the impact of environmental standards on investment decisions by firms, and the environmental effects of international competition for FDI. An equivalent, but more simplified approach is applied by Zarsky (1999), which distinguishes between micro linkages and policy linkages with respect to FDI and the environment. My research is heavily inspired by the reasoning of Zarsky (1999). However, rather than applying her concepts of micro- and policy linkages, I distinguish between project specific- and policy related linkages of TNC activity in LDCs. Project specific linkages are specifically related to corporate activities carried out at the actual TNC affiliated plant. Policy related linkages are externally related to non-corporate stakeholders in local, national and international political arenas. The project- and policy related linkages between FDI and the environment constitute the analytical approach of this dissertation, which is investigating transnational corporations and environmental considerations in LDCs. The actual research questions can be formulated as the following:

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\(^{13}\) The concept of pollution halos is proposed by Zarsky (1999) indicating that FDI inflows are strengthening pollution control procedures in LDCs.

\(^{14}\) Using energy use per unit of output as a proxy for energy emission.
The debate on environmental impacts of TNC activity in LDCs emerged in the 1970s as stricter environmental regulations were introduced in the USA. As a consequence, the industry threatened to relocate production facilities to countries with less stringent regulations. Castleman (1979) argued that US pollution control laws and occupational health standards would lead to a wholesale exodus of major industries to avoid large control costs in the US. Based on a limited number of single cases, he postulated “exports of hazardous industries” to countries with less stringent environmental regulations. An example of such relocation is also documented in Europe (Knutsen 1996), but Castleman was criticised by Knödgen (1979) for being monocausal in his explanation. She questioned why he did not compare the importance of having the opportunity to pollute with the importance of other locational factors. Based on her own study of TNC location decisions, she argued that the fact that TNCs pollute in LDCs does not prove that the opportunity to pollute was the main reason behind their location decision. Leverstein and Eller (1985) made a similar criticism. Leonard (1988) analysed US FDI flows to Ireland, Romania, Spain and Mexico, but found no significant evidence of wholesale relocation despite the prevalence of more lax regulatory requirements - what can be termed a pollution haven - in the chosen FDI hosting countries.

The pollution haven hypothesis has been around long enough to generate a significant body of statistical evidence, or lack of such, as verified by Low (1992) and Jaffe et.al. (1995). However, Zarsky (1999) pointed to the fact that detailed case studies of project specific linkages between FDI cases and environmental issues are relatively scarce. Although some studies are available (Rappaport 1991, Himmelberger 1994, Knutsen 1996 and Hansen 1998), few have analysed the particular role of transnational corporations with regard to specific affiliated TNC units in LDCs. Consequently, an important objective of this dissertation is to understand more thoroughly the significance of global corporate environmental controls and the practical impacts of stated TNC environmental commitments vis-à-vis LDC operations. This will be achieved by studying corporate environmental management between corporate HQ and foreign affiliated plants; what I term ‘cross border environmental management’. More specifically, this question focuses on TNC control over environmental procedures and practices of affiliated plants in India and Jamaica.

Zarsky (1999) focused on the policy impacts of economic integration on environmental standards and norms. Kolk (2000) argued that political regulation has been the predominant factor encouraging environmental management within firms. Consequently, most firms, and especially those with large environmental risks, focus on political environmental compliance as a regulatory ‘bottom-line’ for economic survival. However, a number of firms have started to move beyond a reactive strategy. Co-operative environmental accords are being established with regulatory authorities, and voluntary environmental agreements are being made. Rather than reacting to regulatory demands, firms are proposing environmental

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**Textbox 1.1 The Research Questions**

1. To what extent is the environmental performance of TNC affiliated units in LDCs influenced by cross border environmental management of TNCs?

2. To what extent is a strengthening of cross border environmental management procedures converting TNCs into behaving like ‘environmental diplomats’ in the local environmental policy arena?
solutions more in accordance with general corporate priorities. This is also taking place in LDCs, such as Jamaica and India, where traditional environmental control measures are lax, or even non-existent.

As with other forms of regulation, in a situation lacking global environmental accords, political environmental standards in individual states are subject to convergence pressures in a global economy. Concerns regarding retaining or gaining national attractiveness as a location for foreign investment, can drive formal political environmental standards down. The outcome of this can be a process of downward harmonisation, ‘a race to the bottom’, as indicated by Ives (1985), and more recently by Madeley (1999). Another less negative variant is related to what Zarsky (1997) termed the ‘stuck in the mud’ hypothesis. Downward pressures in OECD standards may be kept in check by popular demands to protect environmental health. In addition, firms may develop ‘win-win’ production techniques that enhance both environmental protection and competitiveness. These improvements may be diffused into good environmental practice at TNC-affiliated units in LDCs via the ‘pollution halo effect’, causing an upward convergence in standards. Whether and to what extent this is actually happening will be considered as part of the previously stated research question.

However, beyond corporate efforts, FDI hosting LDCs may remain reluctant to take significant unilateral political initiatives towards improved environmental protective measures because they could lose FDI inflows. Those already established can relocate to other locations with less stringent environmental regulations. Consequently, Zarsky (1997) argues that states hosting FDI will make incremental, rather than radical, improvements in environmental regulations, broadly in line with the perceived priorities of trade and investment partners. Increasingly, these partners are TNCs who are publicising demanding commitments with respect to environmental issues. This is exemplified by Norsk Hydro: “Hydro will be at the forefront in environmental care and industrial safety. We will make care for the environment and for the well being of future generations the basis of our company policy and decision making”.15

The setting of national environmental standards can be treated as a collective action problem for individual host governments as potential TNCs choose between various FDI locations. Even in a situation where a TNC has made FDI commitments in a particular country, national environmental standards may nevertheless not become a “race to the top”, as argued by Hadlock (1994). Despite the strengthened bargaining position of the FDI hosting government as the locational alternatives become obsolete (Vernon 1966), the host government may still be “stuck in the mud” in line with the perceived priorities of trade and investment partners. Increasingly, these partners are TNCs who are publicising demanding commitments with respect to environmental issues. This is exemplified by Norsk Hydro, however, TNCs are publicising global environmental commitments. Similar efforts are documented by an increasing number of TNCs, and the same TNCs are joining forces in strengthening the work of the World Business Council for Sustainable Development (WBCSD) advocating eco-efficiency and corporate social responsibility, particularly in LDCs. Still, it remains appropriate for FDI hosting governments to assume a negative propensity among potential and actual TNCs to additional environmental costs. But what about the TNCs? In the name of eco-efficiency and corporate social responsibility, are the TNCs that have become active within the WBCSD network merely focusing on internal housekeeping at affiliated TNC units in LDCs? Based on empirical findings from TNC plants, this dissertation questions whether a

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15 For further details, see the environmental principles published on Norsk Hydro’s homepage; http://www.hydro.com/
strengthening of cross border environmental management procedures will convert TNCs into ‘environmental diplomats’.

Use of the term ‘environmental diplomats’ is formally incorrect, but I have nevertheless chosen to use it because of the observed tendency among certain TNCs, both individually and collectively, to expand rhetorical commitments beyond corporate housekeeping into social concerns and the more general promotion of sustainable development. Corporate lobbying is nothing new. Based on internal initiatives, the corporate community is taking advantage of the liberalised economic environment by promoting alternative, more self-regulatory schemes to address particular environmental challenges. Consequently, the use of the term ‘environmental diplomats’ refers to whether TNCs, like FDI hosting countries, remain stuck in the ‘environmental mud’ or, rather, are capable of promoting changes beyond their particular, plant specific commercial interests.

Triggered by technological change, increased capital mobility and transborder communication, local environmental management of industrial units is becoming increasingly embedded in the dynamics of global control and communication. A common driving force behind these changes, which can be termed ‘globalisation’, is the accelerating rate and cost of technological change, combined with internationalisation of production and dispersion of manufacturing industry to an increasing number of countries worldwide. These structural changes have permeated beyond changing consumer priorities into modified and more market oriented, political priorities, both at local, national and global decision making levels. As priorities are changing at various political levels, this study of TNCs and environmental considerations in LDCs cannot be conducted without explicit reference to the role of the FDI hosting states as well as the emerging characteristics of the relationship between states and markets within the current international political economy.

Despite economic liberalisation, TNC investments are not managed and controlled in a political vacuum. Politics still count, at local, national and international levels. However, the character and modalities of current politics are changing. The question is whether this is also the case for environmental politics. Public outcry hampered the OECD proposed Multilateral Agreement on Investment (MAI). An explicit reference was made to enhancing the potential for stimulating pollution havens in particular host countries, due to further investment liberalisation. At the same time, the Secretary General of the United Nations, Mr. Kofi Annan, has invited TNCs to establish partnerships - a global compact - with intergovernmental bodies such as the United Nations Environmental Programme (UNEP). Apparently, TNCs are perceived both as the source and the solution to current environmental problems. What is actually happening?

At the national arena of FDI hosting LDCs, domestic structures are becoming affected by global inputs through foreign investors such as TNCs. Risse-Kappen (1995) argued that whether or not domestic structures are subject to transnational influence is related to the degree of centralised state structure, the strength of societal structure and whether domestic policy networks are consensual or polarised. Clark & Chan (1995:140-144) used the reasoning of Risse-Kappen to study impacts of transnational corporate influence in India, and found few, because political institutions were strong, centralised and supported by a statist political culture. At the same time, the authors argued strongly for “bringing society back in”. Countries endowed with stronger and more coherent states have been able to regulate TNC access, but neither access nor state power always correspond with higher - or for that matter lower - contributions of TNCs to economic growth and development. Clark & Chan argue that TNC activities in a host country like India are not just affected by the capacity of the state.
Rather, how well a state and society work together in a synergistic fashion, and the society’s capacity to absorb, take advantage of, and complement the TNC contributions are also vital. The analysis of Clark & Chan (1995) is related to a political situation prior to radical changes in economic policy. In 1991, India embarked on a political journey of economic liberalisation that changed political priorities. Market-led development was promoted in India. FDI inflows were stimulated and a significant growth in the number and value of TNC controlled industrial project can be verified. Stated in textbox 1.1, I will discuss to what extent increasing transnationalisation comprehended as TNCs’ cross border environmental management efforts, will influence environmental policy and practices, not only in India, but also in Jamaica.

1.2 Emergence of triangular environmental diplomacy?

TNCs’ search for new markets, as well as raw materials, is often a major factor influencing their decisions to set up production units. Sometimes this is done for cost reasons, to secure the supply of raw materials or to achieve easier access to new markets with higher growth potential (Dunning 1988). At other times, it is done simply because the host government makes it a condition for entry. Changes in communication and information technologies have, however, altered the perceptions of policy makers in LDCs, both regarding the nature of the system and its challenges and opportunities. Some countries, such as Jamaica, have few feasible alternatives to the exploitation of huge domestic bauxite reserves, whilst countries such as Brazil and India, with comparatively larger access to domestic resources, can choose more in accordance with prevailing political priorities. Brazil has chosen a combined approach, while India for several decades promoted industrialisation through domestic entrepreneurs something what was further stimulated by heavily protectionist trade and investment measures. However, the Indian government replaces market restricting industrial policies by market promoting economic policies. During the 1990s, the world has seen a striking shift away from policies of import-substitution and extensive protectionism, to economic liberalisation and privatisation. With simultaneous innovations in information and communication technologies (ICT), transnational flows are being stimulated both politically and economically.

The argument of the ‘Dependencia’ school of the 1970s, castigating TNCs merely as impediment to local processes of social change as, has currently lost most of its support. This is also the situation among political decision-makers in LDCs. In the wake of debt crises and balance of payment deficits, and despite the claims of a ‘New International Economic Order’, LDC governments increasingly acknowledged TNCs as potential allies in realising national development priorities. Consequently, investment policies were radically liberalised. However, by the end of the 1990s, not all LDCs had succeeded as planned. Several of the world’s poorest countries remained marginalized. Among those receiving FDI inflows, further environmental degradation is documented. Civil society groups, like many environmental NGOs based both within FDI hosting LDCs and in OECD countries, increasingly challenge the political priorities of further investment liberalisation.

The 1998 protests against the OECD proposed Multilateral Agreement on Investment (MAI) treaty illustrated a generally negative stance among environmental NGOs with regard to perceived negative environmental effects of increased FDI inflows and TNC activity in LDCs. Protests during the ministerial conference of the World Trade Organisation in December 1999, and most recently during the annual meeting of the International Monetary
Fund and the World Bank in Prague in September 2000, confirm growing public concern related to the perceived negative impacts of market reforms and further economic liberalisation. Previous arguments in favour of international regulation of TNCs have been rephrased. During the 1970s, amidst calls for a New International Economic Order, and directly inspired by TNC involvement in overthrowing the democratically elected Chilean president Allende, the United Nations (UN) took initiatives to draft an international code of conduct to regulate the activities of TNCs. The United Nations Centre on Transnational Corporations (UNCTC) was mandated to carry out this intergovernmental normative work. During the 1980s, several attempts were made by the UN to draft intergovernmental codes relating to specific products, such as the 1985 “Code of Conduct on the Distribution and Use of Pesticides”, proposed by the Food and Agriculture Organisation (FAO). However, there was a significant shift in the UN approach. Instead of trying to regulate and restrain the practices of TNCs, UN agencies, including UNCTC, but particularly UNCTAD, sought to facilitate the access of LDCs to FDI. Deregulation, rather than regulation, was encouraged. By the early 1990s, various regulatory initiatives proposed by the UNCTC came to a close, including the draft code of conduct for TNCs. Furthermore, a set of environmental recommendations for TNCs, drafted by the UNCTC, failed to be adopted at the Rio Conference in 1992 (Gleckman & Hansen 1994), and even UNCTC itself ceased to function as a separate entity within the UN system. Rather than institutionalising a capacity to regulate TNCs, the UN strengthened its efforts to promote TNC led investments in LDCs. Despite the stalled MAI proposal from the OECD, work related to FDI and TNC continues. In 2000, the “Guidelines for Multinational Enterprises” were reviewed by OECD, and the explicit focus on environmental issues was significantly strengthened. In striking contrast to the previous intergovernmental initiatives prepared by the UNCTC, however, these OECD guidelines are voluntary and market based, as are most current efforts related to TNCs and environmental protection in LDCs. However, the recent UN initiatives went even further.

During the latter part of the 1990s, UN policy and practice towards business and TNCs have entered a new era, as many UN bodies have established partnerships with large TNCs. Such relationships are usually justified in terms of resources, values and governance. They provide a means of tapping the funds, technology, competence, creativity and global reach of the business community, and employing these for developmental and ethical purposes (Utting 2000). Particular concerns are environmental issues. Partnerships in line with the UN initiated Global Compact Initiative may provide a means of correcting what Kell and Ruggie refer to as “two disequilibria” which emerged in the late 20th century. These are the disconnection between the economic sphere and broader frameworks of shared values and practices, and the imbalances in international political governance structures. While “there has been a significant expansion of global economic rule making…aimed largely at creating the institutional bases for the functioning of global markets…the expressions of rule-making have not been matched by comparable efforts on behalf of other global concerns, such as environmental, human rights and poverty” (Kell & Ruggie 1999).

The world is becoming more integrated, economic growth is being spurred, and significant economic development can be documented. At the same, time current statistics confirm that several areas, people and societies are becoming marginalized in both relative and absolute terms. TNCs may be perceived as ‘environmental diplomats’ in countries with

16 For further details, see the Human Development Index, prepared by the UNDP and presented as an annual Human Development Report.
increasing environmental degradation. Based on specific studies of environmental policy and practices of such companies, I propose to analyse whether current changes in international political economy are influencing environmental policies and practices of LDCs. Bendell (2000) talks about various “terms of endearment” between business, NGOs and sustainable development. At the same time, environmental and developmental priorities of LDC governments embedded in liberal, market based initiatives, are increasingly questioned by both local and foreign NGOs. Protests are documented in connection with the proposed Utkal project in India.17 What is interesting is that these protests are the outcome of direct collaboration between local, national and foreign NGOs. Stopford and Strange (1991) disregarded the transnational role of NGOs, but nevertheless referred “a new dimension of global diplomacy”. They referred to a triangular diplomacy in which the traditional international political arena of state to state interactions is challenged by market dynamics and a growing interaction between states and firms.” In their empirical case studies of Brazil, Kenya and Malaysia, reference to domestic societal aspects is missing. Still, as elaborated subsequently, I find their reasoning relevant. It is a reference for understanding the potential dynamics caused by a strengthening of TNCs environmental management systems in LDCs.

TNCs are balancing traditional commercial interests with environmental needs and challenges where transnational corporate activities are located. By focusing on TNCs and their environmental policies, procedures and actual practices related to affiliates in LDCs, new light will hopefully be shed on a variety of interactions. These interactions can be between regulatory agencies, firms and society at large, locally, nationally and in the global arena. The riots in Seattle, Prague and most recently Gothenborg, confirmed that animosity towards TNCs is very prevalent, particularly as TNCs are perceived as the symbol of the evil dynamics of current economic globalisation. At the same time, we do see new partnerships emerging, not only between FDI hosting LDCs and TNCs, but also between TNCs and NGOs. Based on history, the NGO community remains sceptical towards individual TNCs and the WBCSD. As argued by Finger and Kilkoyne (1997): “TNCs are difficult to reform. By their very nature their activities must be environmentally destructive.... The WBCSD members constitute a powerful cartel”. The Bhopal tragedy in India in 1984 is still used by many critics, such as Madeley (1999), as a ‘confirmation’ of how TNCs are operating in LDCs. This dissertation does not claim that this reasoning is necessarily wrong. What I have tried to convey, however, is that such an approach is insufficient for understanding one of the current dynamics of economic globalisation: the international political economy of environmental protection, and - specifically - the environmental impacts of increased transnational influence in LDCs.

The reviewed Guidelines on Multinational Enterprises proposed by OECD, are non-mandatory, and self-regulatory efforts - such as the Responsible Care Programme - remain the dominant paradigm for influencing corporate environmental performance. The World Business Council for Sustainable Development argues that it promotes sustainable development through market liberalisation by allowing flexibility in addressing environmental issues and by creating incentives for environmental innovations (WBCSD 1997a). However, self-compliance has been criticised by both environmentalists and academics for not going far enough and for being used by industry as a means of discouraging new environmental

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17 Norsk Hydro is involved as a major partner in the Utkal project together with Aluminium Company of Canada (Alcan) and Hindalco, a major Indian aluminium producer. The project refers to bauxite mining and refining anto alumina. As referred to subsequently - at least when it comes to Norsk Hydro - the project is still. Under consideration.
Chapter 1

legislation (Welford 1997). The United Nations Research Institute for Social Development (UNRISD) agrees with these criticisms: “The actual contribution [of TNCs/International Business] to enhancing human security and sustainable development has been modest - and sometime clearly negative... International business cannot be expected to author their own regulation: this is the job for governments” (UNRISD 1995: p.154 & 19). More recently, Utting (2000) made a similar argument. At the same time, the UN is promoting partnerships with TNCs that are strongly supportive of both the initiatives of WBCSD and other voluntary codes for environmental management and environmental protective measures.

Some argue that voluntary codes of environmental management are more an exercise in political sustainability than environmental sustainability (Levy 1997), as “corporate leadership has learned that it can no longer function without an environmental agenda of its own” (Buell and DeLuca 1996:27). Nevertheless, even the most sceptical critics cannot deny that environmental concerns have been put centre-stage in the international political economy of environmental protection. Strengthened commitments are made. There are several relevant actors involved, but my dissertation is questioning whether the published environmental commitments made by TNCs are creating improved environmental practices of TNCs at affiliated units in LDCs.

1.3 Justification for the research questions

The World Summit on Sustainable Development, termed the Johannesburg Summit, will be hosted by South Africa in 2002. This conference will evaluate the commitments made at the 1992 Rio Conference, in particular the issues included in the forty chapters of Agenda 21. Since the launch of the report “Our Common Future” in 1987, the UN has urged the private sector to assume their responsibility for promoting more sustainable development.18 To promote such development, TNCs were explicitly asked to strengthen their efforts to enhance environmental protection in LDCs: “Large industrial enterprises, and transnational corporations in particular, have a special responsibility. They are repositories of scarce technical skills, and they should adopt the highest safety and health protection standards practicable and assume responsibility for safe plant and process design and for staff training. The transnationals should also institute environmental and safety audits of their plants measured against standards at other subsidiaries, not just against those of other local companies, which may have less stringent requirements.”19 Surprisingly, Agenda 21 does not include a separate chapter on TNCs. What was agreed upon was a rather vague chapter 30 on Industry and Business in general. However, focus on TNCs has later been followed up through the work of the Commission on Sustainable Development, which issued the following statement: “There is a need to promote the involvement of the business community and civil society in the design of specific enabling measures, including through capacity-building, especially in the context of environmental practices of FDI”.20 Through studies of TNC policies and practices particularly related to mining and manufacturing units in LDCs, I will

18 Sustainable development is defined by the Brundtland Commission as: “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In essence, a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both the current and the future potential to meet human needs and aspirations”. WCED (1987) pp. 43 & 46.
19 WCED (1987) page 231, including the section “strengthened international efforts to help developing countries” as part of chapter eight on Industry: producing more with less.
20 For further information, see http://www.un.org/esa/sustdev/
approach these questions by focusing on the triangular environmental diplomacy and relationships in which TNCs are increasingly becoming embedded as central political agents.

Reviewing literature on TNCs and environmental impacts on LDCs, Knutsen (1991) identifies more than 600 references. As illustrated by the work of Castleman (1985), who uses the Bhopal tragedy as an explicit reference, a considerable number of studies have analysed the role of TNCs in the dispersal of polluting industrial activities from North to South. Other studies have examined the adverse environmental impacts of TNC activity (Ives 1985, Pearson 1987 and Green & Bruno 1996). These impacts have been associated with the transfer of hazardous production technologies (Knutsen 1996), accidents at TNC subsidiaried (Everest 1985, Gladwin 1987 and Shrivastava 1987) and the environmental practices of TNCs in the exploitation of national resources (Pintz 1987). Finally, some studies have focused on how TNCs internally handle the environmental issue. These studies include case studies and surveys of environmental management practices at LDC affiliated TNC subsidiaries (Rappaport et.al 1991, Himmelberger 1995, Hansen 1998).

Current research has provided valuable insight. However, I find it paradoxical that, while FDI flows to LDCs increase, and FDI as a source of financial transfers to LDCs increases both in absolute and relative terms, the role of individual TNCs in LDCs such as India is more or less neglected. If included, it is normally related to trade policy issues. However, more recently the importance and relevance of TNCs and FDI flows has been acknowledged by a wide spectrum of stakeholders.

The first Economic Briefing paper focusing on the Johannesburg Summit is entitled “FDI: A lead driver for Sustainable Development?”, it questions the differences between the various forms of FDI. Those arguing against trade liberalisation are also raising concerns regarding investments, including FDI. It is often assumed that trade and investment flows are two dynamics of the same process of economic globalisation. This is wrong. It is important to keep in mind that there is a crucial difference in the modalities as well as political impacts of international trade as compared to international investment - particularly FDI. This can have major implications for environmental protection and the promotion of sustainable development, as stated in the briefing paper when referring to the need: “refocusing of perspective, from merely enhancing the availability of FDI to the better application of FDI for sustainable objectives is crucial to push the debate forward”. Hansen (1998) acknowledged this, but in his own empirical work relied on the benchmarking of corporate policies as stated and expressed by TNC representatives at corporate HQs. In this dissertation, I go a step further. Rather than merely studying the various policy statements and petitions made by industry associations and TNC HQs, I proceed with a study of the actual environmental procedures and practices of individual TNCs in LDCs like India and Jamaica. The background material is drawn from initial fieldwork in Jamaica and Brazil where I focused on bauxite/alumina activity. Subsequent fieldworks are made in Indiaa with a broader emphasis on a variety of TNC controlled units involved in hazardous manufacturing activities. These fieldworks were done to study project specific issues at affiliated TNC units as well as relationships with external stakeholders.

21 Except for the historical case of Bhopal.
22 A good illustration is the work included in the World Investment Report 1999, published by UNCTAD. Excellent work has been done regarding FDI flows and generic impacts, but very little indeed on individual TNCs in LDCs.
23 Exemplified by concerns raised by the Norwegian working group to the WTO, co-ordinated by the Norwegian NGO Forum, a network for Norwegian NGOs involved in international environment and development work.
24 As further discussed in the methodological consideration, I have been forced to shift the focus from aluminium to chemical manufacturing, due to the lack of direct transnational control of Indian bauxite/alumina producers.
Further, and related to this, I justify my choice of research based on theoretical ambitions. Most available research on the environmental impacts of FDI in LDCs seems content to treat the issue in a more or less atheoretical fashion (Ives 1985, Pearson 1987). This stands in contrast to literature on FDI and TNCs in general, which has produced considerable theoretical contributions. As expressed by Gladwin (1993:43): “researchers have not worked very hard at building and validating general models, instead being content to operate at the level of historical particulars”. Hansen’s work (1998), on the other hand, was explicitly theory driven within the neo-classical economic approach for understanding the behaviour of the firm, markets and politics. I use a similar epistemological approach when investigating the cross border dynamics of corporate environmentalism as shown within the TNC controlled units in Jamaica, Brazil and India. However, as previously indicated, I have been inspired by the work of Stopford and Strange (1991) and Risse-Kappen (1995) to extend the study into policy-related environmental issues. This is done by questioning the presence of collaborative agreements and partnerships between TNCs, political authorities and local societal groups in Jamaica and India. Within countries pursuing a more liberal economic policy, TNCs are allowed to get involved in economic activities previously reserved for indigenous entrepreneurs. Individual TNCs are increasingly allowed to become part of distinctive environmental policy networks, but the same TNCs are also involved in branch organisations at local, regional or national levels. Can corporate environmental management systems achieve public environmental policy goals. This is further elaborated in this dissertation.

A third related flaw in existing research is that it often ignores the distinction between properties, causes and effects of TNC activity that can be attributed to the transnational nature of the TNC, and causes and effects that are not associated with transnational flows but which can be attributed to all private enterprises in the host economy. Private economic activity is stimulated by liberal economic reforms, but, as confirmed by the case of India, the actual economic role of TNCs is quite limited. Domestic entrepreneurs are primary targets, as well as beneficiaries, of reforms. There appear to be differences in the growth of transnational corporations vis-à-vis local or indigenous firms, particularly in terms of their effect on environmental protective measures. The situation varies and so do the impacts. It all depends on the concerns in question, the research ethics and the political (and economic) context where the study is undertaken. Domestic private firms, either as suppliers, distributors or associates in industrial associations, are included in the study. However, the subject of analysis is the TNC and the causality, content and impact of transnational corporate control and co-ordination, what I term ‘cross border environmental management’.

1.4 Some conceptual reflections

According to the UN, TNCs are economic entities comprising parent firms and foreign affiliates. A parent firm is defined as an enterprise that controls assets of other entities in countries other than its home country, usually by owning a certain equity capital stake. In a foreign affiliate an investor, who is resident in another country, owns a stake that permits a lasting interest in the management of that enterprise (UNCTAD 2000:267). Interestingly, from the way UNCTAD defines a TNC it is not clear whether the parent enterprise actually

Consequently, to seek a more reliable and valid answer to my questions, I shifted the analytical focus to a sector with strong transnational ties through TNC majority ownership. I found this within the chemical industry.

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influences a foreign affiliate. “A lasting interest in the management....” is not equivalent to actual control, only potential control. The study will focus on the challenge TNCs have in choosing between global environmental standardisation and local adaptation. Such a definition can in itself justify a more thorough study of cross border environmental management, as it may bridge global corporate environmental efforts with local public policy demands of enhanced environmental protection. The key word is control. Hence my preference for the term TNC instead of Multinational Corporation (MNC), as used by Michael Porter (1985,1986), or Multinational Enterprise (MNE), as utilised by John Dunning (1988, 1997) and Richard Caves (1982).

Describing TNC practices, Dicken (1991) distinguishes between a transnational and a multinational corporate strategy. This is related to whether the TNC is concerned with access to markets or access to raw materials. The down-stream market approach is termed a multinational strategy, while the up-stream approach is termed a transnational strategy. As the latter strategy is explicitly concerned with safeguarding raw material supplies, control over income-generating assets is placed at the forefront of strategic thinking. Despite various attempts at proposing a more restrictive definition, most researchers prefer the broad definition presented by UNCTAD. The usefulness is high as it highlights a crucial element which specifically relates to transnational relations and transnational control. However, the reasoning leading to the use of TNC should not be stretched too far. Susan Strange, having contributed some of the most interesting arguments regarding the increasing power of TNCs within international politics, actually used the concept MNC (Strange 1988). Razeen Sally, focusing on the exercise of German and French TNC power vis-à-vis home governments, used the concept of MNE (Sally 1995).

Although TNCs can be extremely large, firms that operate across borders can be of any size, and the majority of the TNCs are quite small by definition (UNCTAD 1999a). They differ not only in size. Their organisations vary significantly, as TNCs can be engaged in various economic activities relating to primary, secondary or tertiary economic sectors. In general, a broad distinction can be made between firms engaged in market oriented investments and those engaged in supply-oriented investments (Dunning 1992). In the former, which Dicken (1991) related to a multinational strategy, firms locate a facility in a particular overseas market to serve that market directly. In the latter, corresponding to transnational strategy as described by Dicken (1991), firms locate value-added activities in a particular country to gain access to supply of raw materials, cheap labour, favourable market conditions, etc. A striking feature of current TNC strategies is the increasing effort to promote combinations of up-stream as well as down-stream activities, which Dicken (1998) terms the ‘complex global organization model’. This is characterised by integrated network configuration and a capacity to develop flexible co-ordinating processes.

Through the Utkal project, Norsk Hydro has secured reliable access to raw materials (bauxite/alumina) from India. At the same time this TNC is expanding manufacturing capacity, and the number of marketing outlets, for various manufactured aluminium products in the country. A “complex global organisation model creates capabilities that may displace hierarchical governance relationships inside the firm as well as outside, through the establishment of a complex network of inter-firm relationships” (Dicken 1998). In other words,

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25 Examples of primary, secondary and tertiary economic sectors are; forestry, manufacturing and service production respectively.
26 For further details, see Dicken 1998; 201-205. But it is all related to value chains, strategic alliances and subcontracting. The policy related linkages sought after in this dissertation, are not elaborated by Dicken.
such an approach challenges traditional organisational boundaries between corporate and non-corporate interests. What I question is: will this materialise even beyond the value chain?

TNCs control what can be termed ‘value-added industrial activities’. A relevant question is what these activities actually consist of. Are we also referring to activities that are not formally controlled by the TNCs through majority controlled FDI projects? Through international subcontracting and strategic alliance building, TNC influence extends beyond the equity base. In accordance with Dicken (1998), I will reformulate the definition: a TNC can be described as a firm that has the power to co-ordinate and control operations in more than one country, even if it does not own them. As a result, the crucial question linked to my second research question is whether TNCs can also co-ordinate, and even control, environmental diplomatic processes beyond the value-chain. I will apply the extended definition and conceptualisation of TNCs through the theorising and subsequent analysis.

To become a TNC, external market activities must be acquired or set up through investment. FDI activity can be established either by taking over an existing local firm, what is termed ‘brown field investment’, or by ‘green-field investments’ which involves the establishment of completely new operations (Jones 1996). To achieve formal control the company must decide to make a FDI. According to the Norwegian National Bank (Norges Bank): “an FDI is defined as a cross border investment with the intent to create a lasting economic relationship and execute effective influence upon the operational activity of the investment object.” FDI constitutes the mere existence of TNCs, as FDI enables both ownership and control of income-generating activities abroad. FDI, defined as majority ownership control of an affiliated unit is normally applied as a proxy to measure the extent, direction and influence of TNC activity. The design of my empirical research and selection of actual cases is based on this. However, as indicated by the proposed definition and conceptualisation of a TNC, corporate influence can be exercised in numerous ways.

FDI statistics, as presented in the next chapter, reveal problems in defining and analysing the concept of control. The easiest aggregate measure of FDI is the equity share of a company. However, there is unfortunately no international consensus on the minimum equity stake necessary to perform actual or direct corporate control. Indirect control over non-equity interests is impossible to measure through quantitative techniques. Consequently and beyond any reasonable doubt, TNCs are directly placing lasting interest in the management of the affiliated TNC unit. The questions to be answered are whether this interest is manifested in formalised procedures of cross border environmental management, and, subsequently, whether transnational control is exercised beyond formal corporate boundaries.

The problems of defining FDI and actual TNC influence are further exacerbated by deficiencies in the actual measurement of FDI flows. First of all, FDI flows only include direct investment, financed from sources that pass through the country of the original investor. FDI volumes are therefore estimated on the basis of financial transactions between parent firms and their foreign affiliates in the form of equity or loans, or earnings of affiliates that are not repatriated but rather reinvested locally. If we extend the focus beyond financial matters, for instance by focusing on the value chain and issues relating to suppliers or distributors, actual TNC control is obviously greater than that indicated by merely analysing FDI flows.

27 My translation drawn from the definition presented at their homepage; http://www.norges-bank.no/stat/
28 For further details, as well as illustrative examples, see Gray and Rugman (1994) or Bellak and Cantwell (1996).
Rather than conducting a traditional economic study of flows and stocks as such, this analysis extends the focus into managerial and political issues not directly measured in economic transfers. Discussing new forms of investment, and particularly the opportunities for sustained TNC influence despite reduced formal equity control, is challenging. This has been exemplified by the work of Germidis (1980) and Oman (1984). Nevertheless, if the research questions posed are to be addressed in an acceptable manner, the concept of the TNC as simply an economic agent responding to external market forces must be revised. Further as suggested by this author, it ought to be extended into understanding TNCs as political-economic agents, and perhaps even ‘environmental diplomats’.

FDI activity can be established through ‘brown field’ or ‘green-field investments’. However, as any empirical study of TNCs and FDI will confirm, there is a range of intermediate and alternative contractual modes available for acquiring and operating industrial value-added activity worldwide. Furthermore, such a study should include global as well as local activities, as this combined transnational approach constitutes the very competitive advantage of being a TNC. As elaborated by Dunning (1988), the total package of TNCs’ resources should be studied, not only financial flows. While each package of TNC resources can be regarded as specific to an individual firm, it also draws on the characteristics of the home country’s political economy, where the parent HQ is located. Although TNCs appear to become less embedded due to increased market liberalisation, FDI projects realised cannot be perceive as “footloose”. In fact, the subsequent analysis will show that TNCs, through strengthening environmental strategies, are reembedding corporate units in local political and societal structures or networks in less developed countries.

What is a less developed country? There are several ways of classifying countries. The main criterion used to compare countries or economies as applied by the World Bank, is Gross National Product (GNP) per capita. Accordingly, three economic classes of low income, middle-income and high-income countries are categorised. Countries are also classified by region, but the terms of reference for the World Bank is the sum of the country’s value-added activities divided by the population (per capita). The World Bank does not apply the concept of LDC, but the UN does.

Least developed countries are those countries recognised by the UN as low-income countries encumbered by long-term impediments to economic growth, low levels of human resource development, and severe structural weaknesses (UNDP 1995:223). The main purpose of constructing a list of such countries is to give guidance to donor agencies and countries for allocation of foreign assistance. My focus is on commercial, market based transactions between LDCs and industrialised countries, which I define as members of the OECD. As a result, a rather simplistic approach is taken in classifying LDCs as non-OECD members. Currently, 29 countries are members of the OECD. The original 20 members are located in Western Europe and North America. The next to join were Japan (1964), Finland (1969), Australia (1971) and New Zealand (1973). More recently, Mexico became a member.

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29 According to the World Development Report 1997, a total of 49 countries were low-income countries, with GNP per capita less than USD765; 58 countries were middle-income countries, with GNP per capita between USD766 and USD9385; and 26 countries (or economies, the term applied by the World Bank) are classified as high-income countries, with a GNP per capita exceeding USD9386. A further division is made between lower-middle income and upper-middle income countries at USD3035.

30 According to the LDC report of 1998, a total of 48 countries were included, of which 31 were African sub-Saharan countries.

31 Austria, Belgium, Canada, Denmark, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and USA.
in 1994 as part of the NAFTA negotiations. The Czech Republic became a member in 1995, while Hungary, Poland and Korea joined the OECD in 1996. A few countries from regions with lower economic and human development levels have become part of the OECD. Still, however, the vast majority of countries located in the developing world, are not members. In accordance with my ontological approach, I characterise these countries as less developed countries; LDCs.

1.5 Methodological reflections

The number of TNCs with published environmental commitments is growing, but relatively few of them are members of branch-organisations that are actually questioning linkages between FDI and the environment in LDCs. As per the end of 2000, the World Business Council for Sustainable Development (WBCSD) had a total of 154 member firms. Among the members are several “non-polluting” servicing firms involved in various forms of consultancy, auditing, finance and insurance. The majority of European manufacturing firms is not directly involved in LDCs through majority controlled FDI projects. Consequently, the population of relevant cases is limited, but nevertheless I have chosen to focus particularly on four TNCs having published global environmental commitments. These are Imperial Chemical Industries (ICI), Bayer, Norsk Hydro and Alcan. These corporate cases are presented in the subsequent chapter, but what is a case? Lijphart (1975:160) presented the following definition: “A case is an entity on which only one basic observation is made and in which the independent and dependent variables do not change during the period of observation.” Platt (1992), however, pointed to an interesting tendency. Both empirical and theoretical cases are not one entity as Lijphart defines it, but rather multiple cases within most research projects. As an example, Platt (1992) referred to a study conducted by J Goldthorpe (1980) on social classes. A social class is theoretically easy to define. When it comes to the empirical definition, however, Platt pointed out that a number of simplifying assumptions are often made.

According to Ragin (1992:12), another confounding factor in social scientists’ use of cases is whether researches see the research setting itself as a historical case or as just one among many possible equivalent settings. As Ragin argued, researchers may construct arguments from contrasts between their own cases and those of other researchers, even

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32 North American Free Trade Agreements, for further details: http://www.nafta-sec-alena.org/english/home.htm
33 For further details, see http://www.oecd.org/about/general/member-countries.htm
34 As several have commented, a study of the environmental policy and priorities of service provider TNCs is appropriate as they are providers of services necessary to enable the fulfilment of environmental commitments stated by traditionally polluting TNCs. However, the complexity related to manufacturing and mining cases of TNCs is, in itself, sufficiently demanding and difficult. I have decided not to include these quite relevant corporate cases. Besides, there are many relevant questions, but data is not necessarily available.
35 Hesselberg and Knutsen (2000) argue that the traditional way of analysing TNCs and environmental issues in LDCs through studies of FDI is becoming increasingly irrelevant for understanding the actual environmental challenges of economic globalisation. Due to increasing use of minority positions and subcontractors, what Germidis (1980) and Oman (1984) described as new forms of investment, TNCs are formally becoming less directly involved in hazardous manufacturing activities in LDCs. I will illustrate this through the empirical work on India. However, in accordance with my research question, I am explicitly focusing on cross border environmental management in a more positive connotation. I do not question the validity of the argument proposed by Hesselberg & Knutsen (2000), but, as underlined in the discussion of the ontology of FDI, I have chosen to seek out cases where there are no doubts about the formal TNC influence through majority equity control.
36 In the study by Goldthorpe referred to, he uses survey data from samples of individual men in England and Wales, and infers classes and their characteristics by aggregating the characteristics of individuals. However, the interesting point is that women in general, and Scots in particular, are omitted from the sampling of a specific class in Britain.
when this contrast involves using secondary cases in ways that conflict with their original use. Not only can cases be applied and identified in different ways, Ragin (1992) argued that a case as such might also change over time. As research is carried out, unexpected findings and new ideas develop, making it necessary to redefine the characteristics of the chosen ‘case’. I must openly admit that this has been exactly my research experience, inspiring me to extend the research focus from project specific linkages between FDI and the environment into the second research question regarding whether TNCs are behaving as ‘environmental diplomats’.

While Union Carbide’s top management in 1985 initially denied any responsibility for the Bhopal tragedy, this was subsequently modified both with respect to the specific victims at Bhopal and to global health, safety and environmental issues in general. Through branch organisations, Union Carbide started seeking to strengthen remedies for improved global industrial pollution control. Union Carbide initiated the establishment of the Global Environmental Management Initiative (GEMI), a non-profit organisation of leading US based TNCs, dedicated to fostering environmental, health and safety excellence worldwide through the sharing of tools and information, in order for business to help business achieve what they term ‘environmental excellence’.

Many researchers have analysed the Bhopal tragedy and its tragic effects. However, very few have actually tried to analyse Union Carbide’s managerial transformation from Bhopal to the present, and in particular whether this has created any significant impact on affiliated manufacturing plants in LDCs. Rather than dwelling in the past, as reflected in many statements made by environmental advocates, I have chosen to study the content and implications of this evolution of corporate environmentalism as per the end of the 1990s. Thus, to develop new understanding of the extent to which TNCs are capable of meeting the challenges of environmental management and pollution control in LDCs, a specific case study research approach has been chosen.

How is it possible to draw lessons from corporate environmental transformations such as that of Union Carbide/Dow Chemicals? George’s (1979:43) answer lay in “stating lessons in a systematic and differentiated way from a broader range of experiences that deliberately draw upon a variety of historical cases”. Despite the large number of potentially relevant research units, I have chosen to initiate research on individual TNCs that have expressed an explicit concern for sustainable development by becoming member of the WBCSD. I will approach my empirical universe with the conviction that certain cases can be identified based

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37 Ragin (1992) referred explicitly to E. O. Wright’s work, entitled: “Classes” (1985). Being concerned with the relationship between class structure and class consciousness, Sweden and USA are taken as examples of strongly contrasted capitalist societies. According to Ragin, the logic of the choice made by Wright is that patterns that are present in both countries must indeed represent a significant underlying factor when they are so different. Consequently, two cases of capitalist societies at opposite ends of the spectrum are taken to represent the rest. However, this time, the differences between them, as well as the similarities, are used to support the argument that special historical traits make these countries merely two cases that happen to be different, rather than claiming that they are representative.

38 For further details see: http://www.gemi.org/.

39 On 4 August 2000, Union Carbide and the Dow Chemical Company announced that their board of directors had approved a USD11.6 billion merger to create the world's second largest chemical company, to be known as the Dow Chemical Company. It should remain an active member of GEMI, as well as WBCSD.

40 As exemplified by statements found on the homepage of Corporate Watch: http://www.corpwatch.org/.

41 By the early 1990s, Union Carbide had withdrawn from India. Subsequently, however, Union Carbide has merged with Dow Chemicals, with four subsidiaries in India. Consequently, this particular controversy will most probably continue, but is not included in this study. Further details on the controversy can be found on the homepage of Corporate Watch: http://www.igc.org/trac/headlines/2000/169.html

42 As further elaborated in the next chapter, UNCTAD has estimated the total number of TNCs to be almost 60,000, controlling more than 500,000 foreign affiliates.
Chapter 1

of certain characteristics related to transnational control and coordinating capabilities. I have chosen TNCs as an object of study, but whether these corporate conglomerates are the real cases is still somewhat unclear. Furthermore the study is extended in order to document any emerging relationships with external stakeholders. Still, the case is the TNC, and the research approach is related to corporate management procedures on, and related to, affiliated manufacturing in LDCs. However, since such managerial priorities are partly a function of the day-to-day local operational management, as well as long term strategic choices made by corporate HQs, the definition of my case cannot be restricted to local corporate management procedures. The case should include any relevant TNC input as well as output, both locally and globally, that can shed more light on the project, as well as policy related linkages between FDI and environmental protection. Consequently, the need to apply an inductive approach is, as far as I can see, logical, and I will design an analytical model that gives an optimal reflection of what is actually taking place with respect to cross border environmental management of TNC controlled activities in Jamaica and India. The choice of India is a mere reflection of the requests made by Shrivastava (1987) into understanding what is actually taking place among TNCs operating FDI projects like the one Union Carbide controlled in Bhopal. The choice of Jamaica is a mere continuation of work that was initiated prior to the receipt of the doctoral grant (Ruud 1992) and a direct continuation of work included in my master thesis in political science (Ruud 1993).

Statistical surveys on corporate environmental management have been made. In 1993, UNCTAD published a very relevant report entitled “Environmental Management in Transnational Corporations”. The study was conducted as part of the preparatory work for the Rio Conference in 1992. A number of very relevant issues were covered. However, despite the report’s aim to shed light on the detailed environmental management practices of individual TNCs, the report is not what it claims - a comprehensive study of corporate environmental management practices. Several practices are documented, but the study only presents aggregated statistical data, based mainly on corporate annual reports and questionnaires. The issues raised in the report have inspired the research design of this dissertation, but I have not found much data on the causality of changes in the behaviour of specific TNCs. No elaborations have been made regarding specific activities in LDCs. One of the authors of the report, Michael Hansen, who subsequently submitted a PhD dissertation on related issues (Hansen 1998), admits that the report was planned and undertaken as a preparatory survey that was meant to be followed-up by intensive case studies. However, this was not done due to lack of funding. One way of interpreting this dissertation is as an attempt to fulfil some of the objectives originally stated in the 1993 UNCTAD report, by conducting specific case studies of linkages between FDI and environmental protection as proposed by Zarsky (1999).

Quantitative methods can be applied to discover correlations between different variables that might prove to be of causal significance. By following this research strategy, it should be possible to develop scientific generalisations and general predictions of at least a probabilistic nature. The previously referenced UN study on environmental management of TNCs calculates correlations among different corporate variables to indicate causality and implications for sustainable development. Corporate environmental management procedures and practices for a range of issues were analysed with respect to corporate size (turn-over), geographical location of HQ, and industry sector. By controlling for other independent variables, the causal relationship, for instance between corporate size/turnover and environmental investments, can be indicated. A crucial challenge for this analysis is,
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However, that none of the corporate data supplied had been empirically verified or falsified. Besides, no specific data was provided concerning particular entities in particular countries. Thus, the identification, investigation and falsification of questions and hypotheses, are blatantly missing.

An argument raised against such a quantitative strategy is that it takes a certain type of phenomenon out of its individual historical context. Such a generic approach may well distort explanation and understanding of the actual dynamics of individual TNC cases. Arguments that divided, for instance, the field of international relations have gradually given way to a growing awareness that purely narrative and statistical approaches are not really antithetical. On the contrary, Knorr & Rosenau (1969) argued that generic and single case studies are rather complementary, performing different tasks. Both are required to gain further insight into the current dynamics of international relations. More recently, Abbott (1992:55-56) argued that social scientists should pursue narrative approaches encompassing many cases, in addition to applying quantitative techniques where appropriate. Statistical techniques can be the best approach to seeking answers to specific questions, particularly for understanding specific outcomes such as environmental impacts and environmental degradation. In addition, as showed by the UNCTAD (1993a) study, statistical presentations provide easy understanding of corporate environmental preferences, procedures and intended practices related to particular outcomes. The challenges are, however, as Abbitt (1992) argued, that quantitative techniques do not easily provide understanding of actual behaviour, such as the role of transnational corporate control and whether it impacts projects as well as policy related linkages between FDI and environmental protection.

A number of TNCs, operating in several LDCs, will be subjected to further investigation. George (1979) argued that the critical question when choosing to pursue a generalisation is how to deal with the loss of information. He argues that simplification can reduce the validity of a theory and its subsequent utility. It is interesting to note that George, rather than focusing on the choice of method as such, argues that this, to a large extent, depends on the researcher: how he or she chooses and conceptualises the variables and determines how best to describe the interplay between each of them. Even among researchers actually documenting pollution halo effects in LDCs, intra-firm relations and cross border environmental management is not considered (Eskeland & Harrison 1997, Blackman & Wu 1998). As George (1979:47) stated: “investigators would do well to develop the categories for describing the variance in each of their variables not on an a priori basis but inductively, via detailed examination of how the value of a particular variable varies in many different cases”.

According to Lijphart, a case is related to an entity having constant values in its variables over time. However, if we apply Lijphart’s definition of a case, it must imply that when the values change, a new case is created. This means that the study of one entity can include several cases, depending on the relative change in dependent and independent variables. Consequently, the ‘case’ of Union Carbide, a corporate entity that apparently underwent radical changes with respect to environmental management, can rather be considered to be two cases, subject to comparison prior to and after the Bhopal tragedy. For this dissertation, as for any case study analysis, the central concern is the need for a multiple approach. Several TNCs will be studied with respect to a variety of locations within two LDCs. These units are partly controlled by the same TNC, partly by different TNCs. Through the identification of various factors, a choice can be made with respect to which influence the identified and operationalised dependent variable actually has had. The explicit term of reference subsequently to be operationalised is related to intra-firm transnational relations.
between corporate HQs and affiliates in LDCs. Having arranged data as variables pertaining
to certain classes, these classes of data, identified theoretically as cases, must subsequently
be compared with or without changes in value sets. This should not only identify differences,
but hopefully also find a pattern of causality that, on a more general level, can explain
variations, for instance, in what I have referred to as TNCs’ environmental diplomacy.

If a comparative approach is chosen, it should be comparative not only to verify
hypotheses, but also to generate better theoretical insight that, according to Glaser and
Strauss (1967), will avoid the opportunistic use of theories. The comparative case study can
be explained as a method that uses both qualitative and quantitative data. While unique
studies often focus on the history and process as such, the comparative method uses
qualitative data and understanding of generated co-variation to indicate causality. The
comparative method can be applied to the same quantitative data, but, due to the limited
number of cases (small N), alternative, but not necessarily less reliable techniques, must be
applied to provide sufficient control for alternative independent variables. Bendix (1976:180)
argued as follows when he explained his strategy for cross country comparison: “By means
of comparative analysis I want to preserve a sense of historical particularity as far as I can,
while still comparing different countries. Rather than to aim at broader generalisations and to
loose that sense, I ask the same or at least similar questions of divergent materials and so
leave room for divergent answers”.

Within the field of environmental management, procedures and practices for how
transnational corporations are handling the challenge of global environmental protection are
changing significantly. Methods and solutions are being revised and it is important to
approach the defined “cases” with an inductive strategy containing multiple possibilities of
identification, as well as causal reasoning. By choosing the comparative case strategy, and
by being able to revise the research question and particular elements of my design, it seems
unavoidable to take into consideration observed variation in the dependent variable.

The total number of relevant TNCs is small and shrinking. Consequently, I will not, for
purely methodological reasons with minimum requirements regarding level of significance, be
able to apply a statistical approach. Although the number of chemical corporations is
significantly greater than that for aluminium corporations, TNCs with formal, majority control
through FDI are still limited. According to Lijphart, using the ‘most different’ systems design,
systemic factors are only considered when individual-level analysis is exhausted, while cross
system differences have not yet been eliminated. Lafferty (1972) points out that it is not clear
why the design is labelled ‘most different’, since its overriding purpose is to explain away
system-level variables as either irrelevant or residual. As with Lijphart, he argues that the
‘most similar’ systems design is the one that concentrates on meaningful systemic
differences. I do not find the argument excluding the most different case design to be
satisfactory. However, to exclude a priori the use of comparative case study design, in which
the compared dependent variables are equal despite differences in all but one independent
variable, is only to choose to eliminate another potential comparative case method design.
According to my design, it should be possible to compare relatively similar production
systems between an industrialised and a less developed country, two countries that might
differ on many independent variables. Despite this, environmental problems can be solved

43 Recently, the world’s largest aluminium firm, ALCOA, announced a merger with the third largest producer,
Reynolds. The second largest producer of the world, Alcan, is currently in the process of merging with
Alusuisse/Algroup. The outcome is increased market concentration and, reduced number of independent
aluminium producers worldwide.
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similarly, and it could, at least theoretically, be possible to imagine a situation in which environmental protection is handled similarly, regardless of differences. The explaining variable could be the application of new processing technologies, as concluded by Eskeland & Harrison (1997), but what about cross border environmental management? By using a most different systems design on corporate global governance of environmental protection, I could verify or falsify a particular research problem relating to whether these observed changes in particular projects, or policy linkages between FDI and the environment, could be due to the transnational control and coordination of TNCs. Contrary to Lijphart and Lafferty’s argument, I will argue that not all variables in a setting of few N are necessarily related to systemic variables. With explicit reference to TNCs, these can be directly related to enterprise specific factors. I argue as Przeworski & Teune (1970:34-35) for the opportunity to use various methods: “In comparative research we are concerned with studies in which analysis proceeds at multiple levels”. Frendreis (1983) argued that the two designs represent two different research strategies with the same objective - to isolate the interplay between an independent and the dependent variable. The choice of research strategy should not be made a priori, but rather by an inductive approach to the problems in question. I have chosen to proceed in this way.

1.6 The argumentation and structure of the thesis

Despite the fact that the theme of TNCs and FDI flows for the most part are treated by students of economics, this dissertation is submitted to the Department of Political Science. This does not eliminate the use of economic literature. The scientific and academic orientation towards political science is, however, justified by the fact that TNCs make public commitments that may be perceived as compatible with public environmental policy goals. Economic agents are dealing with public policy goals in ways that are not easily comprehended by economists. This is particularly the case as these corporate commitments must be problematized beyond studies of market- or cost efficient reflections. The specific focus has been on TNCs’ role regarding industrial pollution control and natural resources conservation. Some TNCs approach these issues and challenges with strength and commitment. At least that is what is stated in global environmental commitments. Still, there is little knowledge as to how TNCs approach these issues at specific FDI projects in LDCs. TNCs may make global commitments. I argue that few scholars are familiar with what is actually taking place. Will these efforts achieve public environmental policy goals?

TNCs cannot replace public authorities in the sense that they can substitute the historical role of public regulatory agency in fulfilling policy objectives. However, TNCs with certain firm-specific resources may complement public efforts. Several smaller economic firms do not have the financial, technological, organisational or human resources at hand to find appropriate remedies to solve current environmental challenges. Consequently public environmental policies of FDI hosting LDCs must be strengthened, and this much also be done to promote a dissemination of the promising environmental attempts that are initiated by some TNCs. What I find in this dissertation is that some TNCs do make significant efforts in strengthening environmental policies and practices in LDCs like Jamaica and India. However, in order to achieve public policy goals, these TNCs do have internal capacities to do more for the FDI hosting country.

In the next chapter I present some empirical facts related to the current modality of economic globalisation. Studies on globalisation are growing, but most of the contributions remain general with few specific references to the actors actually carrying forward current processes of globalisation. Some are not even distinguishing between various forms of globalisation. This dissertation is limited to a concern for economic globalisation and environmental protection. Chapter two is presenting some empirical findings on how FDI flows are allowing a better and wider comprehension of TNCs as carriers of economic globalisation. I argue that TNCs must be perceived as more than mere economic agents. TNCs are increasingly allowed to pursue global commercial co-ordination of plant specific activities without political interference from FDI hosting national governments. Opportunities for transnational control is strengthened. The chapter is briefly presenting four TNCs which will be subject to particular analysis of these transnational efforts. As an illustration of the evolution of the political relationship between TNCs and FDI hosting LDCs, changes in India’s foreign investment policy is briefly discussed.

The remaining theoretical question to be answered is related to how we can perceive and approach a TNC that is increasingly allowed to strengthen the transnational control. Is this transnational commercial agent still merely an economic actor? Chapter three justifies an extension of the theoretical conceptualisation of TNCs, and argues that such companies should be perceived as non-state actors in world politics. Corporate environmental commitments are published and these are becoming globally oriented. The chapter proceeds with a theoretical argumentation which perceives TNCs as transnational environmental policy actors. This is applied to FDI hosting LDCs that often lack resources to fulfil public policy goals. The chapter proposes theoretically an opportunity for perceiving a triangular environmental diplomacy in which TNCs can contribute to the achievement of public environmental policy goals.

The reasoning is related to corporate efforts of strengthening environmental management systems. But what is a corporate environmental strategy? Chapter four presents various ways of approaching this issue. The variety of corporate environmental strategies can be distinguished between those focusing on products and those focusing on production related conditions. Strategies can also be classified between those triggered by a need of minimising environmental damage and those oriented towards an enhancement of competitive advantage. Such distinctions are necessary, but when focusing explicitly on TNCs and transnational control, they are not sufficient. By referring explicitly to the four TNCs of particular concern, the character of such a cross border environmental management system is illustrated. In accordance with the proposed research questions, this system can be perceived as a factor influencing the character of the linkages between FDI and the environment.

However, actual linkages between FDI and the environment must be related to specific case studies of TNC activity in LDCs. This is done in the chapters five and six. In chapter five I present and discuss TNCs’ environmental management efforts in Jamaica. These efforts concern restoration of mined out bauxite fields and treatment of red mud waste generated by the refining of bauxite into alumina. The discussion is made in accordance with the research questions when I seek a confirmation as to whether the cross border environmental management system has a significant impact on documented local environmental efforts. I take a similar approach in the subsequent chapter on India. In this chapter I include a more general study of TNC’s manufacturing activities. Based on a systematic study of 53 TNC projects, I present environmental management procedures and practices. I discuss further
the causality and include alternative explanatory factors, but the role of cross border environmental management is verified. The Indian study also includes a thorough discussion of policy linkages between FDI and the environment.

In the final chapter, I contextualize and summarize my empirical findings. Despite the lack of comparable research, my evidence confirms similar findings that TNCs do have certain environmental concerns in LDCs. Further, the final chapter includes a general debate on multilateral efforts of regulating TNC behaviour in LDCs. I make a reference to the failed attempts by the United Nations to propose a mandatory code of conduct for TNCs. I contrast the absence of such efforts to the modality of current UN Global Compact initiative of “regulation” TNC behaviour in LDCs.

The thesis concludes with a partly positive answer as to whether corporate environmental management efforts can achieve public policy goals. The FDI projects studied are more or less influenced by TNCs’ efforts at strengthening environmental procedures and practices. However, these efforts seem to be limited to entities that are under formal TNC control. There are islands of environmental excellence. However, the thesis does not document wide-ranging efforts of a triangular environmental diplomacy beyond the plant specific level. The findings verify that some TNCs are promoting environmentally sound FDI projects in LDCs. I found no evidence of dirty industry migration. However, for those concerned with industrial pollution control and natural resource conservation in general, the solution does not seem to lie with FDI projects as such. The sea of dirt is growing. Still, public environmental regulation is needed. New public policy tools in LDCs, however, may be better designed in order to take advantage of the environmental improvements made by TNCs. Domestic actors do not have the same resources as TNCs to initiate local environmental efforts. Cross border environmental management systems can achieve public policy goals, but this demands a closer collaboration with political and economic actors within the FDI hosting LDCs.
2 THE INCREASING ROLE OF TNCS IN INTERNATIONAL AFFAIRS

This chapter presents data confirming the strengthened economic role of TNCs in international affairs. It is particularly included to justify the theoretical analytical approaches presented in the subsequent chapters. TNCs are major carriers of current economic globalisation, but these transnational corporate actors are simultaneously allowed to strengthen the global co-ordination of specific strategies. One example chosen as the focus of this dissertation is corporate efforts of strengthening pollution control and natural resource conservation. The historical hostility among FDI hosting LDCs towards TNCs is currently replaced by more market based investment policies treating foreign investors more equal to domestic firms. The case of India illustrates quite clearly how these changes of liberalisation have taken place. As an outcome, TNCs are currently allowed to co-ordinate strategies across national political borders, increasingly without national political interference. As will be shown subsequently, this is the case of environmental protection. To enable a valid introduction, this chapter also includes a brief presentation of those TNCs that are subject to more thorough analysis throughout this dissertation.

The increasing importance of TNCs can be illustrated by relating FDI flows to the growth in international trade and value-added productive activities, or Gross World Product. While the volume of world merchandise trade is 16 times greater today than in 1950 (WTO 1997), the outflow of FDI has risen twenty-five fold (UNCTAD 1999a). In 1998, global FDI inflows grew by 44 percent, whereas Gross World Product reduced by 0.9 percent, and world exports reduced by 1.8 percent (UNCTAD 1999b). I argue, however, that growth patterns relating to FDI inflows do not give any indication as to the global distribution of these flows. Contrary to that argued by Ohmae (1990), we do not see a general trend towards the evolution of a single, integrated, global market. Simultaneous processes of integration and marginalisation can be documented. Nevertheless, UNCTAD (2000b) documents that an increasing number of countries are becoming connected through FDI flows and the operations of TNCs. Although literature from various academic fields discusses the increasing interdependency of globalisation (Schwartz 1994, Hirst & Thompson 1996 and Kofman & Youngs 1996), very few deal specifically with the particular corporate modalities of increased FDI flows. With a focus on environmental management, this is the aim of this dissertation. However, to make such a study I need to contextualise the objects of study as carriers of economic globalisation. What is taking place?

2.1 Economic globalisation - what is taking place?

LDCs are recipient of both official and private capital flows. The former, however, have declined in relative importance. At the beginning of the 1990s, official finance accounted for more than half of all flows to non-OECD countries. By 1997 this share had reduced to barely 15 percent. While the volume of overall flows grew by on average 16 percent annually in
nominal terms during the period 1990-1997, official finance declined by 3 percent (World Bank 1998). ODA to LDCs remained stagnant from 1990-1995, and declined by 14 percent in nominal terms in 1996. At the same time, private flows became increasingly important (UNCTAD 1999a). According to World Bank (1998) figures, during the period 1990-1997 commercial bank loans accounted for on average roughly 10 percent of private capital flows to LDCs. Portfolio investments accounted for about 33 percent, while FDI inflows represented approximately 50 percent of total private flows. Despite continued marginalisation among the poorest countries, LDCs have become increasingly attractive to foreign investors. In 1997, they accounted for 37.2% of world FDI inflows. Although world share had reduced to 26.4 % in 1999, due particularly to the financial crisis in Asia, the tendency throughout the 1990s is clear. LDCs are receiving a growing number of FDI affiliated units. While LDCs in 1990 received FDI inflows worth USD35 billion, this had increased to USD179 billion in 1999 (UNCTAD 2000b).

Among private foreign capital flows, portfolio investments are more volatile than FDI, as they are attracted by the prospects of immediate gains. Repeated episodes of financial turmoil have focused international attention on the problem of volatility in private foreign capital flows and the extent to which that volatility creates an unstable environment, detrimental to long-term economic development. The greater overall stability of FDI flows compared with portfolio investment flows can be attributed to several factors. Transnational manufacturing corporations are normally more interested in longer-term profits from the production of goods and services, while portfolio investors such as transnational financial service corporations, are normally more interested in quick financial return on their investments. The motivations to invest through FDI are typically based on longer-term views of the market, the growth potential and structural characteristics of recipient countries. Thus, transnational investors directly involved in manufacturing activities, are less prone to reversals in response to adverse economic situations. This stands in sharp contrast to the ‘herd’ behaviour of transnational financial investors, as illustrated during the Asian financial crises that erupted in 1997. Moreover, as FDI is made through the establishment of production facilities, or the acquisition of existing facilities in recipient countries, it is difficult to dissolve or sell at short notice. Capital investments in productive assets cannot easily be reversed. Besides, as such activities are components of integrated international production systems, corporate interdependencies, both related to raw material supplies, access to internal resources, distribution outlets and marketing campaigns provided through the transnational corporate network, make divestments less possible in the short term.

Divestment and reversibility are still feasible options, manufacturing units are relocated, as illustrated by the growing shift of ‘old’ and labour intensive industries from Europe to newly industrialised countries in Asia or Latin America (Dicken 1998). As documented by Knutsen (2000), this increasingly takes place within pollution-intensive chemical industries such as leather tanneries. This is pursued both through traditional FDI but also through new forms of investment and subcontracting. Nevertheless, compared to the extremely high volatility of portfolio investment, FDI flows, and particularly the activities at and around FDI projects in specific locations, can be assumed to represent comparatively stable and predictable activities. Such investment projects operate on a longer time horizon (Jones 1996), and this

46 As Vernon (1966) referred to when elaborating on the ‘obsolescing bargain’ hypothesis and the argument regarding whether or not this increased the bargaining power of FDI hosting LDC governments.
can also have implications for project and policy related linkages between FDI and environmental protective measures.

2.1.1 The growing role of FDI flows and TNCs

International production can be gauged by applying a variety of different estimates. Paradoxically, the most frequent indicators: exports and imports are not focused on productive assets at all. The focus is limited merely to trade flows between countries. Trade volumes have traditionally been used as a proxy for estimating changes in international production (Wilkins 1970, Jones 1996). The problem, however, is that these measurements shed no light on the players who control the productive assets that enable international imports and exports. Thus, as proposed by UNCTAD, a better approach would be to use estimates of FDI flows.

Table 2.1 Changes in exports and FDI outflow

<table>
<thead>
<tr>
<th>Value in billion dollars</th>
<th>Annual growth rate in Export and FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI outflows</td>
<td>649</td>
</tr>
<tr>
<td>Export of goods and services</td>
<td>6576</td>
</tr>
</tbody>
</table>


As shown in table 2.1, outflows of FDI in 1999 were merely 12.5 percent compared to exports of goods and services. However, the growing importance of FDI can be shown, both by comparing the relative change in values between 1998 and 1999, and, more thoroughly, by comparing the relative changes in annual growth rates of FDI and exports throughout the 1990s. While FDI outflows grew at a higher rate than exports during 1991-1995, the rate was more or less the same in 1996. Taking a look at subsequent years, however, we notice that 1996 appears rather as an exception than the rule. While the current value of exports is approximately ten times FDI outflows, the current growth rate of FDI outflows is approximately ten times the growth rate of exports.

This simple comparison indicates that relatively larger shares of international economic transactions are related to FDI projects and TNC activities. To illustrate this further, during the 1990s the growth rates for exports from TNC affiliates grew by an annual average of 15 percent and the gross product of foreign TNC-affiliates grew with an annual average of 20 percent (UNCTAD 2000b). By referring to exports and trade as a proxy for understanding the growing systemic interdependence and globalisation of national markets, relevant and increasingly important activities are neglected. TNCs are increasingly in charge, even in influencing international trade flows.47

The growth in FDI outflows during the 1990s is also related to the significant increase in the number of firms who become transnationalised through the acquisition and control of value-added activities in foreign countries. Table 2.2 shows that the total number of TNCs in 1996 was almost 45 000, an increase from 37 350 in 1992, equivalent to a growth of 20

47 This was also verified by Fontagné & Pajot (1997).
percent. During the subsequent two years, however, the number of TNCs grew by 35 percent to almost 60,000 in 1998. The growth in FDI outflows reflected in the increasing number of TNCs controlling these flows. The growth in FDI outflows is also increasing the number of affiliated TNC units. Between 1992 and 1996, the number of affiliated TNC units grew by 34 percent to almost 280,000. During the subsequent two years, however, table 2.2 confirms that the number of affiliated TNC units further doubled to 508,239 units controlled by a growing number of TNCs.

### Table 2.2 Number of TNCs and foreign affiliated units by area

<table>
<thead>
<tr>
<th>Home region</th>
<th>Number of parent TNC headquarters</th>
<th>Number of affiliated TNC units</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD countries</td>
<td>34,280 36,380 49,806</td>
<td>87,831 93,628 94,623</td>
</tr>
<tr>
<td>Less Developed Countries</td>
<td>3,000 8,128 10,096</td>
<td>119,130 183,031 413,616</td>
</tr>
<tr>
<td>Total</td>
<td>37,350 44,508 59,902</td>
<td>206,961 276,659 508,239</td>
</tr>
</tbody>
</table>


By counting the numbers, the world appears to have become more interdependent and globalised. Economic transnationalisation related to FDI flows is growing relative to trade, but is this necessarily creating increased global systemic interdependence? In 1992, almost 92 percent of the total number of TNCs had HQs located in OECD countries. Despite this, the relative OECD share, totalling 49,806 parent TNCs, had reduced to 83.2 percent by 1998. Nevertheless, merely 15 percent, or 10,096, of the total number of TNCs were based outside the OECD region.

Looking at the location of affiliated units, however, the picture is somewhat different. Table 2.2 shows that between 1992 and 1998, the growth in TNC affiliates located within the OECD region grew by less than 10 percent, from 87,831 to 94,623 units. The number of TNC affiliated units located within LDCs increased significantly more. In 1992, a total of 119,130, or 58 percent, of affiliated TNC units were located in LDCs. By 1996, this had grown to 183,031, or 66 percent of the total number of TNC affiliated units. By 1998, the total number of TNC affiliated units located in LDC had grown to 413,616, representing 81 percent of the total number of TNC affiliates. There is no doubt that a number of TNC affiliated units are located outside the OECD region. TNCs however, remain headquartered within the OECD region. FDI flows and export from foreign affiliates is growing significantly more than world exports. At the same time, affiliated TNC units are increasingly located in LDCs. If we want to understand the current modalities of economic globalisation, we need to study the global operations of TNCs more thoroughly.

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48 The empirical observations are made based on national sources referring to several years, but in general, they are relating to 1992, 1996 and 1998 respectively.
49 As shown in table 2.3, all the worlds’ largest TNCs are OECD based.
50 This is particularly attributed to the strong growth of affiliated units in Central and Eastern Europe.
Table 2.3  The world's top 10 TNCs, ranked by foreign assets, 1998 (billion of dollars)

<table>
<thead>
<tr>
<th>Name of TNC:</th>
<th>Country</th>
<th>Foreign</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Electric</td>
<td>U.S.A</td>
<td>97.4</td>
<td>304.0</td>
</tr>
<tr>
<td>Ford Motor Comp.</td>
<td>U.S.A</td>
<td>72.5</td>
<td>275.4</td>
</tr>
<tr>
<td>Royal Dutch SHELL</td>
<td>U.K./Netherlands</td>
<td>70.0</td>
<td>115.0</td>
</tr>
<tr>
<td>General Motors</td>
<td>U.S.A</td>
<td>60.0</td>
<td>228.9</td>
</tr>
<tr>
<td>Exxon Corp</td>
<td>U.S.A</td>
<td>54.6</td>
<td>96.1</td>
</tr>
<tr>
<td>Toyota</td>
<td>Japan</td>
<td>41.8</td>
<td>105.0</td>
</tr>
<tr>
<td>IBM</td>
<td>U.S.A</td>
<td>39.9</td>
<td>81.5</td>
</tr>
<tr>
<td>Volkswagen Group</td>
<td>Germany</td>
<td>n.a.51</td>
<td>57.0</td>
</tr>
<tr>
<td>Nestlé SA</td>
<td>Switzerland</td>
<td>31.6</td>
<td>37.7</td>
</tr>
<tr>
<td>Daimler-Benz AB</td>
<td>Germany</td>
<td>30.9</td>
<td>76.2</td>
</tr>
</tbody>
</table>

UNCTAD 1999a

Table 2.3 offers a more specific presentation of the largest TNCs, traditionally ranked by the value of foreign assets under their control. Thus, foreign assets reflect the value of the FDI stock controlled by a TNC. The ranking of foreign assets gives an indication of actual economic influence over foreign value-adding activities. Accordingly, General Electric is the largest TNC, with foreign assets worth USD97.4 billion. The second largest TNC, Ford, is also based in the US, and the value of foreign assets is USD72.5 billion. Among the five largest TNCs, only one is based outside the US: Royal Dutch Shell. Among the ten largest TNCs, table 2.3 shows that five are based in the US, one is based in Japan (Toyota), and the four remaining TNCs have corporate HQs in Europe.

To classify TNCs, the value of foreign assets is used. If we look at table 2.3, total corporate control, defined and operationalised as ownership of total assets, shows that those TNCs classified as the most transnationalised, are not necessarily the largest firms. General Electric is still the largest firm, but both Ford and General Motors control more total assets than the third largest TNC, Shell. Assets invested in the country where the corporate HQ is located, explains the reason for the size of Ford and General Motors. Domestic investments in productive assets, however, do not make a firm transnational, but such assets can be used as a source of corporate resources transferable through transnational control and coordination, including global environmental management initiatives. In addition, domestic assets create experience with external stakeholders that can influence policy related linkages between FDI and environment.

Transnational corporate control is achieved through green-field investments or acquisition of already existing foreign assets. However, transnational corporate influence is not only exercised through financial acquisitions as such. Assets are means to generate revenues through sales, and this cannot be achieved without labour. A ranking of the top ten TNCs on the basis of foreign sales would have put Exxon in the top position with total foreign sales of

51 Data on foreign assets are not available. Estimates are made on the basis of the ratio of foreign to total sales and employment
52 This includes rankings made by the Economist, Financial Times, Fortune Magazine, Forbes etc.
USD104.8 billion, while Nestlé has the top position in terms of foreign employment with a total of almost 220,000 foreign employees (UNCTAD 1999a). The share of Exxon's foreign to total sales is almost 90 percent. In terms of employment, as many as 97.2 percent of Nestlé employees work outside Switzerland. Therefore, Nestlé and Exxon are, by definition, transnational players with extensive transnational activities with respect to both sales and employment, but they are not classified as the largest in terms of formal corporate control over foreign assets. A question is thus raised: Can transnationality be measured beyond financial acquisitions of foreign assets?

According to UNCTAD and data presented in the annual World Investment Report, transnationality is a function of the extent to which a firm's activities are located abroad. A transnationality index, however, can be compiled in different ways. The traditional UNCTAD ranking, based on foreign assets as presented in table 2.3, can in itself be used as a measurement of transnationality. However, UNCTAD has itself chosen to use a combination of foreign assets, foreign sales and foreign employment. The conceptual framework underlying the transnationality index is based on the dichotomy between foreign versus home country activities. This helps to assess the degree to which the activities and interests of TNCs are based in their home economy or abroad. A relatively larger index value signifies that a TNC is reducing domestic ties in favour of foreign activities. Arguments have been put forward that globalisation implies growing processes of disembeddedness (Hirst & Thompson 1996), but the largest TNCs are rather reembedding economic activities in foreign locations. This has been demonstrated by UNCTAD using a composite index of the relative share of foreign assets, foreign sales or foreign employment compared to total assets, sales and employment respectively, into what is called an 'index of transnationality'.

Between 1990 and 1998, the average index of transnationality among the world's 100 largest TNCs increased from 51.1 to 53.9 percent (UNCTAD 2000b). Apparently, no radical changes have taken place. This index, however, is very generic and does not take into account the size of the home country or that of the home market. Furthermore, it does not distinguish between TNCs whose foreign activities are concentrated in a few, often neighbouring countries, and TNCs which have activities spread across numerous host countries within or outside of the OECD region. A growing share of TNC subsidiaries is located in LDCs, but the accumulated FDI stocks are still concentrated within the OECD region (UNCTAD 1999a).

53 Most recently estimated at 59,5251 affiliates in LDCs, including Central and Eastern Europe.
Table 2.4  The world’s top 10 TNCs in terms of degree of transnationality

<table>
<thead>
<tr>
<th>Rank</th>
<th>Rank</th>
<th>Name of TNC:</th>
<th>Location of HQ</th>
<th>Industry</th>
<th>TNI (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>34</td>
<td>Seagram Company</td>
<td>Canada</td>
<td>Beverages</td>
<td>94.8</td>
</tr>
<tr>
<td>2</td>
<td>57</td>
<td>Thomson Corp.</td>
<td>Canada</td>
<td>Printing and publishing</td>
<td>94.6</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
<td>Nestlé</td>
<td>Switzerland</td>
<td>Food</td>
<td>94.2</td>
</tr>
<tr>
<td>4</td>
<td>82</td>
<td>Electrolux AB</td>
<td>Sweden</td>
<td>Electrical appliances</td>
<td>92.7</td>
</tr>
<tr>
<td>5</td>
<td>69</td>
<td>British American Tobacco</td>
<td>United Kingdom</td>
<td>Food/Tobacco</td>
<td>91.0</td>
</tr>
<tr>
<td>6</td>
<td>62</td>
<td>Holderbank Financière Glarus</td>
<td>Switzerland</td>
<td>Construction materials</td>
<td>90.5</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>Unilever</td>
<td>Netherlands/United Kingdom</td>
<td>Food/beverages</td>
<td>90.1</td>
</tr>
<tr>
<td>8</td>
<td>15</td>
<td>Asea Brown Boveri</td>
<td>Switzerland</td>
<td>Electrical equipment</td>
<td>89.1</td>
</tr>
<tr>
<td>9</td>
<td>71</td>
<td>SmithKline Beecham</td>
<td>United Kingdom</td>
<td>Pharmaceuticals</td>
<td>82.3</td>
</tr>
<tr>
<td>10</td>
<td>98</td>
<td>SCA</td>
<td>Sweden</td>
<td>Paper</td>
<td>80.8</td>
</tr>
<tr>
<td>33</td>
<td>26</td>
<td>Bayer</td>
<td>Germany</td>
<td>Chemicals</td>
<td>62.8</td>
</tr>
<tr>
<td>39</td>
<td>96</td>
<td>Imperial Chemical Industries (ICI)</td>
<td>United Kingdom</td>
<td>Chemicals</td>
<td>60.2</td>
</tr>
</tbody>
</table>

Source: UNCTAD 2000

Table 2.4 presents the ten TNCs with the highest transnationalisation index (TNI), as well as two of the TNCs included in UNCTADs top 100 ranking. At the beginning of the 1990s, Swiss based Nestlé, the only TNC to be included in the traditional ranking presented in table 2.3, was considered to be the most transnationalised firm. Recently, however, it lost its leading position to Seagram, a Canadian beverage company with interests increasingly geared to the entertainment and publishing industries. In addition, as shown in table 2.4, Canadian Thompson Corp is more transnationalised than Nestlé. The question raised, however, is to what extent these firms should be termed Swiss or Canadian? When only 5.2 percent of Seagram’s assets, sales and employment are located in Canada, would it not be better to describe this TNC as footloose? The answer throughout this dissertation remains negative. As TNCs become increasingly transnationalised, the use of foreign markets, territories and people strengthen their role as transnational players. Nevertheless, TNCs are still dependent on the support, or at least acceptance, of political authorities at home or abroad, where commercial strategies are pursued. Besides, the negative impacts of economic globalisation are increasingly attributed to TNCs, and some TNCs understand the need to also gain a “licence to operate” from civil society through conducting various political campaigns of so-called “civil regulation”. Through FDI, local productive activities are increasingly controlled by TNCs. The question that will be explored later is to what extent affiliated units are actually becoming influenced and embedded in transnational corporate networks relating to the environmental policy and practices of ICI, Bayer, Norsk Hydro and

54 The TNCs included are selected among only those included in the traditional classification related to foreign assets.
Alcan. First, however, we need to investigate further the role of LDCs in an apparently more globalised world.

### 2.1.2 To what extent are LDCs integrated in the global economy?

The growth in the number of firms controlling value-added activities across national borders is accelerating, and the number of these value-added activities is also growing. Despite the fact that corporate HQs of TNCs remain located in OECD countries, the location of the affiliated units is increasingly found in non-OECD countries. Consequently, an increasing share of TNCs assets and sales are based on foreign activities. The systemic interdependence caused by FDI flows is extending to an increasing number of countries. The question is to what extent LDCs are integrating into the global economy.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>OECD countries</td>
<td>136 628</td>
<td>146 379</td>
<td>211 120</td>
<td>460 431</td>
<td>636 449</td>
</tr>
<tr>
<td>Africa</td>
<td>3 010</td>
<td>5 313</td>
<td>5 907</td>
<td>7 931</td>
<td>8 949</td>
</tr>
<tr>
<td>Latin America</td>
<td>12 400</td>
<td>31 451</td>
<td>46 162</td>
<td>71 652</td>
<td>90 485</td>
</tr>
<tr>
<td>Asia</td>
<td>19 613</td>
<td>63 844</td>
<td>82 035</td>
<td>84 880</td>
<td>105 621</td>
</tr>
<tr>
<td>Central and Eastern Europe</td>
<td>1 576</td>
<td>5 932</td>
<td>12 406</td>
<td>17 513</td>
<td>21 420</td>
</tr>
<tr>
<td>Total non-OECD countries</td>
<td>35 326</td>
<td>101 196</td>
<td>135 343</td>
<td>165 936</td>
<td>207 619</td>
</tr>
</tbody>
</table>

UNCTAD, World Investment Reports various years

As illustrated in table 2.5, annual FDI flows to LDCs increased from an annual average of USD35.4 billion at the beginning of the 1990s, to USD207.6 billion in 1999. During the same period, the growth in FDI inflows to OECD countries increased from USD136.6 to USD636.5 billion -a growth factor of 4.7. The comparable factor concerning LDCs is 5.9. Consequently, a relatively larger share of annual FDI inflows is located outside the OECD region. However, the distribution among LDCs is skewed, with limited FDI inflows to Africa in particular.

The FDI flows referred to in table 2.5 indicate that a comparatively larger share of current TNC activities are located outside the OECD region, but that the actual impact must be related to total generated value of inward FDI stocks. FDI flows merely measure annual transactions, while FDI stock represents the total of value-added corporate activities at affiliated units. Inward FDI stock represents the capital base of TNC operations, estimated to be USD4.8 trillion at the end of 1999. In 1980, inward FDI stocks represented 5 percent of the estimated World Domestic Product. This signifies that the total value of foreign controlled assets represented 5 percent of the goods and services produced in the world. By 1998, this had risen to 16 percent. Nevertheless, 84 percent of the value-added activities worldwide are domestically controlled, but the share of foreign TNC control has tripled. In the case of Norway, dependency on FDI had risen from 11.4 percent in 1980 to 13.5 percent in 1997. The change is modest compared to other comparable European countries such as Sweden (from 2.9 to 18.6 percent) or Denmark (from 6.3 to 14.8 percent). Foreign controlled
economic activities is increasingly become part of the value-added activities within the Nordic countries, but what about LDCs?

On average, the FDI share of the GDP of LDCs grew from 5.4 percent in 1980 to 20 percent in 1998. However, there are significant variations both within and between continents. In Africa the share of FDI inward stock compared to GDP grew on average from 6.0 to 21.1 percent. Angola increased its share from 1.8 to 69.6 percent, due particularly to increased FDI in offshore oil and gas exploration. In Latin America and the Caribbean, the intracontinental differences are smaller, and the FDI share of GDP grew from 5.7 percent in 1980 to 19.5 percent in 1998. Brazil grew from 7.4 to 17.1 percent, whilst Venezuela increased its share from 2.7 to 20.1 percent, due particularly to increased TNC involvement in the reprivatised oil industry.55 In Asia, the share of FDI inward stock grew on average from 4.9 percent in 1980 to 20.2 percent in 1998. The overall picture is clear. FDI shares of domestic value-added processes are increasing. There are, however, countries that are decreasing their dependency on FDI. In 1980, FDI inward stock represented 80.5 percent of Hong Kong’s GDP. This share had reduced to 75 percent in 1990, and 65.7 percent in 1998. Nevertheless, FDI inflows increased. The annual average FDI inflow between 1988 and 1993 was USD3 689 millions. In 1998, Hong Kong received D23 068 millions. FDI flows are increasing despite a reduced share of FDI inward stock to GDP. The reason must be related to a relatively higher growth in GDP, but, nevertheless, TNCs’ economic influence is growing. The same is happening in countries that have traditionally shown a more hostile attitude towards TNCs than Hong Kong. In this connection India is an interesting example, also as the country hosted one of the worst industrial disasters, the Bhopal tragedy, in which a TNC was involved. Nevertheless, India as most of todays LDCs are openly inviting TNCs to locate their FDI assets within their territories. Apparently, the marketing of particular LDCs as a FDI destination seems to become a more important element in current public policy efforts, and as subsequently shown many TNCs are responding by proposing new FDI projects.

2.2 TNCs and LDC governments - from hostility to collaboration?

Until the interwar period there were few restrictions on TNCs making FDI in LDCs (Wilkins 1974). Restriction increasingly appeared, but changes were rather industry and region specific. Petroleum was the industry most affected, and hostility to FDI was greatest in the Middle East and Latin America. After the Second World War, there was a marked shift towards more restrictive policies. This was illustrated by the nationalisation of US property after the Communist revolution in China in 1949 (Wilkins 1974). Beyond the communist world, there was a spread of mixed and restrictive policies. In the immediate post-colonial period, governments were anxious to establish their national identities, and this often involved seeking to curtail or limit FDI. As Jones (1996:291) argued: “The association of foreign companies with former colonial powers, their employment of expatriates in senior positions, their past history (real or imagined) of discrimination against local workers, and their embodiment of alien cultural values, all contributed to the suspicion with which MNEs were regarded.”

55 The oil industry of Venezuela was initially developed by US oil companies. However, the industry was nationalised in 1976. In 1992, the government promoted several economic reforms to reduce fiscal debt and balance of payments problems in order to promote industrial productivity. A central element in this plan was to reprivatise the oil industry. For further details, see the brilliant analysis of Karl (1997).
Chapter 2

The growth of more restrictive policies took place in the context of an increase in state intervention in many LDCs. During the 1950s and 1960s, many governments of Latin America and South Asia adopted import substitution strategies involving a considerable expansion of the government owned sector of the economy. This was often combined with extensive control over the private sector, including industrial licensing and import restrictions. It is important to note that these policies were not always restricted to TNCs. Particularly in manufacturing, as illustrated by the case of Brazil, TNCs turned out to be the main beneficiaries of measures designed to promote domestic industrialisation (Evans 1979).

For governments of LDCs seeking to control their economies, the ability of TNCs to move resources across borders was perceived as a threat rather than an opportunity. The importance of internal trading within the TNC, what is termed intra-firm trade (Lall 1977), raised questions about price manipulation and opportunities of transfer pricing among affiliated units within the same TNC. The ability to set prices in such a way as to maximise overall profits for the enterprise as a whole suggested that TNCs were well placed to avoid taxation and distort prices (Lall 1980). The limited administrative resources of most LDCs rendered counter strategies difficult to sustain. Consequently, the number of expropriations began to increase, peaking in the mid-1970s (Kennedy 1992). Kobrin (1984) documents, however, that less than 5% of all foreign owned firms in LDCs were expropriated between 1960 and 1976. Many LDC governments did not seek to exclude foreign companies altogether, but nonetheless insisted that they form joint ventures with local partners. However, as host government policies liberalised during the 1980s, Contractor (1990) showed that there was a sharp fall in the formation of joint ventures.

In the post-war period, the bargaining power between host developing countries and TNCs appears to have shifted in favour of the host countries, an argument elaborated by Vernon (1966) as the ‘obsolescing bargain’ hypothesis. As Vernon (1977) later verified, this shift of bargaining power was often more apparent than real. TNCs often showed considerable resilience and flexibility in response to changes in host government policies. They retained access to financial, technological and marketing resources that LDCs needed. Governments discovered that the ownership of resources did not automatically bring real control over their exploitation (Kennedy 1992). As LDC strategies began to shift from import substitution to export promotion, their dependence on TNCs for access to international markets grew. TNCs were, in turn, able to utilise a range of alternatives to wholly owned FDI - from joint ventures to contractual arrangements and subcontracting, to promote trade and production in LDCs.

In the beginning of the 1980s, the decline in the number of expropriations indicates quite clearly that the relationship between LDCs and TNCs entered a more conciliatory phase, reflecting similar changes in priorities within the UN and particularly the UNCTC. Host governments began to switch their attention from ownership via performance requirements relating to local suppliers, to general investment promotion. According to Guisinger (1985), the focus of the 1980s was less on sovereignty issues than on local, value-added, domestic research and development, job creation and exports. Subsequently, developmental considerations were replaced by a general, market oriented approach to marketing the LDC as a suitable location for FDI flows. This is very much reflected in current activities, as presented in table 2.6 regarding changes in national investment policies.
A number of factors lay behind this change in emphasis. The passage of time reduced previous sensitivities relating to colonial dependency. Kobrin explained the role of FDI in national economies as “a package of benefits and costs...subject to manipulation” (Kobrin 1984:338). Simultaneously, the administrative, technological and managerial capabilities of some LDC governments to make regulatory control were significantly strengthened. As a result, rather simplistic expropriations were no longer perceived as the only viable policy options towards TNCs and FDI projects. Despite enhanced regulatory capacities, however, I will argue that one of the major factors influencing a more reconciliatory strategy was the relative lack of success of earlier import substituting strategies and nationalisation programmes. Contrary to the convincing argument proposed by the Dependencia School, as Evans (1979) demonstrated with respect to Brazil, many countries experienced disappointing results. Rather than boosting domestic economies, productivity often fell sharply, new technologies were not introduced and managerial inefficiency proliferated. There was sometimes a painful recognition that host government policies were constrained by their ability to implement them. Through developing programmes that could not be implemented, governments, as in the words of Biersteker (1987:297): “simply created channels of corruption, consumed valuable resources that could be put to better use and created unrealistic expectations about their capacity”.

During the 1990s, there was a widespread adoption of policies designed to attract export-oriented manufacturing industries, or projects involving advanced technology. Furthermore, access to service industries began to open, and privatisation programmes such as those in Angola, Venezuela and India (to be presented later), reopened TNC access to previously nationalised natural resource industries. .. The global distribution of FDI inflows remains unequal. Nevertheless, LDCs continue to liberalise their economies to facilitate FDI led growth. By 1997, at least 143 countries and territories had enacted FDI specific legislation (UNCTAD 1998a). In 1997 alone, 17 countries either introduced new foreign investment laws or substantially changed existing laws. Another 58 countries introduced regulatory changes with respect to one or more specific issue affecting FDI. The question is the policy direction of these changes?

Initially, many investment laws were intended to control the entry and operations of foreign investors. Since the early 1980s, however, an increasing number of LDCs have adopted frameworks designed to attract investors and create a favourable investment climate. Frequent amendments to laws can of course cause doubt as to the stability of a national legal regime, but the changes in FDI regimes referred to here, as illustrated in table 2.7, are mainly to facilitate and attract FDI and, thus, contribute to improve the LDCs’ investment

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### Table 2.6 National regulatory changes; 1991 – 1999

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</tr>
</thead>
<tbody>
<tr>
<td>Number of countries that introduced changes in their investment regimes</td>
<td>35</td>
<td>43</td>
<td>57</td>
<td>49</td>
<td>64</td>
<td>65</td>
<td>76</td>
<td>60</td>
<td>63</td>
</tr>
<tr>
<td>Number of regimes</td>
<td>82</td>
<td>79</td>
<td>102</td>
<td>110</td>
<td>112</td>
<td>114</td>
<td>151</td>
<td>145</td>
<td>140</td>
</tr>
<tr>
<td>of which: More favourable to FDI</td>
<td>80</td>
<td>79</td>
<td>101</td>
<td>108</td>
<td>106</td>
<td>98</td>
<td>135</td>
<td>136</td>
<td>131</td>
</tr>
<tr>
<td>Less favourable to FDI</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>16</td>
<td>16</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

UNCTAD various years
climates. Since 1991, an increasing number of countries have introduced changes in their investment regimes, and the number of regimes has also grown. In 1991, 35 countries introduced 82 new investment regimes. In 1995, 64 countries introduced 112 new investment regimes, and, in 1999, 63 countries introduced 140 political tools related to foreign investment. Among these regimes, as many as 131, or 93.6 percent, went in the direction of creating more favourable conditions for FDI. As further illustrated in table 2.7, the changes in 1998 involved in particular the removal of operational conditions, performance requirements, as well as the opening up of new industries to FDI through sectoral liberalisation. Among the limited changes in the direction of less favourable conditions for FDI, more were related to reduction of promotional activities and incentives than to increased control. Only 2 percent of the national regulatory changes were directly related to efforts to strengthen political control over FDI and the operations of TNCs.

Table 2.7 National regulatory changes and their distribution in 1998, by percentage

<table>
<thead>
<tr>
<th>Change in FDI Conditions</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>in the direction of more favourable conditions for FDI:</td>
<td>94%</td>
</tr>
<tr>
<td>more liberal operational conditions and frameworks</td>
<td>39</td>
</tr>
<tr>
<td>more promotion and incentives</td>
<td>44</td>
</tr>
<tr>
<td>more sectoral liberalisation</td>
<td>17</td>
</tr>
<tr>
<td>in the direction of less favourable conditions for FDI:</td>
<td>6%</td>
</tr>
<tr>
<td>less incentives</td>
<td>4</td>
</tr>
<tr>
<td>more control</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: UNCTAD 1999a

There are various theoretical approaches to understanding the actual motivations behind operations, as well as the effects of FDI in host countries. Nevertheless, it is widely agreed that FDI takes place when three sets of determining factors exists simultaneously (Dunning 1988): 1) the presence of ownership specific advantages in a TNC, 2) the presence of locational advantages in a host country, and 3) the presence of superior commercial benefits in an intra-firm as opposed to an arm’s length relationship between investor and recipient. While the first and the third conditions are firm specific determinants of FDI and will be subject to further examination, the second is location specific and has a crucial influence on a host country’s inflows of FDI. If only the first condition is met, firms will rely on exports, licensing or the sale of patents to service a foreign market. If the third condition is added to the first, FDI becomes the preferred mode of servicing foreign markets, but the question is where. LDC government can merely directly influence the particular location-specific advantages.56

As a general principle, host countries that offer what TNCs are seeking, and/or host countries whose policies are most conducive to TNC activities, stand a good chance of

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56 Governments can influence the other two conditions but only indirectly, for instance through the promotion of cross border partnerships in research & development, thereby reducing the imperfect nature of the market for alternative sourcing of technologies. Cross border alliances can also be created to affect the degree of competition and other elements of ownership and internalisation choices. Beyond these initiatives, measures can also be taken through regional and global multilateral accords.
attracting FDI. However, TNCs also view locational determinants in connection with ownership-specific and internalisation advantages in the broader context of their corporate strategies. Consequently, as corporate strategies vary, the same motive and corresponding host country determinants can result in different opinions, causalities and effects. Dunning (1993) identified three types of FDI motives: market seeking, resource/asset seeking and efficiency seeking. The market seeking motive can be translated into the need to enter new markets to increase the benefits arising from TNCs’ multi-plant operations. However, in the case of other TNCs, it can translate into the desire to acquire market power. For yet other TNCs, it can aim at diversifying markets as part of a risk reducing strategy. This points to the need for host countries not only to understand the motives of potential investors, but also to understand their strategies. TNCs are increasingly seeking to strengthen competitive advantages, but this does not indicate whether global standardisation or local adaptation is pursued. As subsequently documented, the actual chosen strategies at affiliated TNC units can be perceived to be inconsistent and diverse, even within the same TNC. But which TNCs are we actually talking about?

2.3 The major carriers of economic globalisation - a brief presentation of the TNCs studied

Despite an explicit focus on TNCs, this dissertation is not focusing on the largest TNCs. None of those major TNCs presented in table 2.3 are subject to further investigation. Besides, neither does the dissertation discuss whether the most transnationalised TNCs are those presented in table 2.4. Nevertheless, the TNCs that are studied are relatively large and all heavily transnationalised in a number of OECD and non-OECD countries. In a LDC context these TNCs are often perceived as industrial giants, and this is partly the reason for choosing the TNCs subsequently presented. However, the major reason for including these TNCs are rather related to their stated environmental policy. All the TNCs have published explicit corporate commitments towards the promotion of global environmental responsibility and a strengthening of sustainable development. Beyond the policy level, these TNCs studies have in different ways taken visible and significant initiatives both individually as well as (with the exception of Alcan) through the World Business Council for Sustainable Development to strengthen industrial pollution control and natural resource conservation. I have chosen to focus on these front runners as an interest in promoting a more environmental sound change, even in LDCs have been expressed. My aim is to study how and to what extent these TNCs have actually succeeded in fulfilling their own environmental objectives that increasingly also seem to become compatible with public policy goals of FDI hosting LDCs such as Jamaica and India.

According to table 2.4, Bayer AG, headquartered in Germany, has the 26th highest ranking with respect to foreign assets. In 1863, Friedrich Bayer and Johann Friedrich Weskott opened a modest dye works, called Friedr. Bayer & Co., in Wuppertal-Barmen. Today, Bayer AG is a chemicals and health care group numbering some 350 individual companies, represented in most countries of the world. The activities of the Bayer Group are divided into four business segments: Health Care, Agriculture, Polymers and Chemicals. These will be studied later. Of total assets at the end of 1998 of USD34.3 billion, 62.4 percent were located outside Germany. Of total sales of USD31.1 billion, 70 percent were generated abroad, and, out of a total work force of 145,100 persons, 55.8 percent were working at
Bayer subsidiaries outside Germany. The combined TNI is 62.8, ranking Bayer as the 33rd most transnationalised TNC among those included in the top 100 ranking.

*Imperial Chemical Industries plc.* (ICI) is ranked as the 96th largest TNC. Of total assets of USD14.9 billions, 48.3 percent are located outside the United Kingdom. 72.2 percent of total sales of USD15.2 are generated abroad. According to UNCTAD (2000b), no information is available regarding the foreign share of total work force, nevertheless, ICI is ranked as the 39th most transnationalised TNC among the top 100 TNCs. ICI was founded on 7 December 1926 by the merger of four of the largest chemical companies in the UK. The purpose was to create a British company capable of competing in world markets and with large corporations such as DuPont in America and AG Farben in Germany (the forerunner of the BASF), Bayer and Hoechst companies. In 1993, ICI demerged its bioscience business into a separate, publicly listed company, Zeneca Group PLC. The company currently enjoys a leading international position in industrial adhesives, specialty starch, fragrances, flavours, food ingredients, specialty process intermediates, refrigerants and paints. These will be subject to further investigation in connection with the Indian studies.

In 1999, *Norsk Hydro* generated operating revenues of NOK 102.4 billion – equivalent to approximately USD10 billion. Only 10 percent of these revenues were generated in Norway, 90 percent being either exported from Norway or sold through foreign subsidiaries, indicating a higher degree of transnationalisation in terms of sales compared to Bayer and ICI. The company is one of Europe’s largest integrated energy companies, based on oil, gas and electricity. The installed production capacity of primary aluminium is the sixth largest in the world (Hveem, Heum og Ruud 2000), and the company is the world’s largest producer of plant nutrients. In 1999, total assets were NOK 116.3 billion or USD12.5 billion, but as much as 74.4 percent of these productive assets were located in Norway, also indicating that the bulk of the total employment force of 38 700 work in Norway. In sum, Norsk Hydro is relatively less transnationalised compared to ICI and Bayer, as only one-forth of total assets are located outside Norway, but Norsk Hydro is increasingly becoming involved in LDCs, as illustrated by bauxite-alumina activities in Jamaica and petrochemical activities in India.

Compared to the other TNCs presented, *Aluminium Company of Canada* (Alcan) is relatively less diversified. As indicated by the name, the focus is aluminium, further strengthened by the recent merger with the Swiss aluminium company, Alusuisse. The installed production capacity of aluminium is now three times greater than Norsk Hydro’s, and relatively more assets are invested abroad. With approximately 53,000 employees in 37 countries, the new Alcan has holdings in 9 bauxite mines, 8 alumina refineries, and interests in 15 aluminium smelters and 26 aluminium sheet and light gauge production facilities (Alcan’s home page). As illustrated by focusing on bauxite/alumina activities in Jamaica, Alcan is heavily involved as operator of two of Jamaica’s four bauxite/alumina facilities. On the contrary, Norsk Hydro is merely involved as a minority partner in a third project, without any operational, day-to-day responsibility. As illustrated by Alcan and Alusuisse, mergers and acquisitions are increasingly taking place within the aluminium industry, but strategic partnerships are also sustained. Currently, Norsk Hydro is collaborating with Alcan to promote the realisation of the Utkal project in India, a project heavily criticised by NGOs and becoming increasingly subject to ‘civil regulation’ despite

57 The four were: Brunner, Mond & Company Limited; Nobel Industries Limited; British Dyestuffs Corporation Limited; United Alkali Company Limited.
58 Zeneca later merged with Astra to form AstraZeneca PLC.
59 For further information, see Norsk Hydro’s annual report, page 60.
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political acceptance both from local and central authorities. Before elaborating further on related issues of cross border environmental management, let us conclude this chapter by focusing more specifically one of the countries which are increasingly becoming recipients of FDI flows and potential TNC influence through cross border management. India is apparently converting animosity against TNCs into a more forthcoming attitude. The changes in attitudes are at least expressed by governmental representatives that are formulating the public policy of India.

2.4 Modalities of economic globalisation as influenced by TNCs in India

When India became independent from British rule in 1947, a substantial stock of inward FDI remained. This included both long-established British trading companies - which controlled diversified operations in services, natural resources and consumer goods manufacturing, as well as manufacturing TNCs, most of which were initially British firms, such as ICI, which had established factories during the interwar years.60

On the eve of independence, the All India Congress Party was the dominant political force and soon became the ruling party for almost all the post-independence years. Inspired by close political ties with the Soviet Union, Prime Minister Javaharlal Nehru wanted to limit the role of foreign enterprises in India, and simultaneously seek the transfer of industries into indigenous hands. Surprisingly, however, no specific legislation to achieve these goals was introduced during the first decade of independence. Despite rhetoric, investment policies remained rather market friendly. Fieldhouse (1978:197-204) confirmed that there were no formal changes in the opportunity to hold 100 percent ownership of Indian subsidiaries. However, the overall policy environment was sufficiently unpredictable, that new TNC entrants into India were discouraged, and some companies left the country.

In 1957, however, investment policies changed toward a more open regime as a direct consequence of a foreign exchange crisis. This crisis threatened to reduce imports of the foreign technologies that were considered necessary by the Nehru government as it pursued a capital-intensive industrialisation behind high protective tariffs. The government decided to fund many imports of new plants and the licensing of patents through the equity of TNCs. In practical terms this meant that if TNCs brought technology and finance to India, they were allowed to retain full managerial control. The more liberal regime encouraged a considerable flow of new FDI, while existing TNCs like ICI expanded their operations. For some time, foreign-owned companies grew faster in India than the private sector as a whole. Encarnation (1989: 107-9, 180-1) illustrated that while in 1957, TNCs controlled one-tenth of India’s corporate assets, ten years later, in 1967, the proportion had risen to one-fifth.

However, with a change of leadership within the ruling Congress party, the investment policy also changed. Nehru’s daughter, Indira Gandhi, become increasingly concerned about the strengthened influence of TNCs. At the beginning of the 1970s, the policy towards inward FDI became quite restrictive. Enterprises with greater than 40 percent foreign ownership were classified as FERA firms, reflecting the Foreign Exchange Regulation Act (FERA). In accordance with the new legislation introduced in 1973, TNCs were offered the choice of diluting their equity or divesting from India. The only exception allowed, by which a TNC could retain a 51-74 percent shareholding, was if it met strict requirements for employing

60 For further details, see the excellent work of Tomlinson 1989.
‘sophisticated’ technology, exported ‘significant proportions of output’ or operated in ‘high-priority industries’.  

Under the new policy regime, several industry sectors were closed altogether to foreign firms, whilst in many others, as expressed by Lall (1985:311): “official entry conditions were so difficult, cumbersome and restrictive that new capital inflows were effectively excluded”. As a result, many TNCs divested and even left India, and there were few new entrants. The new policies caused a net outflow of capital. IBM and Coca-Cola were among the TNCs that refused to abandon full ownership of subsidiaries and so divested completely from India. This was, however, not the case for the majority of TNCs involved. As in the case of ICI, FDI projects in India were basically market-driven, and with highly protected domestic market, profits remained high. Thus, many TNCs quite voluntarily reduced their formal foreign shareholdings to 40 percent or even less. However, the residual shares were distributed between a number of private institutional investors, and often, as in the case of ICI and the German TNC Bayer, actual corporate control remained at TNC HQ. A significant difference from the previous regime, however, was the fact that the remaining TNCs had to rely increasingly on reinvested earnings and the local capital market for their growth. Due to the FERA Act, foreign transfers were discouraged, including imports of state-of-the-art technologies.

India’s policy was effective in ‘dislodging’ TNCs from many of the industries they had previously dominated. In contrast to Brazil, local enterprises, both public and private, came to occupy pre-eminent positions in a wide range of industries, including chemicals. Domestic chemical firms increasingly challenged TNCs like ICI and Bayer, and their position as the chemical industry’s only major pillars had to be revised. In terms of politics, more complex bargaining processes could be observed, in which both the Indian government and domestic industries increased their influence at the expense of TNCs. The case of computers is interesting, as domestic entrepreneurs were able to access foreign technology through licensing agreements by exploiting growing global competition among TNCs (Grieco 1982: 609-32).

Local firms were also able to draw on state finance to buy foreign technology, and had preferential access to state permits. As a direct consequence of the FERA Act, Indian firms also received state subsidies to develop their own technological resources. The TNCs were handicapped by the many restrictions on their ownership and operations, and generally by their weak position in the Indian political economy. I will argue that TNCs often lacked access to the political networks that guaranteed preferential access to government licences and state financing. As Encarnation showed (1989: 180-193), they had few joint ventures with large Indian businesses, which again restricted their access to state decision-making.

A direct consequence of the FERA legislation was that India succeeded in promoting indigenous industrialisation. India turned into a somewhat unusual LDC country. It had a fairly large industrial sector, largely in national hands, and achieved considerable technological self-reliance. During the 1970s, India emerged as a significant foreign direct investor herself, but almost entirely focused on other Asian and African LDCs. Yet India’s escape from its ‘dependency’ on TNCs, did not translate into satisfactory economic performance. Exports were poor and India experienced low average growth in per capita income, which, between 1960 and 1980, was 1.4 percent on average (Lall 1985). It is rather commonly agreed that the highly restrictive policies towards inward FDI and licensing were part of the reason for this
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weak overall economic performance (Kapila 1997). Not only did India have few TNCs entering the country, but existing affiliated units were also unable, or unwilling, to bring new technologies, products and methods to India.

In July 1991, just as in 1957, India again witnessed macro-economic instability and a foreign exchange crisis occurred. To boost the economy, a general liberalisation of the Indian economy was sought, radically revising the policies towards TNCs and FDI. Economic liberalisation provided automatic approval of FDI projects with up to 51 percent foreign equity shares in thirty-four priority industries. In 1993, full ownership was allowed for foreign firms on a case-by-case basis, even in previously strategic sectors. Liberalisation resulted in the return of TNCs, such as IBM and Coca-Cola, and subsequently other TNCs such as the UK based ICI, Norsk Hydro and the German chemical and pharmaceutical TNC Bayer. All increased their commercial commitments in India. The strongly nationalist economic approach, as illustrated by the FERA policies of the 1970s, was substituted with a more liberal approach. An illustration of the changes can be found in the formal replacement of the FERA Act by the Foreign Exchange Management Act of 1998. Political regulation was literally replaced by commercial initiatives to politically promote FDI, significantly strengthened by the Secretariat of Industrial Assistance (SIA). Many controls and regulations have been either removed or diluted, to allow majority ownership in most industries. TNCs are currently permitted to promote FDI in a whole range of industrial activities previously closed to foreign equity control.

The years of the 1990s were definitely the decade of liberalisation, and, compared to the first years of independence, current FDI policies are more market oriented. Despite Indian governments of the 1980s allowing some market oriented reform, particularly in international trade policies, financial investments, and FDI in particular, were not actively promoted until 1991. As illustrated by Martinussen (1988), the priorities were rather to import technologies and other facilitating inputs, to promote infant industrialisation. The problem, however, was that these imports had to be funded by foreign exchange earnings. New industrial firms being promoted through technology imports did not generate these export revenues, and large foreign debts, guaranteed by the Indian government, created a macro-economic crisis.

By 1991, a significant trade deficit, combined with foreign debts, created an economic crisis, forcing the newly elected Congress government of Narasimha Rao to launch economic

62 The Foreign Exchange Management Act (FEMA) represents a major departure from previous policies in two important respects. Firstly, it can be seen as an initial step towards capital account convertibility. Secondly, the government finally seems to have decided to give up all intentions to regulate foreign capital in the country. (Ref. EPW October 3, 1998)

63 Until 1991, SIA was functioning as what has been called a ‘licensing raj’, a screening agency to protect certain domestic industrial entrepreneurs from foreign, as well as any competition. Today, it remains a centralised agency, under the Department of Industrial Policy & Promotion, in the Ministry of Industry. In contrast to traditional protectionist measures, SIA currently provides assistance and investor facilitation to strengthen competition, including lobbying for increased FDI inflows. Even the meaning of the letter “A” in SIA has changed from signifying ‘approvals’ to ‘assistance’.

64 This is illustrated by visiting the homepage of the Secretariat of Industrial Assistance, previously instrumental in promoting infant industries. The SIA is now eagerly promoting FDI: http://indmin.nic.in/
Table 2.8  FDI inflows to India in millions of US dollars

<table>
<thead>
<tr>
<th>Year</th>
<th>FDI inflows</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987 – 1992*</td>
<td>58</td>
</tr>
<tr>
<td>1992 alone</td>
<td>233</td>
</tr>
<tr>
<td>1993</td>
<td>550</td>
</tr>
<tr>
<td>1994</td>
<td>973</td>
</tr>
<tr>
<td>1995</td>
<td>2,114</td>
</tr>
<tr>
<td>1996</td>
<td>2,426</td>
</tr>
<tr>
<td>1997</td>
<td>3,351</td>
</tr>
<tr>
<td>1998</td>
<td>2,258</td>
</tr>
<tr>
<td>1999</td>
<td>2,168</td>
</tr>
</tbody>
</table>

* annual average

Source: UNCTAD 1999a & 2000b

reforms. This crisis is resolved, previous trade deficits are reduced and as shown in table 2.8, FDI inflows increased significantly. Despite changing governments with different rhetoric, including a quite nationalistic stance by the current Indian government headed by Vajpaayee, FDI inflows are nevertheless promoted, as illustrated by the initiatives taken by the Foreign Investment Promotion Board (FIPB).65

FDI inflows to India increased rapidly, from less than USD200 million prior to 1991, to more than USD3.3 billion in 1997. This is a remarkable growth. According to UNCTAD, in 1997, only China, Indonesia, Singapore and Thailand received more FDI inflows than India among Asian countries (UNCTAD 1998a). In addition, compared to FDI concentration in other LDCs including Jamaica, FDI inflows to India are distributed across a number of economic sectors such as engineering, including environmental control equipment, which accounted for almost 10 percent of total investment inflow, followed by chemicals with 8.5 percent share.66 SIA data documents, however, that the regional distribution of increased FDI inflows is uneven among different Indian states. The major recipients are those already industrialised, such as the states of Delhi and particularly Maharashtra, accounting for over 30 percent of total FDI inflows during the post reform period. Recently, ICI has set up brand new paints and specialty chemicals production plants in both these states. Other major recipient states are Karnataka, and the capital Bangalore, “the Silicon valley” of India; Tamil Nadu where Norsk Hydro recently acquired a majority share in the petrochemical plant Hydro S&S; Madhya Pradesh, despite Union Carbides’ divestment at the Bhopal plant; Orissa, where the Utkal project in which Norsk Hydro and Alcan are involved is located ; and Gujarat, where a significant number of chemical TNCs, including Bayer, have set up or expanded manufacturing units. In total, these five additional states account for another 40 percent of total FDI in the post reform period. The major foreign investors in India are the USA and the UK. TNCs from these two countries have maintained their position during the entire period of economic reform. However, the top ten investors also include Germany, Japan, Australia, the

65 As stated in the presentation of FIPB: “The objective of the Board is to promote foreign direct investment into India - 1) by undertaking investment promotion activities; and 2) facilitating investment in the country by international companies, Non Resident Indians (NRIs) and other foreign investors. The Board has flexibility of purposeful negotiation with investors and considers project proposals in totality, free from parameters, with a view to maximise foreign direct investment into the country. For further information: http://indmin.nic.in/vsindmin/sia/fipb.htm

66 For further information, see SIA's homepage: http://indmin.nic.in/
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Republic of Korea, and Malaysia. Despite the increased equity share of Norsk Hydro in Hydro S&S, Norway is not among the major 30 foreign investor countries in India. FDI inflows, however, have generated a lot of controversy in India. Four decades of planning have been abandoned, and the Indian government has initiated what the World Bank (1996) termed a ‘quiet economic revolution’. Currently, there are few areas where private investors cannot invest, and India’s foreign investment regime is considered ‘very investor friendly’ (World Bank 1996). Economic reforms have generated a boost in actual FDI inflows, but also public concern, even outrage, as most recently exemplified by riots in Orissa against the Utkal bauxite/alumina project. In this case, the major issues are land acquisition and the relocation of tribal people, the Adivasis. However, a general attitude still prevails with respect to the Bhopal tragedy, that TNCs dump obsolete, or at least inappropriate, technology in India. Recently, FDI inflows have stabilised, and even decreased in 1999 compared to the year before. Many, however, find that this does not really matter. TNCs are not perceived by all as a positive contribution to India’s developmental efforts, including efforts to clean up the environment.

2.5 The need for further study of TNCs and transnational relations

Due to the increased role of FDI as a foreign source of resources, TNCs are becoming increasingly important to LDCs receiving the attention of the TNCs that supply and carry this particular form of economic globalisation. I find it quite paradoxical that, while FDI flows to LDCs increase, and FDI as a source of financial transfer to LDCs is increasing both in absolute and relative terms, the role of individual TNCs in LDCs such as India is more or less neglected.67 If included, the role is normally related to trade policy issues, to verify a LDC’s importance in economic terms.68 However, the importance and relevance of TNCs and FDI flows are increasingly acknowledged by a wide spectrum of stakeholders. Often, it is assumed that trade and investment flows are two dynamics of the same process of economic globalisation. The major purpose of this chapter was to convince the reader about the crucial differences in the modalities, as well as political impacts, of international trade as compared to international or as I would prefer transnational, investments - particularly FDI. Through FDI projects TNCs remain largely capable of influencing or directly controlling local manufacturing or mining activities regardless of location. Besides, as the political authorities of the chosen locations are promoting a market based, liberal public policy allowing TNCs to pursue strategies in accordance with commercial objectives, this can have major implications for environmental protection and the promotion of sustainable development.

Private economic activity is stimulated by liberal economic reforms, but the case of India demonstrates that the actual economic role of TNCs is quite limited. Domestic entrepreneurs are the primary targets and beneficiaries of reform. There appear to be differences in growth characteristics of transnational corporation compared to those of local or indigenous firms, particularly in terms of their effects on environmental protective measures. This is particularly striking in Jamaica as all the corporate actors involved in the domestic bauxite/alumina industry are foreign TNCs as such as Alcan and Norsk Hydro. Thus, the situation varies and so does the impact in different national location both within and between FDI hosting LDCs. It all depends on the concerns in questions, the research ethics and political-economic

67 Except for the historical case of Bhopal referred to previously.
68 A good illustration is the work included in the World Investment Report 1999, published by UNCTAD. Here, excellent work has been done on FDI flows and generic impacts, but very little indeed on individual TNCs in LDCs.
environment in which the study is undertaken. Domestic private firms, either as suppliers, distributors or associates in industrial associations, are included in this study. However, the objects of analysis are the TNCs briefly presented previously. Particularly the focus is on the causality, content and impact of transnational corporate control and co-ordination of industrial pollution control and natural resource conservation - what I will subsequently relate to various dynamics of cross border environmental management. First, however, having presented a brief understanding of the dynamics related to some of the major carriers of economic globalisation, I will proceed with a more theoretical elaboration of the linkages between FDI and the environment.
3. TNCS AND THE LINKAGES BETWEEN FDI AND THE ENVIRONMENT - A GENERAL THEORETICAL APPROACH

The existence of TNCs might seem obvious, in the sense that firms in a capitalist system exist to make profits. Equally, as reasoned by environmentalists, the existence of any positive linkages between FDI and environmental protection might seem impossible, as TNCs exist merely to make profits at the expense of the environment. As markets in home countries become increasingly mature and/or too small, foreign investment is made to seek higher profits. Yet not all firms in the world become TNCs, despite stricter environmental regulations in their home countries. Even some of the relatively larger enterprises such as Norsk Hydro remain mostly domestic in their placement of assets and employees. At the other end of the spectrum, some governments perceive certain domestic industries to be too vulnerable to exposure to international competition, and political barriers to entry, or even prohibition against FDI, are imposed. Such perceptions are, however, changing. A more liberal investment framework is being promoted worldwide, and TNCs are responding. Consequently, an increasing number of industries and particular locations within FDI hosting LDCs are becoming subject to influence from TNCs actually locating their assets abroad. This is also the case for Norsk Hydro, but to an even greater degree for more transnationalised TNCs such as Bayer, ICI and Alcan.

This will be the focus of my dissertation. Let us start by establishing a better understanding of the constitutional features of these TNCs. Among the TNCs referred to in the previous chapter, Bayer, ICI and Norsk Hydro are members of the WBCSD, and Alcan states that corporate environmental commitments are non-negotiable.\textsuperscript{69} I question whether these TNCs ought to be treated merely as economic agents. Perhaps it is more appropriate to approach TNCs as non-state players in world politics. Rather than perceiving FDI flows and stocks as factors making up the transnational economic existence of TNCs, FDI projects should also be viewed as enabling TNCs to exercise transnational political influence. Complex transnational interdependencies can be converted into new forms of interaction and diplomacy. With explicit reference to Stopford & Strange (1991), the concept of ‘triangular diplomacy’ will be used as an analytical tool to facilitate a more thorough discussion of project specific and policy related linkages between FDI and the environment, as potentially influenced by cross border environmental management.

3.1 Constitutive characteristics of TNCs

I have previously referred to FDI flows to justify a more specific approach individual TNCs initiating, shaping and controlling the outcome of these flows. Studies on determinants and impacts of FDI flows were conducted as early as the 1930s, but these studies did not discuss specific issues relating to TNCs (Southard 1931, Lewis 1938). International financial flows, enabled by foreign firms moving, co-ordinating and controlling technology, and other firm

\textsuperscript{69} Stated on their new homepage: www.alcan.com
specific assets between countries, were not identified as matters of particular concern. In fact, mainstream economists such as Aliber (1966), treated TNCs simply as economic agents moving financial equity between countries in accordance with different rates of financial returns. The issue of ownership did not matter.70

This was radically changed following the Ph.D. dissertation of Stephen Hymer, defended in 1960. Despite not being published before 1976, the thesis: “The International Operation of National Firms” created a major conceptual breakthrough, by asserting that TNCs promoting FDI implied a transfer of several resources, not simply financially enabling the exercise of power in foreign markets. As Dunning (1988) profoundly elaborated the reasoning in Hymer’s thesis subsequently became the basis for much of the development of TNC theory. According to Hymer, a firm needs some form of advantage in order to operate and compete in unfamiliar foreign environments. In foreign markets, local firms are assumed to possess superior knowledge about local markets, available resources, political and legal systems, local language, local culture and other factors that make particular investment locations more advantageous than other. Consequently, without a specific advantage, what Hymer (1976) termed an ‘ownership advantage’, foreign firms (what I term TNCs) have no opportunity to survive.

In accordance with Hymer’s (1976) reasoning,71 there are many sources of TNC advantage, but access to superior technology, information, knowledge and know-how have been particularly focused upon. The most tangible technological advantage is seen to be access to new products and processes. Through heavy investment in research and development (R&D), protected by patents, TNCs possessing such technologies have a significant global advantage. This is especially the case in markets and countries where the international patent regime is ratified and implemented.72 Another advantage is related to management - the way in which business structures are organised, and the particular managerial skills possessed by a firm. Managerial and technological advantages are closely related and interdependent. Technology as I perceive it, should not be defined as merely the mechanics of production processes or physical characteristics of products made, which has traditionally been the focus of patents. Rather, technology should encompass all aspects of the organisation of production. Consequently, the ability of a firm to innovate and generate new hard- or soft technologies is a critical ownership advantage, enabling them to survive in foreign environments. A third source of ownership advantage can be found in access to finance. TNCs can have access to cheaper funding than local competitors, even from local financial institutions (UNCTAD 1999a). A fourth ownership advantage can be derived from the size of the firm. Due to its sheer size, as measured in total assets, TNCs represent significant market power. Opportunities to realise economies of scale through internal divisions of labour are higher, for instance through centralised R&D, marketing, finance and other management functions. Finally, TNCs may derive ownership advantages from privileged access to raw materials. This may arise from control over production of material, processing or products for final sale.

Hymer (1976) claimed that firms could possess any number of such ownership advantages when they operate in foreign markets. The type of ownership advantage that

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70 For a further illustration, see Ethier (1983), or Södersten (1969).
71 Which is subsequently elaborated by Dunning 1988.
72 Which was not originally the case for LDCs like India. However, this initial reasoning (in contrast to subsequent work on the ‘law of uneven development’) did not include any explicit North-South, OECD– non-OECD dimension. The focus was rather on transatlantic flows of FDI.
may stimulate a foreign investment will differ considerably between products and industries. Within manufacturing, superior technology and innovative capacity are especially important in the case of capital goods, whereas product differentiation will often be more important for consumer goods. Ownership advantages can be generated internally within firms, or acquired in some way, either by licensing agreements or by buying entire foreign firms. The recent boom in the number of horizontal cross border mergers and acquisitions well illustrates this option (UNCTAD 2000b). However, regardless of cross border acquisitions, I argue that TNCs can also derive ownership advantage from being transnational. This is not discussed by Hymer, but the advantages of common global governance, derived from the ability to co-ordinate separate value-adding activities across national boundaries, creates ownership advantages that the TNC can realise wherever FDI projects are located. Furthermore, transnationality can enhance operational flexibility by offering a wider range of opportunities for global sources of input, as well as access to international markets. This argument is to a considerable extent used by TNC sceptics referring to the propensity to avoid stricter regulations by relocating affiliated units to FDI hosting LDCs with more lax regulatory requirements (Korten 1995). Nevertheless, flexibility creates an ownership advantage, as it creates opportunities for enhanced cross border environmental management. Rather than applying a deterministic approach, the actual outcomes ought to be subject to further empirical investigation. Finally, but related to the previous argument, transnationality can provide the ability to diversify or reduce financial and corporate risks. Ownership advantages derived from transnationality, however, are often intangible and conceptually difficult to measure compared to more tangible factors such as particular product or process technologies, management styles, access to finance and size. Nevertheless, Dicken (1998) argued that transnationality further explains the existence of TNCs. I postulate that the actual modality of transnationality - how TNCs perform cross border management - has implications for TNC policies and performance in the local, national and global political and economic arenas.

Ownership advantages can explain why firms are able to operate in foreign markets. It can be assumed that the greater these business advantages are, the more opportunities they have to exploit them in foreign markets. Through the execution of cross border management, this can be further manifested more generally in foreign environments both locally and globally, by individual TNCs or by branch-organisations such as the WBCSD. However, not all firms become TNCs, and a firm such as Norsk Hydro has traditionally exploited these advantages through exporting from its home country rather than by engaging in FDI. To explain the choice of FDI, a number of locational factors beyond the investment policy issues presented in the previous chapter have to be considered. In the traditional choice between exports versus FDI, the most important locational factors historically speaking have been tariff and non-tariff barriers to trade. Exports versus local production represent two alternative ways of servicing a foreign market. Trade protectionism or non-tariff barriers, however, often rendered export strategies ineffective. As illustrated by the case of India, the imposition of trade barriers was designed to induce foreign firms, previously servicing through exports, to set up local manufacturing facilities (Nayyar 1994).

Host government policies also impact the location decisions of TNCs in numerous ways. Governments seek to attract foreign companies by offering subsidies, or else discourage them by restricting or prohibiting foreign participation in local industries. Government policies have a considerable impact on what is termed the ‘investment climate’. For instance, government spending on physical infrastructure and educational facilities can make a country
an attractive location for foreign investors. At the other extreme, a government that is unable to provide a legal framework that offers security for foreign investors will contribute to the existence of a high-risk environment to which only risky or speculative investments will be attracted. As environmental concerns become globalised, and ‘civil regulation’ strengthens, the offering of ‘pollution havens’ can represent a rather risky policy for the TNCs in question.

The character of the host country market is often an important locational factor. The size and income level of a market, its growth and stage of development are thus important considerations. In addition, through local manufacturing, a TNC often has a better appreciation of local particularities and commercial opportunities than through ‘remote’ exports. Furthermore, local manufacturing also enables a TNC to exert stricter influence on local issues of concern. However, when products are modified for particular local demands, the adaptation of products to cater for differences in taste may only be feasible if the host country market is large enough. This reasoning may be reversed, for instance when a TNC is trying to market a new, more environmentally sound, product in a market where consumers continue to prefer dirtier and often cheaper products. Sometimes, a particular host country may be an attractive location, not so much in itself, but because of its membership in wider free trade areas or regional economic blocks, as in the case of Mexico and NAFTA, and Ireland/Portugal and the EU. Another important locational factor is differences in labour costs. For products where labour costs constitutes a significant part of total production costs, there might be an incentive to transfer production to lower wage economies. As mentioned in the introductory chapter, equivalent reasoning has been proposed with respect to pollution control costs. Companies involved in pollution-intensive production can be tempted to relocate and transfer such production to host countries where pollution control costs are lower, or even non-existent, such as previously mentioned ‘pollution havens’ (Pearson 1987, Low 1992). Alternatively, TNCs can create ‘pollution halos’ (Zarsky 1999). The question raised is whether this is related to locational economic factors as such, or rather to the advantages of being transnational.

3.1.1 TNCs - mere transnational economic agents?

Although the previous chapter confirmed that the ongoing process of economic globalisation is increasingly a question of understanding current forms of economic transnationalisation, it gave few insights into how FDI projects are dealt with in practice. Given that ownership advantages are also derived from transnational control and co-ordination, a number of alternative strategies are available for TNCs. Different political, economic and cultural systems create a variety of situations for TNCs aiming to execute particular corporate strategies across national borders. Specifically focusing on individual FDI project in LDCs, whilst keeping in mind the ‘global environmental diplomacy’ performed by the WBCSD, I find it very difficult to accept the traditional capitalist logic that FDI flows create uniform TNC behaviour wherever FDI projects are located, and that TNCs are merely responding to external market and price signals.

Even domestic firms operating in a single country often need to monitor and control operations in more than one location. At the same time, various political authorities and external stakeholders must be addressed. A variety of skills has to be acquired in order to perform satisfactory co-ordination of diverse activities, and this always applies to more than traditional manufacturing activities. Even at a domestic level, firms fail to achieve defined commercial targets. Thus, the challenge of operating FDI projects in two or more foreign
countries can easily be grasped. Furthermore, the transnational managerial challenge of running a dispersed global business with a multitude of economic, political and cultural imperatives is even greater. Nevertheless, the literature concerning the environmental impact of TNCs operating in LDCs like India has often neglected the challenge of co-ordinating corporate activities across borders. The tragic case of Union Carbide India Ltd. is used as ‘confirmation’ of current modes of economic globalisation (Madeley 1999). However, even the Bhopal tragedy confirms that TNCs can change. The GEMI that Union Carbide initiated and which is currently maintained by Dow Chemicals and a tenfold of other US TNCs, indicates that cross border environmental management is currently addressed in a more serious manner. The academic community, however, has not yet addressed these questions at the same pace.

GEMI is very cautious politically, all its initiatives being firm specific and value-chain related. Through experience, training, organisational learning and firm specific initiatives, TNCs’ managers worldwide are asked to improve ‘environmental compliance’ of international operations, to facilitate the meeting of public expectations. But what does this signify in practical terms? What constitutes environmental compliance, particularly in cases and locations where formal regulatory requirements are not perceived as acceptable to external stakeholders? Traditionally, the corporate reaction has been evasive, but the solutions proposed by business organisations such as GEMI and WBCSD are voluntary, market based initiatives. Through various forms of self-regulatory initiatives, which will be illustrated later, change is being promoted and new practices introduced. The actual outcome may even materialise as practices that go beyond formal regulatory requirements. If that is the case, is this the outcome of TNCs operating merely as economic agents?

Changes in information and communication technologies are creating a more informed and demanding external environment. At the same time, TNCs are promoting FDI flows to new locations, increasingly in LDCs. The solution often referred to is standardisation, and tools such as ISO 9000 quality certification and, in particular, ISO 14000 environmental management certification. Standardisation over larger geographical distances, however, is often challenged by the commercial need to adapt corporate procedures and practices to different business, legal and political environments. The international dimension is experienced as a variety of systems and structures with conflicting requirements, often conducted in different languages by people with different cultural values and preferences than those of the home country, where corporate strategies were initially developed. Thus, a crucial question for anyone concerned with international business, and TNC activity in particular, is, in accordance with the reasoning of Bartlett & Ghosal (1995), how the totality of cross border corporate activities are co-ordinated and implemented between the imperatives of global standardisation and local adaptation. Most of the international management literature goes no further, but I argue that an equally important but related question concerns the political outcomes of these apparently non-political corporate initiatives.

Facts and figures present the increasing significance of FDI in LDCs. Nevertheless, it can be argued that the reason for this significance can be misunderstood. As illustrated in the previous chapter, the largest TNCs are indeed very large, with business interests stretching over large parts of the world. Gross corporate sales are larger than the GNP of many middle-income countries. Apparently, TNCs have a profound significance in FDI hosting countries.

A question, however, is whether this is necessarily related to size as such? Size related

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either to assets, sales, or the total number of employees is a significant ownership advantage enabling many firms to consolidate and strengthen transnational activities. It can be argued, however, that significance is also attributed to the functional characteristics of TNCs as transnational players. TNCs are increasingly operating networks beyond the reach of individual national governments, and particularly home country governments. At the same time, these apparently ‘footloose’ but still transnational players remain dependent on political territories at home and abroad to promote value-added activities. Simultaneous processes are being created in which TNCs are both disembedding as well as reembedding their corporate activities with respect to a variety of networks, both inside and outside the TNC. As a consequence, the character of international political interaction is changing.

Nevertheless, a significant number of analyses of international economic affairs remain focussed on nation states as the only significant decision-making entities. As illustrated by Gilpin (2000), TNCs and other transnational non-state agents may still be treated as foreign policy tools at the potential disposal of home country governments. If this is currently not the case, it is due to conservative anti-statist economic ideology forcing the state to retreat to a more modest role. Gilpin (2000:212) argued, however, “...this development was not made inevitable by inexorable economic forces, and a more economically and politically insecure world would lead to a resurgence of state power”. To a certain extent, depending on the questions raised, this can still be a valid and relevant approach. However, I argue that such an approach is becoming increasingly inadequate as a means of understanding international politics. This is particularly the case if the objective of such study is to understand actual political interactions in settings that are becoming increasingly transnationalised, a prevalent trend in the current process of economic globalisation.

Due to the fact that TNCs control packages of resources that they move across national borders, increasing leverage is created not only vis-à-vis local firms, but also vis-à-vis regulatory authorities at various political levels. Simultaneous processes of conflict and consensus can be documented with respect to the evolving relationship between TNCs and political authorities. TNCs’ political leverage remains rooted in economic and financial strength, but such influence can transcend into non-economic issues including environmental protection. At the same time, other transnational agents such as environmental NGOs are creating what Evans (1999) calls a ‘counter-hegemonic globalisation’, challenging the ‘environmental diplomacy’ of TNCs. When other transnational players such as environmental NGOs, challenge TNCs by becoming ‘makers’ of environmental policies, why is this not also the case for TNCs?

Transnational flows are often conceived in financial terms as various forms of old or new investment. By pursuing such a strictly economic approach, important TNC functions are neglected. Consequently, important and relevant issues are omitted from analyses of TNC (networking) activities. I would even go so far as to argue that financial transfers are often less important than other TNC functions. Financial resources might be sourced from local or regional financial institutions, but to enable the TNC to operate an international production network, critical, and often intangible, resources in the areas of technology, organisation, entrepreneurship and culture must be co-ordinated and controlled beyond local procedures and practices. As markets become increasingly influenced by global flows, TNCs are important because they have the capacity to relocate, but still control technologies and ideas.

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74 UNCTAD 1998a estimated that for every dollar of FDI inflows, the same TNC sourced four dollar locally.
around the world. This capacity, combined with their financial strength and size, give them the potential to serve as an agent for economic, ecological and social change in LDCs. As I will argue subsequently, TNCs can increasingly be perceived and treated as non-state players in world politics.

3.2 TNCs as non-state players in world politics

With the increase in interdependence and communication between societies, a wide variety of new organisational structures, operating on a regional and global basis, have been established. The rise of these transnationally organised non-state entities and their growing involvement in world politics challenges the assumptions of traditional approaches to international relations, with states as the only important units in the international system. While some authors recognise that these non-sovereign entities and their activities have led to fundamental changes in world politics, others maintain that the structure of the international system can still be treated on the basis of interstate relations, traditionally called international politics. In addition, it has been assumed that international politics can be treated separately from domestic politics. With an explicit focus on TNCs and the argument for treating their operations as not merely economic activities, I strongly oppose the traditional perception of which entities should be studied in international affairs.

Realism, also known as the power-politics school of thought, has, since the end of the World War II, dominated the field of international relations. The ideas of realism dates as far back as Thucydides and his “History of the Peloponnesian War”. According to this approach, states are the primary and only important actors in world politics. The pursuit of hegemony and world conquest by Nazism during the World War II questioned the effectiveness of international institutions. State on the other hand, remained a significant player in international affairs. Consequently, political realists consider the academic field of international politics best analysed in terms of interstate relations. These interstate relations are perceived and operationalised as national governments pursuing state interests in a political system characterised by anarchy (Grieco 1988). States are further analysed as if they were rational and unitary players primarily seeking military power. Consequently, according to Waltz (1979), studies ought to focus on the interaction between national governments, choosing practices maximising national interests in absolute terms.

Despite political realism being the most widely accepted approach to international affairs, it has been challenged continuously. According to Steve Smith (1989:12), “the history of the subject until the 1970s is really one of self-conscious rejection of realism, with scholars seeing themselves as engaged in an enterprise that was altogether from the traditionalism of Morgenthau.” It was not until the mid-1970s, however, that a real challenge to realism emerged from various scholarly developments. The growth of non-state players such as Shell, Exxon, Amnesty International and Greenpeace, led some scholars to question the assumption that states are the only important players in world politics. More generally, scholars such as Keohane and Nye argued that realism no longer offered a comprehensive theory. With the technological revolution in communication and transportation, international politics was increasingly characterised by growing interdependence, the spread of transnationalism and the appearance of new global issues within the economic, cultural and

75 According to realists, players in world politics are defined on the basis of three main criteria: sovereignty, recognition of statehood and the control of territory and population.
76 For further details, see Morgenthau (1962), originally published in 1949.
technical realms (Keohane and Nye 1972). This reasoning, labelled ‘liberal pluralism’, asked for an alternative paradigm to assess the complexities and transformations of contemporary world politics.

In their essay collection “Transnational Relations and World Politics”, inspired by the initial work of Kaiser (1969), Keohane and Nye identified the phenomena of “transnational interaction” which they defined as “the movement of tangible or intangible items across state boundaries when at least one actor is not an agent of a government” (Keohane & Nye 1972:332). They presented a number of case studies examining such varied transnational actors and behaviours as, foundations, churches, revolutionary movements, labour unions, scientific networks, and TNCs. They concluded that the state is neither the only important actor in world politics nor “the gatekeeper between intra-societal and extra-societal flows of actions” (Keohane & Nye 1972:392). Although no general theory of international relations was offered, the authors suggested a plan for future research, based on a variety of players. They advocated “to transcend the level of analysis… by broadening the conception of actors to include transnational actors and by conceptually breaking down the hard shell of the nation-state” (Keohane & Nye, 1972:394). In a subsequent work, a more substantive argument was made about the inadequacies of Realism. While previous work focussed attention on some of the fundamental changes in world politics, with “Power and Interdependence” (Keohane & Nye 1977), the developments were dealt with more scientifically. In this work, Keohane and Nye constructed a new model of international relations, known as ‘complex interdependence’, defined as a set of “multiple channels that connect societies including interstate, trans-governmental and transnational relations…. Consisting of multiple issues that are not arranged in a clear and consistent hierarchy… with economic interests on the same footing as military ones” (Keohane & Nye 1977:24-25).

Under conditions of complex interdependence, Keohane and Nye (1977) viewed non-state players as potential direct participants of world politics. The existence of multiple channels for contacts among societies implied that transnational agents played an increasingly active role. Furthermore, it was argued that players such as TNCs, and particularly NGOs, had become “a normal part of foreign as well as domestic relations” (Keohane & Nye 1977:26). These agents were not only important, basing their activities in pursuit of their own interests, but also because they “act as transmission belts, making government policies in various countries more sensitive to one another” (Keohane & Nye, 1977:26). The importance of transnational players such as TNCs, however, will vary as different goals are introduced into various groups of issues. Beyond doubt, however, is the fact that the situation is becoming increasingly complex. Due to this growing complexity, termed ‘complex interdependence’ by Keohane and Nye, states will not always be able to control outcomes, as non-state actors will often “resist having their interests traded off” (Keohane & Nye, 1977:31). The authors predicted therefore that states would attempt to use transnational players as instruments, rather than military force, to obtain power. The closer a situation comes to ‘complex interdependence’, the more the authors expect the outcome of political bargaining to be affected by transnational relations. These effects would be accentuated by the phenomena of transnational communication (Keohane & Nye 1977:34).

According to Keohane & Nye, a condition for complex interdependence prevails when states are not the sole players in world politics and when they are not necessarily unitary actors, as nation states are composed of competing bureaucracies. Furthermore, it is argued that force, particularly military force, may be an ineffective instrument of policy, particularly as the political agenda no longer consists of a clear hierarchy with military/security matters dominating economic and social ones.
As FDI flows to particular LDCs increase, an increasingly important dimension of this complexity relates to interactions between the FDI controlling TNCs and external stakeholders, including governments and NGOs.

Keohane & Nye pointed out that conditions of complex interdependence would not prevail at all times. Accordingly, most situations would fall somewhere between the two ideals of political realism and complex interdependence. In some instances, realist assumptions would be superior for explaining phenomena, but, frequently, an alternative analytical approach would enable a more accurate understanding of the realities characterising the totality of the relationship between specific countries (Keohane & Nye 1977; 24-25). Their theorising was based on empirical case studies made during the late 1960s and early 1970s. Subsequent changes, particularly during the 1990s, indicate that the relationships between nation-states even more resemble a situation of complex interdependence. The question is: To what extent does this influence political interaction and power related to TNC?

3.2.1 From complex interdependence to new diplomacy

International public law still recognises sovereignty in terms of the right of states to govern within their territorial boundaries, but not beyond. Gilpin (1975) made one of the first attempts to explore the political economy of international investment. His central claim was that as a state’s relative power in the international system declined, it went from being a net exporter of FDI to becoming a net recipient of investment. Implicit in this analysis was a view that firms are becoming increasingly influential in the distribution of global wealth and thereby gaining key political influence. However, Gilpin’s approach was to a large extent based on the traditional view of political realism. The core question raised by Gilpin is still whether states are better or worse off and more or less powerful or secure. According to this approach, TNCs may be mentioned, but, as exemplified by the reasoning of Krasner (1978), are seen as instruments of state policy. When producing the “Political Economy of International Relations” (1987) Gilpin, devoted less than thirty out of 400 pages to TNCs. Arguing for his choice of states as his units of analysis, Waltz (1979) contended that the international structure had to be defined, not by all the players within it, but only by the major ones. Furthermore, he claimed (1979:93): “International politics is like economics where the structure of a market is defined by the number of firms that compete in it...States set the scene in which they, along with non-state actors, stage their dramas or carry on their humdrum affairs. Though they may choose to interfere little in the international affairs for long periods of time, states nevertheless set the terms of the intercourse, whether by passively permitting informal rules to develop or by actively intervening to change rules that no longer suit them. When the crunch comes, states remake the rules by which other actors operate”. Most recently, equivalent reasoning has been proposed by Gilpin (2000). I question whether such an approach is sufficiently valid in today’s international political economy.

My argument, significantly influenced by the work of Susan Strange (1988, 1991, 1996), is that TNCs should be put more centre stage in studies of international relations. Triggered by economic globalisation, corporate strategies increasingly influence domestic and international politics. Gilpin (1975) contended that for scholars of international relations, it was vital to realise the link between wealth creation by firms and the political power it granted them. Susan Strange (1996: 44) explicitly stated: “the shift from states to markets has actually

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78 This refers to chapter six: Multinational and International Production.
made political players of the TNCs.” It is striking to observe that once economic activity controlled by TNCs begins to stretch beyond the territorial limits of the state, as illustrated by the work of Keohane & Milner (1996), the question of how TNCs carry out this economic activity remains a major unanswered question by many scholars of international relations working on the internationalisation of states and, in particular domestic policies. It is also striking that scholars explicitly focusing on “bringing the transnational relations back in”, reduce the analysis of TNCs to their role vis-à-vis host governments or local societal groups (Risse-Kappen 1995). The increasingly independent political role of TNCs within international political economy is not questioned.

Competition among states for world market share is intensifying (Rugman 2001). This is forcing states to bargain with foreign firms to locate their operations within their territory. As explored by Stopford and Strange (1991), this bargaining produces partnerships or alliances between host states and firms, based on the exchange of benefits and opportunities to enhance either party’s success. According to Waltz (1979:95), “states are the units whose interaction forms the structure of the international political systems. They will long remain so. The death rate among states is remarkably low. Few states die, many firms do. Who is likely to be around 100 years from now – the United States, the Soviet Union79, France, Egypt, Thailand and Uganda? Or Ford, IBM, Shell, Unilever and Massey Ferguson? I would bet the states, perhaps even on Uganda”. According to Stopford & Strange (1991), this is an inadequate approach, even if the state does not die. The question is not that of survival, but of interactions and exchange of power. The current situation, caused by changes in communication and information technology as well as political reforms, has created a new dimension of diplomacy. I argue that this is equally relevant to environmental as well as traditional economic issues.

The bargaining assets of TNCs are firm specific, but the bargaining assets of host governments are specific to the territory over which they rule. Through various forms of internationalisation strategies, a firm can operate in a territory even if it just sells goods and services to local markets, and only with the permission of, and on the terms determined by the host government. Nevertheless, it is the firm, through specific manufacturing, that is adding value to the labour, materials and know-how going into products sold in local markets. These can still be locally owned, but, as illustrated in the previous chapter, governments are increasingly competing with other states to draw the value-added activities provided by TNCs to their territory rather than elsewhere. States are competing to become FDI hosts. A political situation seems to prevail where potential FDI hosting states are strengthening transnational ties that, at the same time, weaken, or at least challenge, the political autonomy of the state government itself. As extensively elaborated by Susan Strange (1988), military power used to be a means to achieve economic wealth. However, military power is now becoming the result of national wealth creating capacity. Wealth is the means to achieve power, not just military power, but the popular support that keeps incumbent governments in office. At least amongst democracies, without this kind of support, even the largest nuclear arsenals may be of little political significance.

For many years, scholarly research on bargaining between TNCs and host states was anchored in dependency theory. Dependency theory, as represented by the work of Baran (1957), Frank (1969) and Dos Santos (1970), stressed the asymmetries of the relationship, arguing that the specialised assets of TNCs in advanced manufacturing industries gave TNC

79 This was written in 1979!
a permanent advantage over host LDC governments. The rise of the East Asian NICs, however, led most scholars to dismiss the assertion that FDI merely reinforced underdevelopment in LDCs. However, even sophisticated second generation theorists of ‘dependent development’, such as Evans (1979) and Evans & Gereffi (1981), insisted, through rather deterministic reasoning, that LDCs operated at a structural disadvantage to TNCs, and that the effects remained negative.

By the late 1980s, the dependency theory had ceased to enjoy much support, at least among Western scholars. This occurred for several reasons. First of all, as elaborated by Haggard (1995), the economic successes of the East Asian countries engineered a transition from import substitution industrialisation to export-oriented development, and thus undercut the dependency theory’s notions of structural determinism in the world economy. Grieco (1982) even referred to the fact that in LDCs with significant FDI inflow and where TNCs played a more visible role, governments displayed greater bargaining capacity than the dependency approach had allowed for, or at least acknowledged. Secondly, the evolution of post-Fordist production dispelled the dependency theory’s presumption of an inevitable clash between the global logic of TNCs and demands for local development in LDCs. As illustrated by Dicken (1998), ‘just-in-time’ inventory systems created incentives for TNCs to promote local supplier networks capable of fast delivery of high-quality components to final assemblers. Finally, structural, and in particular, technological changes transformed the bargaining relationship between TNCs and host governments in a way unforeseen by the dependency school. Whereas the dependency approach assumed that product cost differences were the driving force behind global capital flows, modern TNCs consider a range of factors when formulating an FDI strategy and subsequent corporate control across national borders. During the 1980s, labour as a percentage of total production costs fell from 25 to less than 10 percent in many manufacturing industries (Dicken 1998). This implied that LDCs could no longer rely on the attraction of low wages to attract FDI, and bargaining increasingly focused on the host economies’ contribution to TNCs broader value chains. At the same time, as verified by Stopford and Strange (1991), advances in production technology also reduced the minimum economies of plant scale in a number of industries, which meant that TNCs which had previously bypassed small LDCs, for fear that local markets were not large enough to cover start-up costs, now looked to those smaller countries as potential investment sites. Economies of scope rather than scale were perceived as important in several industries, often as a consequence of, or due to, the prospect of external global networking with suppliers and subcontractors. An increasingly complex situation of growing interdependence between firms and affiliated units seemed to prevail.

These developments prompted scholars to turn from dependency theory and rather focus on the role of host states with respect to FDI inflows. The statist school’s core assumption, as elaborated by Evans (1995), is that the state as a ‘surrogate entrepreneur’ can bridge the gap with advanced industrialised countries by diversifying risk, cultivating local capitalists, and facilitating entry into sectors with high start-up costs. In the early 1960s, the dirigiste states of East Asia employed a variety of instruments such as import licensing, selective credits and preferential tax schedules to hasten the transition from traditional Import Substitution Industrialisation (ISI) in accordance with the recommendation of the Dependencia School, to Export Oriented Industrialisation (EOI) in accordance with a more liberal stance.

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80 There are of course a variety of different motives, which will also be reflected in the subsequent comparison of environmental strategies and actual behaviour of TNCs involved in chemical and bauxite/aluminium production in India and Jamaica.
Subsequently, as documented by Amsden (1989) and Wade (1990), the East-Asian states of South Korea and Taiwan drew on their powerful state bureaucracies to extract favourable terms from foreign investors. Examples include domestic-content requirements to promote backward linkages to local industry, licensing arrangement to host technology transfers, tariff rebates and tax incentives to spur investment in export sectors, and restrictions on profit repatriation to ensure reinvestment of TNC earnings in host economies. However, in many FDI hosting LDCs, economic liberalisation has subsequently been promoted without an equivalent state bureaucracy. Market players are increasingly allowed to promote corporate strategies in accordance with shareholders commercial priorities, at the expense of well-defined political interventions. A market based development strategy is increasingly promoted, in which TNCs are becoming a core actor among those countries receiving inflows of FDI.

As suggested by Keohane and Nye (1977), politics are changing. Competition for world market share is particularly influencing the policies of potential and actual host countries significantly. As suggested by political realism, it is not sufficient to talk merely about strong states versus weak states. States today, even those with large domestic markets, such as India and Brazil, must be alert and adaptable to external change and quick to note what other states are doing. Firms with global reach increasingly influence the direction, content and, in particular, the outcome of public policy choices in host countries. TNCs have gained more political leverage, not only in actual bargaining processes, but also in setting the policy agenda of public policies - what Strange (1988) termed ‘structural power’. TNCs are thereby increasing their ability to influence formulation, as well as implementation, of development strategies in FDI hosting countries.

3.3 Triangular diplomacy

I argue, with Sally (1994:163), that the re-emerging discourse of International Political Economy (IPE) has witnessed a shift from ‘old’ to ‘new’ agendas on the subject of TNCs. The debate, however, has not included an explicit focus on individual firms, or groups of them, in specific environmental contexts. Scholars of international political economy have not really opened the ‘black box’ of the firm to peer into its internal organisational dynamics, for instance relating to cross border environmental management. Opposing paradigms regarding international politics still continue to focus narrowly on governments or international organisations, rarely focusing on TNC per se. If included, TNCs are often considered to be linked to the phenomena of state power or international regimes (Krasner 1978 or Gilpin 1987).

When proposing the concept of complex interdependence, Keohane & Nye (1977) were greatly inspired by the work of the German scholar Karl Kaiser (Kaiser 1971). At the end of the 1960s, he implicitly criticised much of the then current discussion by pointing to the asymmetry of government power in transnational politics. He drew on the work of Aron (1966), who had introduced the concept of transnational society81 to international relations, indicating that states’ options are affected by developments in the flow of ideas and beliefs across borders and by non-national organisations. He added Perroux’s ideas, proposed in

81 According to Aron (1966:105) a transnational society is characterised by commercial exchange, migration of persons, common beliefs, organizations that cross borders and ceremonies or competition open to members from various states. Aron used the development of the World Bank as one example of such a transnational society.
1950, regarding dominant economies, and introduced a model for understanding transnational politics. His particular concern was the power and influence of TNCs in LDCs, but he generally focussed on the emerging transnational society, as societal groups that transcended national societies and which lay beyond the direct influence of national governments. This can be illustrated as follows:

Figure 3.1 TRANSNATIONAL POLITICS AS PERCEIVED BY KARL KAISER

As illustrated in figure 3.1, transnational politics illustrate the increased challenge of exercising political power. In contract to the traditional top-down modes of governance that distinguish clearly between international political interaction (represented by the dotted lines between countries A, B and C), and domestic interaction within each country, the existence of a transnational society challenges these distinctions. According to Kaiser (1971), political coercion and regulation could also be the result of bottom-up processes, in which business entities as well as other transnational players could influence several governments simultaneously. The limitations to Kaiser’s approach is, however, that he only showed a two-way relationship to indicate that some states have more influence than others over the conduct of international organisations and firms. According to Stopford & Strange (1991), his ‘transnational society’ omitted the nature of the interactions and how these affect the options and power of states. The complexity of interdependent relationships across borders has grown since the beginning of the 1970s, and Stopford and Strange suggested an extension to Kaiser’s model to further illustrate the limited power that individual nation states actually exercise.

By referring to changes in Eastern Europe since the collapse of the Soviet Union, Stopford & Strange (1991) pointed to the striking fact that governments have severe problems controlling the flow of ideas. An increasing number of people have been made aware of their relative material backwardness and political constrictions. This is also the case for many LDCs, where people as consumers expect more than merely the fulfilment of basic needs. In addition, labour unions and environmental movements have tried to ‘export’ their ideas, and the flow of ideas, opinions and direct political pressure is radically stronger today than thirty years ago. The increasing degree of political scrutiny against TNCs, triggered by the 1984 Bhopal tragedy and facilitated by changes in information and communication technologies, have further challenged the modalities and character of international politics.
The transnational society model proposed by Kaiser (1971) is also influenced by the emergence of a privileged transnational business civilisation, what Sunkel (1973), in accordance with the reasoning of the dependencia approach, called a ‘transnational kernel’.82 The centre, or core, was perceived to be located in New York, Chicago and Los Angeles rather than in Washington, as the social and political elites of these commercial centres more wholeheartedly accepted the values, what Sunkel terms ‘the mores’, the customs and the taboos of business civilisation. Their counterparts in other commercial centres of the world, including Sao Paolo and Bombay did the same. The values of the transnational kernel are related to both economic and social issues. Focus is placed on efficiency, speed and market-responsiveness, complemented by liberal attitudes such as openness to competition, the opportunity for social advancement regardless of race, parentage and, to some extent, gender. Sunkel (1973) points to the striking fact, however, that practice falls short of ideology. Women are not given equal opportunities, nor are blacks. Nevertheless, the core of the transnational business kernel is in the forefront of bringing about social and economic change. American women have more opportunities than Japanese women; American blacks have more opportunities than those of Japanese or Korean origin. Weiss made the following observation (1988:159): “Apparently where the core has led, the business civilisation will follow. Far from acting to preserve dependency in small ‘peripheral’ states, the privileged class can play a crucial and positive role in economic and social transformation”. The question that ought to be raised is whether the new transnational kernel involved in the UN Global Compact Initiative of 1999 can become a sustainable partner in realising international political objectives relating to human and labour rights and environmental protection.

Inspired by the work of Kaiser (1971), Perroux (1950) and Sunkel (1973), Stopford and Strange (1991) argued for a transformation of the old, rather bipolar game of diplomacy, where national boundaries defined the rules, to a situation where negotiations and actions are carried out on a more extensive basis. Traditional players in embassies and foreign ministries are still in business, but, according to Stopford and Strange (1991:21-22), have been joined by members of other domestic government ministries and by the executives of firms, both local and foreign. All are now involved in both bilateral and multilateral negotiations, both formally and informally. TNCs and host country bargaining is becoming part of a complex network of a triad of relationships, what Stopford and Strange (1991) termed a ‘triangular diplomacy’. Their comprehension of international relations can be illustrated as follows:

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82 A similar argument has also been proposed by Hveem (1973).
The embedded dynamics suggested by the model of triangular diplomacy are not well explained by conventional FDI theories. As with the other two components of the triangle, bargaining between states and firms includes elements of both conflict and cooperation. Furthermore, as with the other dyad, but in sharp contrast to the reasoning of Waltz (1979), state/firm negotiations often take place on highly asymmetric terms - sometimes one and sometimes the other negotiating party enjoys the upper hand. Moreover, bargaining across one dyad may reverberate into others. For instance, TNCs may forge strategic alliances, firm-firm negotiations - even institutionalised through formal and informal cartels - to bolster their joint capacity to extract concessions from host states. Historically, there are many such examples of cartel behaviour, for instance within the oil industry (Moran 1974, Karl 1997). Alternatively, as illustrated by Stopford and Strange (1991), capital-importing states may play TNCs off against each other, delivering selective payoffs to individual TNCs to pre-empt the formation of TNC alliances. This was a central concern for the former UNCTC, whose aim was to strengthen the bargaining capacity of FDI hosting states. The central argument was that change in what they called 'world structures', had created both new possibilities for public wealth creation, but also new dilemmas for governments regarding how to balance the conflicting demands of their national and international agendas. World politics is changing, as brilliantly illustrated by the UN Secretary-General's Global Compact Initiative at the Davos meeting of the World Economic Forum in 1999. Though all three sides of the new diplomatic triangle are interconnected, states, and particularly host FDI states, find less connectivity and more a sense of contradictory pulls among the imperatives of choices that cannot be avoided. But what about the particular role of TNCs?

### 3.3.1 TNCs as diplomats?

TNCs face the challenge of how best to ensure that the managers of affiliated foreign subsidiaries respond in accordance with the directives of the parent company. In economics, as illustrated by the work of Eggertsson (1990), this is treated as a 'principal/agent' problem. The principal is the parent company and the subsidiary is the agent that agrees to act on the parent’s behalf. Bounded rationality, opportunism and moral hazard, however, influence the
interactions between agent and principal. Problems of policing and enforcement are particularly prevalent. The firm can be regarded as a highly developed contract enforcement mechanism, in Williamson's (1985) terminology: a ‘governance structure’. The problems of enforcing contracts and monitoring behaviour - or governance costs - are particularly acute in firms operating across borders. The organisational design of TNCs - including strengthened global co-ordination and control - can be regarded as an attempt to minimise the cost of contracting and monitoring these contracts. How this is done, however, varies, as subsequently illustrated.

There are considerable numbers of organisational choices, including the relationship between domestic and international operations. Furthermore, there are choices regarding whether managerial responsibility should be subdivided according to function\(^{84}\) or geographically. As illustrated by the work of Chandler (1990), the history of international business is one of constant change. TNC managers have sought the most effective and appropriate means to control operations. In the search of the optimal structure at any given time, it is important also to keep in mind that a firm’s past structure and management cultures/clans represent a considerable influence. In terms of environmental management, I will argue that this influence can be regarded as a constraint on what the TNC can do, but changes are made nevertheless. Bartlett and Ghosal (1989) referred to the so-called ‘administrative heritage’ of TNCs, to justify an evolutionary approach to understanding international business. This also requires a rather eclectic and interdisciplinary research methodology, which is fully compatible with my own choices, referred to in chapter two. One of the basic ‘laws’ of growth in any organisation is that, as growth occurs, the internal structure of the organisation changes. In particular, Penrose (1959) illustrated that the functional role of its components tends to become more specialised, and the links between the parts become more complex. As for size, organisational complexity and geographical spread of TNCs have increased the interrelationships between geographically separated parts, and they have become highly significant and important elements in the global economy. The precise manner in which TNCs organise and control their transnational networks vary, but it results from their strategic orientation, in particular influenced by the ‘administrative heritage’ referred to by Bartlett & Ghosal (1989).

According to Ghosal and Nohria (1993), three different modes of control exist: Centralisation, in which decision-making power is retained at HQ; Normalisation, in which decision-making is exercised through rules and procedures; and Socialisation, whereby the members of the organisation develop common expectations and shared values that promote like-minded decision-making. A key point, as stressed by Ghosal and Nohria (1993), is the fact that the three modes are both complementary and at the same time competing approaches. Any given parent-subsidiary relationship is liable to exhibit elements of centralisation, normalisation and normative integration at the same time. However, the roles of subsidiaries are often differentiated, to cater for the heterogeneity in the conditions under which TNCs operate. I seek to illustrate this by focusing on linkages between FDI and the environment, both at the project specific and policy related levels. I apply Ghosal’s and Nohria’s (1992) conceptualisation, slightly modified, of three different governance dimensions, or what, in accordance with more political scientific reasoning\(^{85}\), I prefer to term

\(^{84}\) Such as finance, marketing, product lines.
\(^{85}\) These modes are well established, for instance within organisation theory. For further details, see e.g. Etzioni (1961).
‘modes of control’, to propose a classification of corporate governance systems based on a company’s internal pattern of HQ-subsidiary relations. The first can be termed “Ad hoc variation”, in which there is neither a dominant control mode nor an explicit pattern of differentiation based on local context. A second typology can be termed “Differentiated fit”, in which the three modes of control are changed to fit the local context, making the actual affiliated activities ‘appropriate’ for local comparative advantages. A third category can be termed “Structural uniformity”, in which the different subsidiaries are managed in the same way, in other words, the same degree of centralisation, normalisation and socialisation worldwide. The final category is “Integrated variety”, in which a firm uses a differentiated fit but with an ‘overlay’ of a single dominant governance dimension. The question raised is whether these various modes of control influence the character and dynamics of TNCs’ cross border environmental management procedures.

In a way, this can be related to the behavioural approach to strategy formulation, as presented by Pearlmutter (1969). His ethnocentric strategy, based on the belief that what has worked at home will work best abroad, can be seen in the control mode of promoting structural uniformity, with international operations controlled according to home country values, control systems etc. The control mode of differentiated fit can equally be related to Pearlmutter’s polycentric strategy, in which international operations are operated rather independently from home country standards. In the same way, the geocentric strategy can be related to the integrated variety of corporate control, in which the TNC seeks to maximise the corporation’s global perspective through a balance of responsiveness and integration. Aharoni (1966) argued that FDI is rarely the result of rational, discrete decision-making, but stems from an accumulation of opportunity driven commitments. Consequently, it is the voluntary, and I would add, the evolutionary, process of key decision-makers, not determinism, as proposed by most the traditional economic reasoning (Eggertson 1990), that increasingly decides the actual strategic choices made by TNCs operating in emerging markets.

The managerial approaches discussed by Chandler (1990) and Ghosal and Nohria (1993) provide a model for understanding organisational structure that can be contrasted to, or at least complemented by the focus on culture or clans, as elaborated by Alvesson and Lindkvist (1993). Rather than regarding the efficiency of international operation as the outcome of bureaucratic control, institutionalised through forms of cross border environmental management schemes, the creation of ‘clans’ can be an alternative, or at least complementing, mode of control, particularly in situations of considerable difficulties in measuring and monitoring formal bureaucratic governance structures. Alvesson and Lindkvist argued that the clan form of international management has less need for formalised and sophisticated flows of information, because common ideas, beliefs and values rather function as information carriers and provide sufficient guidance for management activities. Another approach is proposed by Schoenberger (1997:204): “Corporate strategies…cannot be understood apart from the cultural processes underlying their production. These changes, moreover, play out through a process characterised by high levels of conflict in which the power to define who and what the firm is in the world, how markets should be understood, how competition works, how different products and practices should be valued and so on, are all at stake”.

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I find this approach more complementary than challenging to the Chandlerian-style of managerial hierarchies. With the development of transport and particularly communication technologies, even the most remote operation can quite easily be included into global on-line governance structures. However, environmental policies are not always properly defined, measurements are inadequate and local interpretations prevail. TNCs become increasingly committed to promoting ‘sustainable development’. New ideas, beliefs, and values are emerging, challenging traditional perceptions of what TNCs ought to be involved in.

A crucial, and for me, quite relevant question, however, is what the boundaries of corporate strategies are. According to contributions within the field of strategic management, political involvement is beyond the scope, and even concern. Pfeffer (1992) argued that organisations exist within an institutional network that includes industry members and social/political players. Within this external network, TNCs’ profits and survival are determined by inter-organisational power. Power can be controlled in a strategically meaningful way through resource exchanges and institutional arrangements with network members. In essence, resource exchanges represent the internalisation concept of gaining independence from external markets through the control of tangible and intangible asset flows; institutional arrangements, in contrast, represent more formal coalition agreements. According to Pfeffer (1992), external control involves a ‘negotiated environment’ where coalitions - with social/political players and other industry members - are essential. Another way of conceptualising the negotiated environment is by referring to ‘policy networks’, referred to subsequently.

It is important to keep in mind that TNCs frequently experience conflicting pressures between centralisation at HQ and greater autonomy for subsidiaries and/or regional offices. Internationally competitive strategies can be regarded as falling along a spectrum ranging from global integration at one end, to national responsiveness at the other. Although there has certainly been a trend towards the adoption of globally integrated strategies by an increasing number of TNCs, they must remain responsive to national and local differentiation (Doremus 1998). Both global and local perspectives need to be combined. At the same time, companies are becoming involved in various forms of networks, both locally through environmental sub-committees of branch organisations, and globally through the WBCSD. Such formal and informal institutional arrangements will increasingly allow companies, particularly TNCs, to pursue commercial and/or corporate objectives beyond the imperative of the traditional market place. Consequently, some firms are now moving towards a globally integrated network in which increasingly specialised units worldwide are linked in an integrated network of operations, enabling them, as stated by Bartlett & Ghosal (1989:89): “to achieve their multidimensional strategic objectives of efficiency, responsiveness and innovation... The strength of this configuration springs from its fundamental characteristics: dispersion, specialisation and interdependence”. One outcome, not traditionally questioned by management literature, is the fact that TNCs are becoming increasingly institutionalised in external networks. New forms of politically relevant embeddedness evolve. New forms of networking are converting transnational corporate players into what can be termed ‘transnational political players’, involved in various ‘diplomatic’ efforts. Transnational politics is increasingly challenging both domestic and international politics. Still, the TNCs are operating cross border commercial activities that must be managed in accordance with specific corporate strategies, subject to various modes of transnational control and corporate cultures. Porter (1986:27-28) observed that: “there is no such thing as one global strategy. There are many different kinds...depending on a firm’s choices about configuration and co-
ordination throughout the value chain”. Such strategies can develop in a rather ad-hoc way, through an explicit differentiated fit or local adaptation; or, quite the contrary, through structural uniformity in which different subsidiaries, at least formally, are managed in the same way; or, finally, through an integrated variety as suggested by Ghosal and Nohria (1993). Regardless of choice, this influences the character of cross border environmental management and the impact on project and policy related linkages between FDI and the environment.

### 3.4 Are TNCs becoming part of triangular environmental diplomacy in LDCs?

Transnational relations was defined by Kaiser (1969) as regular interactions across national boundaries, where at least one party is a non-state agent or does not operate on behalf of a national government or international organisation. Within academia, very few deny that these relationships exist. Still, as argued by Risse-Kappen (1995), a very poor understanding of the political impacts, both on state policies as well as international politics, prevails. The contributions of various scholars, including Krasner (1985), Risse-Kappen (1995), concluded that it is impossible to generalise regarding these impacts without understanding domestic structures or the particular international institutional environment in which these transnational agents and states operate. Thus, a study of TNCs as transnational political agents must include both a better understanding of relevant domestic structures and international institutional arrangements or regimes.

According to the triangular diplomacy model proposed by Stopford & Strange (1991), actual policy and performance are increasingly functions of new rivalries between states and firms. A new political situation prevails, but what of the counter-hegemonic globalisation represented by some NGOs? A challenge for the triangular diplomacy approach is a lack of understanding of the domestic structures that are becoming increasingly transnationalised. This is precisely what I question when focusing on policy linkages between FDI and environment, as affected by cross border environmental management schemes initiated by TNCs. International politics in general are becoming more society-centred. Despite efforts to redefine the role of the state in relation to increasing transnationalisation and interdependence (Evans, Rueschemeyer & Skocpol 1985), it is important to treat transnational corporate players more independently, even in studies of domestic structures. Katzenstein (1978) focussed on the organisational features of state and societies, in particular on the degree of centralisation and whether states had a strong extractive capacity vis-à-vis society. According to the reasoning of Risse-Kappen (1995), domestic structures can rather be related to the degree of fragmentation in political institutions. Rather than focusing on states as strong or weak, it is more important to question whether civil society is strong or weak. To what extent can societal demands be mobilised for political causes? Finally, Risse-Kappen focused on policy networks linking state and society, and the norms regulating the coalition-building processes in these networks. The question was whether differences in these three dimensions of domestic structures determine variation in the policy impact of transnational players. The debate and perspectives were impressive, particularly as new light was shed on the increasingly influential role of transnational political players, such as global NGOs, with regard to environmental politics (Princen 1995). However, in the case of TNCs, the work concluded that power remained related to economic capacity, which did not help much when set against ‘strong states’ and ‘strong societies’ where policy networking
was consensual. An explicit reference was made to India prior to the 1990s. A study conducted by Clark and Chan (1995) concluded that the Indian domestic structure limited the influence of TNCs. In the following, I question whether this is the case, as even India has promoted a less state-driven, more market-driven development strategy, with increasing commercial opportunities for TNCs.

The triangular diplomacy of Stopford & Strange included increasing interaction between states and firms and equally independent players. Clark & Chan (1995), however, argued that, despite the importance of considering the degree of national autonomy vis-à-vis TNCs, the nature of society must also be studied. TNC activities are not only affected by the capacity of the state. How well a state and society work together in a synergistic fashion, and society's ability to absorb, take advantage of, and complement the contributions provided by the TNCs, are also vital elements. The actual implication of such reasoning is that political interaction with FDI hosting LDCs must also include societal representatives. Studies cannot be reduced to that of states and firms. The role of society must also be included, as illustrated in figure 3.3.

Figure 3.3 The triangular environmental diplomacy of FDI hosting LDC

The TNC, treated as a black box in the bulk of economic literature, seeks economic growth, motivated by different goals that are sometimes compatible, but often conflict with current corporate strategies (Dunning 1997). Knowing that different departments and divisions focus on different motives as the basis of global corporate strategy complicates the picture. These motives influence corporate behaviour, but my argument is that, regardless of corporate modes of control and the degree of internal structural uniformity, these cannot be related only to economic, market-oriented activities. Differences within and between TNCs increasingly influence their performance and practices vis-à-vis external political and societal players.

The major cause of this conceptual weakness in the approach to the behaviour of TNCs and firms in general is related to neo-classical economics and traditional approaches to TNCs and FDI. As previously stated, neo-classical trade theory, as represented by Southard (1931) and McDougall (1969), assumed that universal efficiency gains are created, without paying much attention to the costs and benefits of distribution of national gain from TNC activity. This theoretical and empirical approach becomes rather flawed, particularly if governmental intervention is analysed. Most of the economic literature on TNCs and FDI
treat government as an exogenous variable and assume, more or less implicitly, that
“Regulation is always inefficient. Multinationals are always efficient”. In accordance with such
neo-classically derived reasoning, the non-intervention of governments and the unfettered
play of market forces allow TNCs to maximise competitive advantage and diffuse efficiency
gains to the economy and society in general. However, the actual relationship to society is
not at all treated or conceptualised, as illustrated in figure 3.3.

Current environmental degradation, and particularly environmental disasters, illustrates
quite clearly that there is no automatically positive outcome from economic liberalisation.
Many critics, particularly among environmentalist and anti free-trade advocates, focus on the
‘race to the bottom’ induced by market liberalisation (Korten 1996). I argue that the actual
outcome can be both positive and negative, but that outcomes must be related to the
dynamics of transnational modes of control and political practices becoming increasingly
institutionalised within FDI hosting countries. Thus, to better understand impacts in terms of
environmental protection in LDCs, it is increasingly important to improve understanding of
economic, social and political processes causing environmental impacts. One way of
achieving this is to conceptualise and investigate, as presented in figure 3.3, the triangular
environmental diplomacy of FDI hosting LDCs, in which the state is challenged by non-state
players that are becoming increasingly transnationalised.

Domestic politics is normally understood to be dynamically shaped by a mixture of
government and non-state action. These actions create interactions that lead to outcomes
that not only generate wealth, but that also distribute wealth and power. A striking feature
underlined by Stopford & Strange, is that the realisation of these political aims is becoming
increasingly dependent on the participation of international market players. My argument is
that these TNCs are also becoming part of domestic political structures. Aharoni (1993)
modified the neo-classical conception of the TNC as static, “Heckscher-Ohlin” firm, to a
dynamic “Schumpeterian” enterprise. The changes and implications for the role of TNCs vis-
à-vis public policy and the public in general can be profound and are reflected in the
triangular environmental diplomacy suggested in figure 3.3. Such ideas regarding the more
entrepreneurial role of TNCs are rarely taken account of in mainstream economic
explanations such as the work of Buckley and Casson (1985). There are exceptions,
however, examples being the ‘business-institutional history’ of Alfred Chandler (1977, 1990)
and the new institutional economics school, described by Oliver Williamson (1985). However,
these approaches either seriously neglect the role of government, as with Chandler’s work,
or do not focus on the political dimension of TNC-government interaction (Williamson 1975).
None of the contributions are at all concerned with the general interplay between TNC, the
host state and other non-state players.

Grosse and Behrman (1992) have been particularly concerned with TNC-government
interaction. However, what is still lacking is a clear appreciation of the TNC as an institution in
its own right, combined with its ties to an array of different regional, national and global
institutional arrangements. By including external institutional affiliation through TNCs’ internal
networks, I believe that a better understanding of the actual political and economic dynamics
within FDI hosting LDCs can be achieved. I propose an analysis of TNCs as institutions
operating internal networks through various modes of control that are becoming increasingly
embedded in external networks, both in local and international political arenas. Such an
approach will shed light on the actual power of TNCs in various political settings.
Furthermore, we can better understand how different political challenges can be exploited
within the TNCs’ own cross border management, to improve global competitiveness. As Stopford and Strange (1991:22) argued: “The growth of global competition can be seen as moving the world towards a position where events are conditioned more by an emerging managerial technocracy than by traditional notions of state power. In this new technocracy firms feature prominently but are only one component of a wider network.... Competition is increasingly about different production and institutional systems and contrasting social organisations”. Another way of phrasing this is by pointing to the fact that the boundaries of corporate influence executed by corporate managers are significantly broader and less clearly defined.

Surprisingly, Stopford and Strange did not elaborate further on these institutional systems. While obviously perceiving the existence of inter-firm as well as state-firm networks, the former are not discussed in further detail, and no attention is paid to firm-society networks. Odell (1990:140) advocated the need for an integrated model for analysing the ongoing process of economic restructuring, economic globalisation and international trade policies. Ruigrok & Tulder (1995:6) argued, however, that the bulk of the three debates continues to be conducted in relative isolation.

Corporate involvement in public policy processes is extensively documented by Wilks & Wright (1987) and Grant, Paterson & Whitson (1988). What is important, however, is to study the embeddedness of TNCs in relation to political decision-making as coexisting with current processes of economic globalisation causing, not only complex interdependencies, but also new forms of ‘diplomacies’. Increasing transnationalisation may allow TNCs to disconnect themselves from the political economies of home countries. At the same time, these TNCs are re-entering political decision-making processes where both the government of the home country, FDI hosting countries, as well as other transnational actors are becoming increasingly involved. Transnational politics is consolidating. The TNCs are positioning themselves to take advantage of current structural changes. More than any other institution, TNCs are capable of leveraging with global reach, the organisational rationality of production, consumption and, increasingly, communication.

Global reach is pursued by what Karel Kosik (1993) called a ‘techno-economic value order’. Horkheimer argued (1974) that the systematic changes in 20th century mass society created a metamorphosis of value rationality and enlightened reasoning into what he called ‘disenchanted instrumental rationality of techniques. This creates an ‘objectification’ of the machine, and I will argue that the techno-economic value order, as proposed by Kosik, can be perceived as a direct consequence of this objectification. Consequently, Kosik predicts a means-ends reversal in which the machine and technology become the ruling objects of societal pursuit. However, it is not only machines and technologies that to a large extent create the terms of reference for corporate strategies. The construction of TNC-based techno-economic value order, in accordance with corporate strategy, also enhances the political power of TNCs. Corporate power can be pursued against, or in combination with, the power of host governments. A dynamic approach must be applied. Potential conflicts are prevalent, but the outcomes cannot be understood without analysing the degree of particular institutional embeddedness of TNCs in local as well as global politics within the dynamics of triangular environmental diplomacy.

Hymer (1976) argued that free and perfect markets in the neo-classical sense do not exist where TNCs are present, because the existence of TNCs is directly related to market imperfection. Williamson (1985) further argued that internal ‘hierarchies’ are created to replace or internalise certain external market functions in order to reduce transaction costs,
creating what can be termed a ‘weak’ form of embeddedness. TNC relations with external players are still perceived to be pursued on a kind of arm’s length basis. In sharp contrast to Williamsonian hierarchies, creating few political repercussions, we can now envisage a situation in which the TNCs become more interwoven in the institutional ‘knitting’ of the FDI hosting LDC, through various forms of more or less formal agreements and commitments. TNCs are increasingly establishing long-term formal relations with external players within the value chain. The internal hierarchies of TNCs are increasingly linked to external networks, as underlined almost two decade ago by Germidis (1980) and Oman (1984), thus establishing what has been termed ‘co-operative capitalism’ (Polanyi 1957, Chandler 1990). Polanyi described the outcome as “an institutional canvas within the framework of a holistic political economy” (1957:3). I suggest is that these efforts not only have implications for the environmental diplomacy of FDI hosting LDCs, but more generally for environmental diplomacy of international political economy.

3.5 Triangular environmental diplomacy

As illustrated more fully later, proactive, more socially minded TNC behaviour can be observed, and corporate performance beyond minimum regulatory requirements is increasingly promoted in LDCs. This not only includes ecological issues, which are my particular concern, but also social issues. The striking fact is that such these efforts are not merely manifested at individual TNC-affiliated units in FDI hosting countries. Questions regarding corporate social responsibility and eco-efficiency have been raised and sustained by WBCSD and TNCs representing these values and priorities in a variety of international political arenas, most recently at the UN Global Compact Conference in July 2000. These initiatives contrast sharply with Williamson’s perception of internal hierarchies coexisting but not institutionally co-operating with open markets. FDI projects, as with TNCs in general, cannot be treated in political isolation. In addition, interaction is not only conducted through formal negotiations. It may take place rather informally, and, even more importantly, it can be initiated independent of formal politics. Such interaction will often manifest itself as a bilateral relationship between a central entrepreneur and those with whom the entrepreneur would like to communicate or attempt to influence. It is important to keep in mind that such informal interactions are conducted regardless, even despite, public policy. At the same time, however, it is fair to say, as elaborated in a subsequent chapter, that such actions can also be interpreted as corporate efforts to avoid more stringent, compulsory regulatory measures that could hamper market efficiency.

Regardless of the reasons, this emerging interaction may be highly structured and institutionalised, or much more loosely so. Wilks and Wright (1987: 3-6) called such relations ‘policy communities’, which “encompass all those who own, manage, finance and work in industrial units, together with those whose interests are affected by the activities of those units, suppliers and clients, for example, and those individuals whose organisations have a direct interest in, or responsibility for, the activities of those units and their suppliers and clients - governments and quasi-governmental organisations at national, supranational and sub national levels”. Such policy communities exist, with a reasonably cohesive membership defined by products, services, technologies and markets. The constituting factor within communities that concerns me is environmental management, defined as “those aspect of the overall management function that develop, implement and maintain the environmental
policy [of the firm].

Environmental policy is related to the intentions and principles of action of the TNC regarding environmental effects. Increasingly, initiatives are taken in collaboration with external stakeholders, and even through various forms of networking, for instance through environmental policy communities.

The development of such policy communities is promoted on a dual track basis. Formal environmental requirements exist, created by public policy, but these requirements are increasingly influenced by formal and informal voluntary initiatives, either through the WBCSD, individual TNCs or as part of the UN Global [Environmental] Compact. What justifies my approach is the fact that these initiatives are creating procedures and performance beyond the requirements mandated by public policy. According to Wilks and Wright, such communities forming subsystems, often too discrete to operate at a national or sectoral level, exist to deal with a specific policy concern. I argue that this can, to a large extent, be related to linkages between FDI and environmental protection in relevant LDCs.

Another way of visualising such policy communities is by relating the reasoning to the argument of Stopford and Strange:

Figure 3.4 The triangular environmental diplomacy

In India, individual TNCs are proposing, or supporting, the creation of policy communities to improve environmental management within the local area of their involvement. However, these communities remain part of the public policy sphere, and initiatives are often complemented by broader, more co-ordinated efforts. Consequently, we can argue that related policy communities of environmental management are linked through larger and looser policy networks for environmental management, which, according to Wilks and Wright (1987:297-299) “constitute a complex of organisations connected to each other by resource dependencies and distinguished from other complexes by breaks in the structure of resource dependencies”. Within countries pursuing a more liberal economic policy, TNCs are allowed to become involved in economic activities previously reserved for indigenous entrepreneurs. TNCs are increasingly becoming part of distinctive policy networks. Individual TNCs are creating networks around particular manufacturing units. The same TNCs can also be involved in branch organisations at local, regional or national levels, for example the Indian

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87 Defined by British Standard 7750, specification for environmental management system.
Chemical Manufactures Association (ICMA). What of the UN Global Compact and the dominant role of WBCSD? Can these also be termed policy networks or even communities?

My major argument is that TNCs are distinguishable from local and international actors because of the uniqueness of being part of global, national and local structures. TNCs use specific references for corporate environmental initiatives in India, the global dialogue of the Global Compact as well as a 'best-case' reference within the WBCSD community. This makes a difference versus domestic entrepreneurs who are without such extraterritorial connections that allow access to specific financial, technological, organisational and human resources. However, there are other transnational players trying to create a ‘counter hegemonic globalisation’ as Evans (1999) termed it. Triangular environmental diplomacy, institutionalised through the Global Compact, cannot be sustained as long as dominant but legitimate players such as environmental NGOs are excluded from the community.

The argument proposed and subsequently discussed is that TNCs, due to increased environmental advocacy, are tying themselves to policy communities and networks both locally within FDI hosting LDCs, and internationally. However, the process can be regarded as an attempt to ‘re-tie’ themselves. TNCs and firms have historically been forced to comply with and accept political regulation. Despite corporate lobbying, democratically based preferences have legitimised political justice, at the expense of economic efficiency. This is a historical fact for foreign firms and TNCs. Currently, however, politics are changing, and, due to increasing market orientation with flexible solutions, TNCs are increasingly taking part in the formulation and implementation of political priorities of FDI hosting countries, rather than merely complying. In 2000, the OECD reviewed its guidelines, urging TNCs to “contribute to the development of environmentally meaningful and economically efficient public policy, for example, by means of partnerships or initiatives that will enhance environmental awareness and protection [my italics].” At the same time, “enterprises should, within the framework of laws, regulations and administrative practices in the countries in which they operate, and in consideration of relevant international agreements, principles, objectives and standards, take due account of the need to protect the environment, public health and safety, and generally conduct their activities in a manner contributing to the wider goal of sustainable development.”

This thesis explores project specific and policy related linkages between FDI and environmental protection in LDCs. The OECD guidelines ask TNCs to strengthen environmental awareness and protection at particular affiliated units in LDCs, as well as become involved in partnerships that are compatible with the environmental policy communities previously referred to. Practices at affiliated TNC units may be impacted, but the outcome may materialise through new forms of environmental political interaction, what I have characterised as the triangular diplomacy of FDI hosting LDCs.

Through UNCTC, the UN, at the preparatory stages of the UNCED conference in 1992, proposed mandatory codes of conduct for TNCs, with specific guidelines for what they termed ‘international environmental management’. Some of these codes were also proposed as a separate chapter in Agenda 21. However, as revealed by the reasoning of Willums & Golüke (1992), the corporate community resisted: “It [UNCED] could have taken a negative stance on market forces and the role of business, and there was at one time a real possibility that the conference might be pushed to lay down detailed guidelines for the operations of

88 Information is provided by the OECD's Directorate for Financial and Enterprise Affairs, a committee on international investments and multinational enterprises, document DAFFE/IME/WPG(2000)9, from September 2000.
transnational corporations\(^{89}\). Instead, it acknowledged “the important role of business” (Willums and Golüke 1992:20). With explicit reference to the voluntary guidelines of the OECD, the outcome of the Rio Conference became merely a chapter on industry and business in which governments are also targeted and asked to promote sustainable development through the application of ‘market efficient environmental solutions’. As stated in chapter 30 of Agenda 21: “Governments should use economic incentives, laws, standards and more streamlined administration to promote sustainably managed enterprises with cleaner production”. Chapter 30 reflects the previous petitions made by the World Commission on Environment and Development (WCED), that urged business and industry to “make environmentally sound technologies available to affiliates in developing countries without prohibitive charges”. At the same time, governments were asked to “cooperate with business, industry, academia and international organisations to support training in the aspects of enterprise management”. Cooperation can take many forms, either through more environmentally responsible behaviour at specific manufacturing units, and also through partnerships with external stakeholders within or outside the value-chain.

Despite a number of trade-related measures being included in international environmental regimes such as the Basel Convention and the Montreal Protocol, there is currently no international mandatory control of FDI and the environment.\(^{90}\) At the same time, there are few political opportunities for extraterritorial jurisdiction by home governments of the TNCs subject to particular analysis in this dissertation. Consequently, relevant formal regulation of TNCs and their affiliates is the political priority of FDI hosting countries promoting further environmental liberalisation. This is the current situation when TNCs are asked to establish partnerships or initiatives that will enhance environmental awareness and protection. TNCs are asked to behave more environmentally responsibly in LDCs, but there are no mandatory international regulatory requirements for the environmental conduct of TNCs. Agenda 21 contains merely a single statement, the last sentence of chapter 30: “Business and industry, including transnational corporations [my italics], and their representative organizations, have a critical role in helping the world achieve the Agenda 21 goals for sustainable development”. The Brundtland report, presented by WCED, at least made an explicit reference to the global capability to co-ordinate and control corporate resources. It states: “Large industrial enterprises, and transnational corporations in particular, have a special responsibility. They are repositories of scarce technical skills, and they should adopt the highest safety and health protection standards practicable and assume responsibility for safe plant and process design and for staff training. The transnationals should also institute environmental and safety audits of their plants measured against standards at other subsidiaries, not just against those of other local companies, which may have less stringent requirements. These audits and their follow-up should be made available to governments and other interested parties” (WCED 1987:231). Another way of interpreting the petitions from the Brundtland Commission is to focus on international environmental management, or, what I term, cross border environmental management. However, the application as such as concept reflecting the transnational dynamics of corporate environmental control and co-ordination, is difficult if not impossible without further understanding of (local) environmental strategies in general.

\(^{89}\) Apparently referring to the proposed but rejected draft code of conduct for TNCs.

\(^{90}\) The Trade Relations Investment Measures (TRIMs) negotiated by the WTO do not focus on environmental issues at all. The environmental focus of WTO/GATT relates merely to trade, and the work is institutionalised through the Committee on Trade and Environment (CTE), established at the Ministerial Meeting in Singapore in 1996.
Consequently, let me proceed with a more specific approach to the corporate environmental issues of concern in this dissertation.
4 EMERGING PROCEDURES AND PRACTICES OF CROSS BORDER ENVIRONMENTAL MANAGEMENT

In the previous chapter it was asserted that TNCs ought to be perceived and treated as non-state players in world politics. Further, those TNCs proposing particular environmental initiatives can even be associated with what I theoretically describe as a triangular environmental diplomacy. However, having made such a theoretical reasoning, it becomes urgent to understand what these environmental initiatives are all about. Thus, this chapter proceeds with a more specific approach to corporate environmental strategies. A variety of strategies can be identified. These can be distinguished as related to production or product specific strategies aimed either at minimizing environmental damage or maximizing commercial advantage. What the environmental management literature often forgets, however, is the fact that these efforts in one way or another are related to public environmental regulations. Not only that, it is argued that public environmental regulations have been the most influential factor forming these strategies (Andrews 1994, Vedung 1998, Kolk 2000). However, in accordance with the more general reasoning in the previous chapter, I suggest that current environmental initiatives transcend the historically influential role of public regulations as the only "maker" of environmental politics. This is particularly apparent in countries where public regulations are less manifest and even non-existent.

Still, as subsequently documented, and despite lax environmental regulations, corporate environmental efforts are made. Consequently, to proceed in developing an analytical approach to my research concerns, the chapter makes a detailed presentation of the emergence as well as the character of cross border environmental management as documented with specific references to ICI, Bayer, Norsk Hydro and Alcan, the four TNCs of particular concern in this dissertation. As a tentative answer to the question whether cross border environmental management is reflecting a formulation or rather an implementation of TNCs environmental policies, the chapter ends with a visualisation of a cross border environmental management system (CBEMS). The CBEMS is perceived as a system in which corporate environmental policies are explicitly related to implemented local procedures that increasingly are becoming subject to TNCs’ environmental control efforts that even are influencing initial policy formulations. In the subsequent chapters the dissertation applies this general reasoning by discussing specific empirical cases of local TNC environmental procedures. In accordance with the research questions, it is of particular concern to discuss the actual influence of the CBEMS on local environmental procedures initiated by the TNC in question.

4.1 Classifying corporate environmental strategies

According to Andrews (1994), there are a total of ten classes of environmental policy options at the disposal of political authorities who regulate the environmental behaviour of firms. These options range from direct regulation to intentional, voluntary plans. Between these extremes, regulatory authorities can introduce various forms of incentives or disincentives aimed at motivating particular firms or industrial sectors to behave in particular
ways. Another regulatory approach, recently introduced with respect to CO₂ emissions, is marketable permits. In a more legalistic tradition, liability can be explicitly defined. However, Andrews (1994) underlined that many regulatory agencies see the necessity to strengthen training procedures and increase information to firms as well as consumers. Consequently, rather than strengthening intervention capacity, attempts are being made to establish voluntary agreements between firms and regulatory authorities.

This reflects the prevailing political trend towards market based solutions that go beyond direct influence from formal political control. This trend is also reflected in the principles included in the UN initiated Global Compact, in which the Secretary General asks world business to support a precautionary approach to environmental challenges (principle 7), undertake initiatives to promote greater environmental responsibility (principle 8), and encourage the development and diffusion of environmentally friendly technologies (principle 9). Still, there is little understanding of how the TNCs that are responding, actually are interpreting these principles. What can be concluded at this initial stage is the fact that individual TNCs and branch organisations are asked to strengthen cross border environmental management procedures. The overall aim of this chapter is to understand what is taking place among some of the TNCs that are responding.

In most OECD countries the initial debate of the 1970s on industry and environment referred, to a large extent, to a choice between market based economic instruments and more command and control based political instruments (Royston 1979). During the 1980s, however, this was replaced by a more liberal conception of the relationship between economic growth and environmental protection. As illustrated by the work of the World Commission on Environment and Development, in their publication “Our Common Future” (WCED 1987:1): “We see… the possibility for a new era of economic growth, one that must be based on politics that sustain and expand the environmental resource base”. Prior to the UNCED conference in Rio de Janeiro in 1992, previous scepticism toward environmental management compatibility with economic growth had almost vanished. Nevertheless, significant hostility toward market players such as TNCs prevailed. However, the debate of the 1970s regarding whether or not there had to be a choice between environmental protection and economic growth, was replaced by more integrated approaches to modes of environmental management and politics. Another striking contrast, compared to the 1970s, was the changing attitudes among firms themselves. They became increasingly more forthcoming towards environmental protection as more than merely additional cost. Arguments such as ‘green is lean’ were introduced and discussed (Fischer & Schot 1993). An increasing number of firms acknowledged that environmental protection was not necessarily a threat to corporate competitiveness - the logical term of reference for any economic agent trying to maximise surplus value and corporate profits. Consequently, corporate strategies became gradually modified to incorporate environmental problems and concerns. Several authors have made valuable contributions to the categorisation of the various firm-specific environmental management paradigms. Despite the Bhopal tragedy of 1984, very few went beyond a debate concerned with external physical effects and impacts, to focus on strategic managerial issues. By the end of the 1990s, the academic debate concerning cross border environmental management has not really taken off. Few theoretical references are available, and those presented are based mostly on benchmarking and

91 A total of nine principles are included in the UN Global Compact, focusing on human rights, labour issues and environmental protection. For further details, see http://www.unglobalcompact.org/
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corporate intentions rather than actual fieldwork. This is an unfortunate reality. Therefore, to enable a proper and valid analysis, I will proceed using literature on corporate environmental management and strategies regardless of the scope and scale of these activities.\textsuperscript{92}

Meima (1994) presented an overall theoretical framework suggesting that, while there are some who perceive the environmental challenge as an anthropocentric moral/ethical issue, there are others who regard it as a means to gain financial benefit. Further environmental management can be perceived as a function of quality. Finally, Meima argued that a fourth approach to environmental management is by determining ways in which industrial activities can be made compatible with nature, for instance by minimising emissions, by reducing waste etc. In a way, Meima’s reasoning can be perceived as a circular argument between moralistic imperatives and pragmatic solutions. The pragmatic approach is more dominant, but as environmental practice creates more profitable results, the moral dimension is often reintroduced.

Compared to Meima (1994), Simpson (1991) provided a more tangible approach, suggesting that corporate responses to environmental pressures can be categorised in three main groups, those questioning ‘why me?’, the ‘smart movers’ and the ‘enthusiasts’. The category asking ‘why me?’ relates to companies that have been forced to improve their environmental performance as a result of some well-publicised event. An environmental accident acts as a catalyst and induces a company to take action in the field. ‘Smart movers’ are the ones that have been able to exploit the opportunity created by the arrival of green consumerism to gain competitive advantage. The ‘enthusiasts’ include companies that have moved beyond compliance, and incorporated their environmental strategy into their overall business strategy. Steger (1993) took this a step further by categorising corporate strategies into four categories: indifferent, offensive, defensive and innovative. Companies categorised as having an ‘indifferent’ strategy are those operating with low environmental risk and few environmentally based opportunities for economic growth. ‘Offensive’ companies are those that have considerable potential for exploiting environmentally related market opportunities, but which are not exposed to high environmental risk. Those adopting the third, more ‘defensive’ strategy, are companies that have high environmental risks and who cannot afford to ignore environmental issues. Finally, the strategic option of being an ‘innovator’ is chosen by those that have high environmental risk but simultaneously see environmentally marked-based opportunities for economic growth.

Roome (1992) suggested that there are five environmental strategies for companies, non-compliance, compliance, compliance plus, commercial and environmental excellence, and leading edge. The first three strategies are related to compliance with public environmental regulations. ‘Compliance-plus’ implies looking beyond existing norms. It involves integration of environmental management techniques throughout the entire management system of the company. ‘Excellence’ and ‘leading edge’ approaches view environmental management as good management. These approaches indicate that a firm recognises the strategic opportunities that have arisen as a result of general changes in environmental attitudes and consciousness, and from technological innovation.

A difference between Steger and Room’s approaches is related to the understanding of the firm. While Steger perceived corporate responses to the environmental challenges as being related to market opportunities and environmental risks, Roome argued that public

\textsuperscript{92} Not surprisingly, almost all of these contributions refer to empirical observations in North America and Western Europe.
policy and internal managerial capacity are equally important. Roome did not argue against the reasoning of Steger, he merely extended the framework. In that sense, Roome presented a more comprehensive and, for me, relevant approach to how corporate environmental management may be conceptualised. However, Roome remained concerned with the corporate environmental management of individual firms, and no effort was made to question corporate initiatives beyond national boundaries. Neither did Welford (1996), who focussed explicitly on smaller firms. While TNCs as such are large corporate entities, individual affiliated units in LDCs might be small. If, in addition, the affiliated unit is largely left to itself, in accordance with the *ad hoc* variation proposed by Ghosal & Nohria (1993), or subject to an explicit differentiated fit causing local adaptation, then the typologies proposed by Welford can be relevant even for understanding the actual behaviour of large TNCs operating smaller units in LDCs.

When controlling for size, Welford (1996) found the outcome in terms of environmental strategic performance to be somewhat different for those typologies proposed by studies of larger firms, such as those undertaken by Simpson (1991), Steger (1993) and Roome (1992). The first group Welford (1996) identified is referred to as ‘ostriches’. Companies that fall into this category not only assume that environmental concerns are negligible, but also that competitors feel the same. Hence, firms do nothing to conserve or protect the environment. A second category of small firms’ environmental strategies is the group ‘laggards’. This refers to companies that are aware of the environmental challenges facing them, but are unable to meet those challenges because of cost constraints, lack of trained manpower, lack of knowledge, and, I would add, lack of access to cross border environmental modes of control compatible with the integrated variety or structural fit proposed by Ghosal and Nohria (1993). According to Welford (1996), a third group consists of the ‘thinkers’, and this encompasses companies that know something should be done, but who still wait for others to show them the way. Finally, Welford identifies those SMEs that have proceeded to think and put their proposals into action. These are termed the ‘doers’.

Current observations of corporate environmental policies and procedures have inspired various scholars to propose various classification of corporate environmental strategies, but what is actually initiated in terms of policy and practices? With direct reference to Welford’s reasoning, my research strategy might seem to be mainly related to whether ‘laggards’ have started ‘thinking’ in such as way that they are converted into ‘doers’ in LDCs. Figure 4.1 indicates how we may distinguish between the different actions that enable a firm to improve its competitive advantage. My concern is not competitive advantage explicitly, however, as all relevant literature on the subject approaches issues of environmental management with this a reference, I will at least begin by applying a similar reasoning.

As illustrated by figure 4.1, we must distinguish between production oriented strategies and product oriented strategies. In practice, this is largely the equivalent of distinguishing between internal plant specific initiatives to convert environmental challenges into environmentally beneficial outcomes in terms of strengthened corporate competitiveness, and external market efforts. Furthermore, figure 4.1 distinguishes between initiatives that minimise environmental damage, and those that maximise commercial advantage. Such initiatives can enhance corporate competitiveness, but what form it takes will differ. Four available types of corporate options can be identified. These are related to clean technology, resource efficiency, cradle to grave management and green consumerism:
Roome (1992) argued that it is important to extend the traditionally narrow mind analysis of corporate strategic management into a broader analysis which combines a variety of external environmental pressures with internal factors such as the ability of corporate managers to bring about organisational change in order to incorporate environmental issues. If we focus on the four areas of opportunity presented in figure 4.1, some are more influenced by internal priorities, while others are more the result of external conditions. A cradle to grave approach is more challenging when environmental consciousness among consumers in markets where the TNC is operating is weak. When local regulatory authorities are not implementing appropriate legislative measures and policy tools to reorient traditional patterns of consumption into a more environmentally sound form, it is more challenging for a company to make customers pay a significant price premium to acquire greener products. Nevertheless, external market constraints do not always limit the opportunities to develop improved resource efficiency. Clean technologies and cross border environmental management challenge traditional modes of control, or lack of such.

TNCs promoting environmental strategies have at their disposal a number of different options. As illustrated in figure 4.1, external constraints may impede the choice of certain options, but opportunities exit, despite prevailing market conditions. The design of cross border environmental management systems is very much a result of internal effort. It can be driven by the need to reduce risks or minimise environmental damage relating to particular processing activities. As a remedy, cleaner technologies are increasingly transferred worldwide. What we need to understand is what kinds of transnational modes of control these technologies are subject to.

Increasingly, TNCs extend their scope into more holistic approaches such as life-cycle analyses and product stewardship programmes vis-à-vis distributors and customers.

Current conceptions of why FDI projects are initiated, how they are conducted and their impacts, are, to a large extent, influencing what is actually studied with respect to TNCs and environmental considerations in LDCs. The Bhopal tragedy set the research agenda as well as the political agenda. The opportunities to promote environmental entrepreneurship, however, are not limited to transfers of clean technologies. Development of management techniques and styles has increased, and this dissertation looks at cross border
environmental management. As strategies differ, so do the chosen environmental managerial technologies used by individual firms. Nevertheless, there are companies around who function much like ostriches, arguing strategically that environmental challenges are a passing fad. Increasingly, however, TNCs are transforming themselves into smart movers, even innovators, taking a leading edge approach to the promotion of corporate environmental responsibility. Performed through a corporate governance system of structural uniformity (Ghosal & Nohria 1993), this will create new challenges for transnational modes of environmental control between corporate HQ and affiliated foreign units.

There are few relevant international regulatory regimes that influence the environmental performance of TNCs. As illustrated by the work of Steger (1993), politics is merely treated as an external constraint. While Roome (1992) referred to politics as an important factor influencing corporate environmental strategies, the role of formal regulation is not really examined. Despite this, the prevailing modes of formal political control are self-regulation and voluntary initiatives. Environmental politics is important, even if regulatory requirements are non-existent or not enforced in FDI hosting LDCs. Thus, a relevant question is how formal political regulation has influenced the evolution of the corporate environmental strategies previously referred to. To what extent would former ‘laggards’ initiate modern ‘thinking’ to become ‘doers’ in LDCs, without formal environmental control forcing TNCs to comply with regulatory requirements in the home country?

4.2 Political regulations and corporate environmental responses

Despite the reference to Roome (1992), the relatively extensive literature normally limits the discussion to the relationship between corporate environmental management and financial performance and competitiveness. Nevertheless, despite the fact that the current implications of regulatory dynamics might be changing to non-governmental, civil society based initiatives to influence TNCs, an instrumental factor encouraging the particular environmental behaviour of firms worldwide has been, and will continue to be, formal political regulation. Most firms, especially those described by Steger (1993) as applying a defensive strategy due to large environmental risks, do focus on political regulatory requirements. With the evolution of environmental strategies, however, an increasing number of firms have started to move beyond this reactive stage. Firms have become proactive, adopting a more offensive, even innovate, environmental strategy. The choice is often influenced by perceived market performance, but in contrast to the reasoning of Steger (1993), firms are traditionally monitored by political authorities. Those failing are asked to comply with formal regulation. Consequently, compliance costs can be understood as a one-way process in which governments devise environmental regulations and firms comply in accordance with the command and control strategy. As reflected in the strategic management literature, command and control measures are treated as factors beyond the influence of the affected firms. The reality, however, is that many firms in many countries try to influence the type and content of regulations before they are adopted. Through various forms of bargaining and lobbying, firms try to influence the formulation of politics. This was also the case for environmental politics (Ashford 1993). Firms were forced to comply with environmental regulations, but at the beginning of the 1990s, a strategic reorientation emerged. Environmental strategies were presented that went beyond formal regulatory requirements, and these initiatives manifested themselves in various forms at different levels within firms. The International Chamber of Commerce, subsequently co-ordinated by WBCSD, also
Initiated collective action in the form of voluntary guidelines such as those proposed by Chemical Manufacturers regarding the Responsible Care Programme. The result is that TNCs have developed environmental strategies that also involve partnerships with external stakeholders, and the firms have become involved in issues beyond traditional concerns. These efforts are a direct response to the prevailing market friendly propensity of almost all governments worldwide. There is a growing belief in market based policy instruments, at the expense of command and control measures. Flexibility is being promoted through new forms of policy options, challenging traditional authorities and power relationships, both in the local as well as international political arenas.

Large firms in particular, like many TNCs, have the resources both to find solutions and to position themselves in direct dialogue with the public policy-makers, the politicians. As a consequence, TNCs are influencing a variety of policy options. This is particularly challenging for smaller states (Katzenstein 1985). The corporate efforts made can be ad hoc, but I would argue that more or less formal policy networks are established in which firms are capable of influencing the rationale behind new environmental policies. As environmental control costs are internalised within the general cost structure of a firm, environmental issues are internalised into the general policy debate of society regarding economic growth and development (Kolk 2000). The concept of complex interdependence caused by economic globalisation, and referred to in the previous chapter, is creating new opportunities for TNCs to influence politics. This can be understood as the dynamics within the triangular environmental diplomacy of the international political economy.

Firms have adopted voluntary environmental guidelines and supported co-operative approaches to regulations, such as covenants (Andrews 1994). However, the chosen strategies vary. The implicit reasoning from the management literature, that traditional interventionist political regulation is negative, is not only too general, it can even become an insufficient and misleading approach. Based on particular sector studies in the USA, Porter and van de Linde (1995) argued that compliance with strict home-country legislation might offer firms new market opportunities, by increasing resource productivity and driving innovation. These so-called ‘first-mover’ advantages could then be exploited by firms in global markets, as they could perform better than their competitors based in countries with laxer regulatory frameworks. Thus, Porter and van de Linde emphasised the compatibility between environmental regulations and firms’ economic performance, by applying a more dynamic perspective:

93 The sectors were: paint and coatings, refrigerators, printing ink, dry cell batteries, computers and electronic components, and chlorinated organic releases for the pulp and paper industry.
Figure 4.2: Four environmental options

<table>
<thead>
<tr>
<th>Static perspective</th>
<th>Dynamic perspective</th>
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<tbody>
<tr>
<td><strong>Harmful to economic performance</strong></td>
<td><strong>Beneficial to economic performance</strong></td>
</tr>
<tr>
<td>1. Green burden</td>
<td>3. Low-hanging fruit</td>
</tr>
<tr>
<td>2. Forced green internalisation</td>
<td>4. Green and competitive</td>
</tr>
</tbody>
</table>

The argument of Porter and van de Linde is in line with position 4 in figure 4.2: ‘green and competitive’. As indicated, however, there are three other views regarding the impact of environmental regulation on a firm’s performance. Position three, the ‘low hanging fruit’, involves a static perspective in which the recognition of environmental demands has become inevitable, and the development of capabilities may improve the firm’s image and performance. Consequently, low hanging fruit may be reaped, but initiatives are slow and decision-makers often reluctant to accept that environmental effects can be improved without causing additional environmental burdens. A dynamic situation does not exist, resembling that described of Steger (1993). The conventional view regarding the relationship between environmental regulation and performance is the ‘green burden’ position. For firms applying a more dynamic approach, environmental regulations can force them to internalise environmental costs. As represented by position 2: ‘forced green internalisation’, firms pursue environmental investment to eliminate hazardous emissions subject to environmental taxation etc. Regulations force firms to make environmental investments. Implicitly, it is assumed that without any environmental requirement, voluntary environmental initiatives would not be made. However, this is not always the case.

Currently, TNCs are increasingly extending their role into becoming pro-active political-economic players within a variety of networks and communities. These activities are not limited to domestic settings in the home country, but, through corporate co-ordination, transcend national borders. Cross border environmental management is in the making. The manifestations of initiatives relating particularly to policy related linkages between FDI and environmental protection, take many forms. To gain a better understanding of the new roles of TNCs, I have chosen to present a few lines on differences in national regulatory styles. A question to be raised is whether these differences influence the local environmental performance of affiliated TNC units.

### 4.2.1 Do regulatory styles differ?

The argument raised is that national differences in institutional setting affect firms’ interactions with governments, suppliers, competitors, financiers, employees and civil society (Nelson 1993), and the way in which firms innovate and operate internationally (Ruigrok and van Tulder 1995). In some countries, such as the USA, emphasis has been placed on setting uniform and detailed standards, and suing companies in the event of non-compliance.
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According to Kolk (2000), the US regulatory system has created more adversarial government-business relationships compared to Europe. This is due to legalistic and contentious regulatory processes causing higher litigation costs. In Europe, cooperation and the drive to reach consensus prevail (Vedung et. al. 1998). In such a regulatory environment there is room for industry involvement before rules and directives are adopted. Voluntary agreements and self-regulation have acquired considerable importance, particularly in the Netherlands (Kolk 2000).

The perceived negative situation in the US is not necessarily viewed as negative by political analysts. The US regulatory system is more transparent and unambiguous compared to the often intricate search for compromise in Europe. In a situation of less transparency, regulatory agents have more difficulty in identifying violators, thus introducing uncertainty into the regulatory regime. Furthermore, the US system, as a direct consequence of the need for transparency, has created much better environmental information, such as the Toxic Release Inventory (TRI) compiled by the US. EPA. Porter and van der Linde (1995) emphasised the need for adopting more flexible and efficient US regulation, and Kolk (2000) argued that environmental regulations in the USA tend to be less legalistic. Nevertheless, differences still exist, influencing the regulatory environment as well as environmental strategies of firms.

One way of understanding the differences in regulatory styles is to categorise the regimes by the relative openness of the decision-making process and the degree of negotiated flexibility with respect to actual enforcement. Andrews (1994) performed such a qualitative mapping against key political variables for, amongst others, seven OECD countries: USA, Germany, Japan, France, UK, Netherlands and Sweden. The relative openness of the decision-making process refers to the extent to which relevant information is generally available to stakeholders, and whether public participation is possible and can make a difference. The degree of negotiated flexibility with respect to actual enforcement can also refer to a rather rigid and statutory situation, such as the one referred to in the US. The work of Andrews (1994) showed that regulatory traditions vary significantly, with the US and UK being opposite extremes. In the US, the political decision-making process is very open, but the approach to enforcement is very rigid and statutory. In the UK, on the contrary, the decision-making process is almost closed, with little opportunity for influence by external stakeholders. The approach to enforcement, however, is based more on negotiated, flexible, but less predictable, procedures. We may assume that the UK based ICI is influenced by this regulatory style when operating in a FDI hosting country such as India. Andrews did not find any of the seven OECD countries to have a regulatory tradition that was both closed and rigid, but rather along a continuum between the opposite extremes of the US and UK. There were, however, two exceptions: Sweden and the Netherlands, which Andrews found to have both an open political system and enforcement procedures based on flexibility. Germany is described as somewhere in the middle: less flexible than the UK in terms of enforcement, but more open than the UK in terms of the decision-making process. We may further assume that the German based Bayer is equally influenced by this regulatory style when operating in India. The opportunities for political lobbying by external interest groups are greatest in Sweden and the Netherlands, with respect to both formulation and implementation of environmental politics. An unanswered question is what the situation will be in LDCs, knowing that the general challenges of co-ordinating and enforcing policymaking are difficult. Even more important: will the difference in the regulatory styles of the UK and Germany
influence the way ICI and Bayer approach environmental issues related to affiliated activities in LDCs such as India?

There are, however, differences between countries, not only in regulatory styles. We can further distinguish between four policy levels: local, national, regional and the international level interpreted as the traditional international policy relations referred to in the previous chapter. Between these levels, coordination problems may occur, as variations in style and tradition continue to exist. The assertion in this thesis is that all four policy levels are increasingly subject to transnational influences. However, the degree of influence varies. According to Risse-Kappen (1995), influence is related to the degree of fragmentation in political institutions, whether civil society is strong or weak, and, finally, whether policy-networking activities between state and society are polarised or based on consensus. The suggested argument is, rather, to elaborate somewhat further on transnational corporate relations increasing strength in the wake of the new economic reforms in India. Risse-Kappen argued that TNCs had little influence whilst state policies were centralised and society was strong. The question is whether new economic reforms and further transnationalisation have challenged the traditional political priorities of India.

Political decision-making is often decentralised, even liberalised, in order to place responsibility at the level where the environmental problem is most manifest and can be tackled most efficiently. If spill-over effects occur that surpass a particular jurisdiction, measures have to be taken at a higher level. Typical examples of this are air and water pollution, where there is a need for cooperation between jurisdictions. As illustrated by studies of international environmental regimes (Young 1992), studies are being carried out, looking at international environmental cooperation. A striking feature, however, is the total lack of attention to the increasing political role of those causing the pollution: the productive, but hazardous, firms that are becoming increasingly transnationalised. As with the work of Risse-Kappen (1995), local impacts of transnational modes of corporate control were not really considered beyond the perceived notion of being transnational economic agents able to create impact, dependant on certain characteristics of the FDI hosting country. However, the regulatory vacuum regarding FDI and the environment is not hampering TNCs’ efforts to redefine their role and, increasingly, become environmental diplomats presenting solutions to current environmental problems.

### 4.3 The business community and TNCs as environmental advocates responding to differences in regulatory priorities

One general perception of regulatory regimes seems to prevail, to which firms must comply. Despite increasing standardisation and international political collaboration, however, there are large differences between and within different countries. This is also the case for countries subject to strict political regulatory coordination, such as EU member countries. It is important to keep in mind that the political will to enforce existing regulations – particularly those imposed by central or federal government – can be limited at the local level. The case of India will illustrate this quite clearly. Given the regulatory disparities, both between and within individual countries, it is important to consider the actual impact of actual regulatory requirements on corporate performance. As previously asked: Will countries with lax

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94 In the case of Young, this is particularly striking as he had previously (Young 1972) pointed to the growing complexity and dynamism of the international system, and the need to apply a multi-stakeholder approach.
environmental laws – ‘pollution havens’ – attract more FDI, thus increasing their share of FDI flows at the expense of the environment? Or is it rather the contrary, that stricter regulation offers advantages to firms by stimulating their innovative capacity, which, in turn, produces benefits in the country in question. One way of assessing this is to compare environmental compliance costs between firms in different countries. However, such a comparison can easily become static. Besides, the methodological challenge is overwhelming, as many environmental control costs are internalised into general processing methods – particularly among firms that have substituted traditional end-of-pipe treatment with processes that eliminate hazardous emissions (Jaffe et. al. 1995, Kolk 2000).

However, successful negotiations have addressed these stumbling blocks. As illustrated with the Montreal Protocol, through the formation of a package deal combining different topics, whether of an environmental (phasing out of CFCs), economic (Green Development Mechanism (GDM)) or political (decision-making procedures to allocate GDM funds) nature. Consequently, a coalition has been formed, consisting of players supporting the outcome. The main force behind such an alliance may have been government, industries that profit from the agreement, or powerful firms within or outside the benefiting sectors. Interestingly, the case of the Montreal Protocol illustrates how environmental policy making must be understood with reference to variations in national regulatory styles, as well as the variety of policy levels (Benedick 1991). Nevertheless, the argument proposed is that even if a firm such as ICI\textsuperscript{95} can be acknowledged as playing a crucial role in both the formulation and implementation of a policy (Litfin 1994, Tolba 1992), few studies treating such corporate players are based on policy networks. Furthermore, these firms will remain tied to a variety of networks of a more or less permanent nature, according to what is feasible with respect to corporate commercial strategies. LDC governments such as India’s are increasingly inviting TNCs to promote new productive and commercial activities within their territory - an indirect invitation to become part of environmental policy communities and networks is being extended to those responding to the new opportunities.

Prohibitive regulations to mitigate international environmental problems relating to production and sale have traditionally been opposed by business and industry. Simultaneously, the same players have adopted a different position on international trade and investment liberalisation. This was recently illustrated by the MAI agreement proposed by the OECD. Environmental NGOs and trade unions on the other hand, expressed profound concern regarding further trade liberalisation, as demonstrated at the WTO meeting in Seattle in December 1999. Public protest against the proposed MAI agreement is also illustrative, particularly as the consequences for the environment in LDCs were perceived to be negative (von Moltke 2000).\textsuperscript{96}

To mitigate these popular concerns, corporations are increasingly publicising voluntary initiatives, often in the form of guidelines or measures taken in the absence of mandatory regulation, to enhance corporate (environmental) responsibility. The actual manifestation varies, but an increasing number of firms are supporting various codes of conduct, as well as taking more concrete steps relating to environmental management systems and social and

\textsuperscript{95} Most of the studies refer merely to DuPont as instrumental in finding solutions to CFC 11 and 12, but Litfin (1994) actually pointed to the interesting argument that ICI’s innovations on HCFC and HFC 134a as early as 1991, triggered DuPont into intensifying the search for more constructive approaches to the political attempts to substitute ozone depleting substances such as the CFCs referred to.

\textsuperscript{96} Officially, the MAI agreement was withdrawn due to France’s opposition to perceived US domination in the European/French TV and film industry. However, MAI was to become a symbol for critics of what to expect from economic globalisation in terms of lost national political sovereignty as well as environmental degradation.
environmental reporting. One example is the chemical industry’s Responsible Care Programme, originally proposed by the Chemical Manufacturers Association (CMA) in Canada in the wake of the Bhopal disaster in 1984. In subsequent years, these principles and practices have been adopted by other associations, including the ICMA. The Responsible Care initiative was aimed at improving the sector’s image and prevent regulatory measures that might be stricter or less attractive for other reasons. Thus, the example of Responsible Care can be directly linked to firms’ vested interest in influencing environmental politics, and, in particular, underlines the ‘effectiveness’ of voluntary initiatives.

The most successful voluntary initiative in terms of the number of firms subscribing has been the Business Charter for Sustainable Development (BCSD): Principles for Environmental Management. This was developed by the International Chamber of Commerce (ICC) and published prior to the UNCED – Rio Conference in 1992. The Responsible Care initiative was encouraged by the Bhopal disaster, the BCSD was equally pressured as a result of the Exxon Valdez spill in 1989, and, in particular, as a consequence of the Valdez/CERES principles drawn up by a coalition of social investors, environmental groups and a range of other NGOs, named the Coalition for Environmentally Responsible Economies (CERES). While the CERES principles institutionalised representation from a broad range of stakeholders, the ICC principles, like the ‘Responsible Care’ initiated by CMA, are collective efforts of one of several industries. Inspired by Kolk (2000), but based on UNCTAD’s data, I have systematised the environmental commitments made by CERES, CMA and ICC in table 4.1.
Many differences can be seen in the statements of ICC, CERES and CMA relating to what TNCs should do regarding cross border environmental management. Not surprisingly, the chemical industry, and to a lesser extent ICC, are considerably less explicit and demanding than CERES. While CERES has a so-called ‘visible contribution’ to many of the statements, it is not the case for branch-based initiatives. Actually, ICC is making a ‘visible contribution’ with respect to the need to establish environmental management systems, including environmental auditing of production or distribution systems, a focus that will be more thoroughly dealt with later. ICC is not concerned with reporting in the absence of host country requirements, and the environmental advocacy bluntly stated during the UNCED conference in 1992, is not particularly distinguished when it comes to voluntary disclosure of environmental information. ICC is not concerned with responsible care for chemical products. Surprisingly, although expressed as conformity, a more visible contribution to responsible care has not even been made by chemical manufacturers themselves. In addition, CMA refers to the argument for introducing foreign standards equivalent to those in the home country. CERES, on the other hand, makes statements about environmental records regardless of host country requirements. This is not touched upon at all by the chemical industry. Furthermore, CMA is not the least bit concerned with establishing worldwide corporate policies on sustainable development. The question is whether this is also the situation for ICI and Bayer.
The Business Charter for Sustainable Development, proposed by ICC, can be perceived as a strategy to contain the growing criticism of how industry and business, in particular TNCs, were going to tackle global environmental problems. Recently, the ICC initiatives on sustainable development have been institutionalised in a permanent secretariat, consolidated by a Norwegian businessman. The World Business Council for Sustainable Development, supported by hundreds of the largest TNCs, is currently directly involved in international environmental affairs. This well illustrates the character of triangular environmental diplomacy. The ICC and WBCSD are currently building up their work, and an increasing number of TNCs are becoming members. ICI, Bayer and Norsk Hydro are actively involved and the current, as well as the former, CEO of Norsk Hydro has been president of WBCSD. However, the majority of other voluntary initiatives published in 1991 and 1992 have not been equally institutionalised. The ICC initiative reflects the mounting awareness of environmental problems in general, but particularly the proposed Valdez principles, which were significantly more stringent and mandatory than those supported by business and ICC. Thus, it is equally important to keep in mind that these voluntary initiatives of self-regulation originated prior to a conference where efforts were to be made to adopt more stringent, formal environmental regulation. The emergence of voluntary initiatives can therefore be understood as a reflection of a desire among industry and business to prevent regulation at national and international levels. This occurred at the same time as players lobbied strongly for further trade and investment liberalisation, by reminding the public about the feasibility of market based development.

The Valdez principles urge business to strengthen environmental commitments. At the time of the 1992 UNCED conference, many LDCs and NGOs were emphasising the need to formalise restrictions on TNCs with regard to safety and the environment. While there were prospects for new stringent environmental regulation at the UNCED conference, the forerunners to WBCSD emphasised firms’ own responsibility to care for the environment and to take a lead. According to ICC, regulation through command and control instruments ought to be avoided, particularly as this could impede market efficiency and development opportunities for society at large. A more feasible solution was voluntary initiatives and market oriented instruments. The key word was self-regulation (ICC 1990).

At the time of the UNCED conference, business associations pointed at the large number of guidelines –existing or being prepared- to underline the ‘effectiveness’ of self-regulation. The ICC sponsored book “Changing Course” (Schmidheiny 1992) dedicated half its pages to case studies of firms’ “successful steps towards sustainable development”. The achievements of the Business Charter were emphasised and, in 1992, within one year of adoption, had already been signed and supported by more than 1000 firms. And the efforts paid off. The particular chapter of Agenda 21 focusing explicitly on the particular responsibility of TNCs was omitted from the final draft. Through UNCTC, the UN had, for several years, proposed a draft code on TNCs, and specific areas of concern were proposed to be included as a separate chapter of Agenda 21. As initially mentioned, the outcome was restricted to a general chapter (30) on industry and business, which was equally focused on governments, asking them to use economic incentives and market based instruments so as

97 Jan Olaf Willums.
98 WICE merged with BCSD in 1995 to form WBCSD.
99 Of which some were never published.!!
100 According to the Chief of the Environmental Unit, UNCTC, Harris Gleckman – personal communication July 1993.
not to hamper environmentally friendly change. Willums and Golücke (1992) considered the
general outcome of the UNCED process to be favourable to firms.

The influence of the market oriented approach was further illustrated when the UN, in the
aftermath of the Rio Conference, decided to close down the UNCTC and merge the TNC
specific activities with UNCTADs general work on investment, technology transfer and
enterprise development (DITE). A paradox seems to prevail. While the UN documents that
TNCs are becoming increasingly important in world affairs, the same organisation closes
down the very unit aimed at understanding the economic, environmental and social roles of
des these increasingly important players in international affairs. Even more interesting is the
expectation expressed relating to the follow-up to the conference at national level. As stated
by Willums and Golücke (1992:21): “We expect that national laws and regulations will not be
as stringent, bureaucratic and ‘anti-business’ as some feared before UNCED. ‘Command
and Control’ policies were definitely moved to the side in favour of economic instruments and
cost-effective policies”. Self-regulation is more attractive to firms, particularly when it is
voluntary. Further they can be designed and implemented in accordance with firms’ or
sectors specific characteristics and requirements. But is this necessarily always the case?.
The man behind BCSD, Stephan Schmidheiny states: “Business has favoured regulations in
the past because it also [like government] is more familiar with this [regulatory] approach, and
feels it can influence it through negotiation. In addition, in many nations regulations are
passed but rarely enforced” (Schmidheiny 1992:24). This was further supported by a study
that have formulated rather stringent environmental regulations, as the implementing and
enforcing capability is low or even non-existing.

Business’ perspectives on the effectiveness of different government regulatory
instruments are more sophisticated than the widespread image of ‘resisting command and
control’. As many as 35 percent of the respondents favoured direct regulation, while only 11
percent favoured self-regulation. Thus, a relevant question is whether the focus on self-
regulation during the UNCED period is a paradox. If TNCs are becoming increasingly
engaged in various forms of partnerships with external stakeholders, and if these firms are
capable of influencing the content and character of environmental politics, then TNCs should
rather have a vested interest in formalised direct intervention. This may be particularly the
case if enforcement of these regulations functions. Such a situation creates predictability. I
will come back to this argument with more specific reference to the case studies in India.
First, we need to understand in more detail the character of corporate environmental
management and how assumed environmental advocacy can be institutionalised through
particular modes of cross border environmental management.

4.4 Emergence of cross border environmental management

In the literature on international business and economics, a broad range of theories has
been presented, designed to explain various TNC related phenomena according to different
types of market disequilibria, or disparities in the efficiencies of markets. In spite of the clarity
of this perspective, little agreement exists over the application of FDI as a mode of
internalising trade as well as the actual role of TNCs. Some, like Rugman (1981), focussed
on market-closing activities at a transaction level within the TNC. Others, like Hymer (1976),
were more concerned with the ownership advantages of the TNC itself, while yet others,
such as Vernon, focussed on structural disequilibria between countries on aggregated
industry levels, and the opportunities for ‘obsolescing bargain’ (Vernon 1966) and whether there was sovereignty at bay (Vernon 1977). Dunning (1993) argued that, while all market disequilibria theories ultimately involve various types of international activities of vital importance to the TNC, not all are designed to explain the overall activities of TNCs. As Lecraw & Morrison (1996) argued, these approaches are more useful for understanding the problem of becoming a TNC or choosing FDI as one of several options, than understanding the strategies of existing TNCs and current FDI projects. Consequently, as reflected in the previous theoretical elaboration, the market disequilibria theories, often inspired by neo-classical economics, are less relevant to my purpose of understanding current cross border environmental strategies.

From a strategic management perspective, researchers such as Hofer (1975) have also developed a host of deterministic theories that attempt to link organisational activities with a variety of contingencies in the external setting of the firm. I find Steger’s (1993) argument much in line with this reasoning. A common problem with the deterministic perspectives is their reductionist approach. They suggest that only one or a few critical relationships are necessary to explain the operation and performance of an entire TNC. In real life, as subsequently illustrated, the resulting generalisation can lead to a loss of predictive power. Related to this problem is the reduction of the decision-maker to a black box. Managers are portrayed as strictly reactive agents for rational organisational outcomes. The deterministic approach can shed relevant light on specific corporate decisions, but this is not sufficient for understanding what is actually taking place at TNCs’ affiliated units in LDCs. With reference to Roome’s (1992) more evolutionary approach, entrepreneurship can be pursued regardless of prohibiting demand structure and current consumer preferences in relevant markets. This is particularly the case for large TNCs with a sufficiently solid resource base to extend the time horizon and include additional motives to pursue current global commercial strategies. However, Kolk (2000) found that many challenges still remain, and the actual outcomes will vary among different TNCs. Thus, let us try to understand what environmental management is all about, and to what extent this notion, based on individual firms operating within national borders, is applicable to analysing cross border environmental management of TNCs operating in LDCs.

4.4.1 Is environmental management equal to quality management?

The British Standards Institute defines an Environmental Management System (EMS) as (1994:6): “the organisational structure, responsibilities, practices, procedures and resources for determining and implementing environmental policy”. This definition is directly inspired by approaches to Total Quality Management (TQM) systems. According to Netherwood (1995), TQM changed the focus of the organisation from internal to external, measuring performance through customer satisfaction. TQM requires that quality is the responsibility of every individual within the organisation and that continuous analysis is performed, measuring and improving performance through a ‘quality loop’. In a more general form, this process can be illustrated by figure 4.3:
Welford and Gouldson (1993) argue that such reasoning is as applicable to environmental as it is to quality management. However, as elaborated by Spedding et.al (1993), when applying TQM to environmental issues, the customer is replaced by the environment and commercial quality by environmental quality. This results in several challenges. First of all, it is questionable whether EMS initiatives actually benefit the official objectives of environmental protection, particularly as much of the effort initiated by firms is to enhance corporate competitiveness. This relates to the general debate initiated by Porter and van der Linde (1995) regarding whether there is compatibility between environmental and commercial strategies.

A second challenge arising from transferring TQM to EMS is the possibility of replacing customers with the environment. Pearce (1993) documented that, unless it is related to cost calculation or price estimates, the value of environmental degradation is often negligible, even non-existent. If the evaluation is made by the potential polluter rather than the external customer, and political regulation is absent, the drive for change is transferred from external markets to internal corporate dynamics. Consequently, it is the company itself that evaluates whether the EMS is functioning in accordance with objectives, and this creates a rather different dynamic than the market oriented reasoning behind TQM.

Welford & Gouldson (1993) suggested that TQM’s ultimate aim of zero defects could incorporate the concept of zero-negative impacts on the environment. Consequently, there are close parallels between aiming for TQM and efforts to strengthen environmental management in a systematic way through EMS. The challenge of being one’s own judge, however, still remains. One option explicitly discussed later, relates to corporate efforts to expand corporate social accountability through transparency. To give nature a voice, TNCs are promoting dialogue with civic groups to justify their current operations, regardless of activities or locations. TNC representatives propose that such dialogue can create trust. A central concern of this dissertation is whether policy linkages are actually created at affiliated units in LDCs. Linkages made in the international arena, such as the lobbying by business prior to the UNCED Conference in 1992, or subsequent efforts to establish public trust, indicate that a lot still remains to be done. Despite pro-active initiatives and environmental advocacy engaging TNCs and branch organisations in ‘triangular environmental diplomacy’, there remains a need for analysis to establish a greater understanding of what advocacy related to environmental management is all about.
4.5 The character and content of an environmental management system

In order for an organisation such as a TNC to achieve improved environmental performance through a management loop such as the one presented in figure 4.3, responsibility for environmental management must be defined. Furthermore, the TNC must deploy resources to ensure that action is taken on environmental issues, and staff must be trained to become aware of their environmental responsibilities. Subsequently, actual environmental performance must be monitored and audited. Finally, the system of environmental management must be reviewed to improve actual environmental performance. This approach is applicable on a national as well as global level, and thus relevant for understanding the character and content of cross border environmental management. However, as reflected in my second research question, a narrow managerial approach is not sufficient to understand the connections between internal managerial efforts and external environmental and political effects. As previously illustrated, this is particularly challenging as transnational corporate relations are brought into national communities and networks concerned with environmental management. Here lie most of the dynamics of this thesis. Local TNC affiliates are influenced by TNC's control. A question to be answered is whether this influence, understood within the dynamic of cross border environmental management, actually makes a difference. Nevertheless, the basis of such corporate initiatives is an organisational commitment to continual environmental improvement and an environmental policy, the first two stages of a typical EMS, shown in figure 4.4:

![Figure 4.4 An Environmental Management System](image)

The EMS presented in figure 4.4 is inspired by contributions made by Friedman (1988) and Netherwood (1996). However, as subsequently illustrated, the presentation is directly based on findings from the four TNCs previously referred to: Norsk Hydro, Alcan, ICI and Bayer.
a. Organisational commitment to environmental management

Netherwood (1996) argued that the most successful EMS would be found where senior management commitment exists, because this facilitates the adoption of an environmental policy, and its subsequent translation into responsibility and action. This commitment should ensure that time, financial and other resources are allocated to the environmental management process. A statement on environmental, health and safety issues was among the first to be made after the merger between Alcan and Alusuisse. As referred to previously: “Our commitment to safety, health and environmental care is non-negotiable”. However, in reality, many firms find it difficult to realise their commitment. This is particularly challenging with respect to international operations and FDI projects in remote locations with lax regulatory formal requirements, activities that are located far from major markets and environmentally conscious customers. The statements of Norsk Hydro and Alcan indicate, however, that TNCs nevertheless express environmental concern. Environmental policies are often formulated to take a more systematic and complete approach to questions that, to an increasing degree, concern transnationalised civil society. Formal regulations and green consumerism may be weak, but civil scrutiny is more or less demanding that TNCs make commitments to environmental management, often in the form of an environmental policy statement.

b. Adoption of an environmental policy

Friedman (1988) stated that an environmental policy formally outlines an organisation’s commitments to environmental management. In many organisations, a general policy is developed prior to the design and development of particular environmental management activities. In accordance with the ‘loop’ process illustrated in figure 4.3, environmental policies are subsequently revised as information about effects and performance becomes available. An environmental policy is therefore developed as a consequence of environmental reviews. However, this is a continuous process and all the TNCs studied have delayed this step to a later stage, or significantly revised initial policy statements.

Some policies take the form of a short statement, or a few bullet points, while others present achievements with respect to corporate performances. Consequently, it is a challenge to formally identify environmental policies in accordance with the statement of Friedman (1988), as not all TNCs explicitly refer to commitments and explicit environmental policies. The new Alcan presents its commitment as if environment, health and safety issues are non-negotiable, whilst the old Alcan rather referred to visions. Norsk Hydro and ICI both refer to principles and actual practices, while Bayer refers to environmental protection and safety as part of corporate policy. Let me give a few examples. Norsk Hydro states the following environmental principles:101 “We will make care for the environment and for the well-being of future generations the basis of our company policy and decision making” Beyond this general commitment, Hydro includes five concerns in its environmental principles: products, production, research and development, attitude towards public concern, organisation. With regard to products, Hydro makes the following statement: “We will design our products to have minimum adverse effects on the environment throughout their entire life. We will promote the correct and appropriate use of our products to minimise pollution and risks. We will encourage re-use and recycling of our products.”

101 Citations on the environmental principles of Norsk Hydro, drawn from “Norsk Hydro Environmental Report 1997”. 
Concerning the second environmental principle, production, Hydro states: “We will develop and manage activities that make efficient use of energy and raw materials. We will work systematically to reduce emissions to air, water and ground. We will minimise waste and ensure safe destruction or disposal of production waste where re-use or recycling are not practical. We will emphasise care for the environment in our selection of suppliers.” This principle gives a useful term of reference for how the TNC should conduct global activities. As in strategic management theory, focus is set on efficiency. Apparently, Norsk Hydro believes that improved efficiency in the use of energy and raw materials will, at least partly, reduce emissions to air, water and ground. In addition, separate measures, for instance various forms of end-of-pipe technologies, should further limit environmental degradation. It is interesting to see how Hydro is extending efforts beyond traditional methods of combating pollution, by focusing on preventive measures such as re-use and re-cycling. What is even more interesting is the observation that even at this very generic level, Hydro extends its environmental commitment into an explicit concern for suppliers.

One of the core efforts of achieving the environmental aims set for products and processes relates to research and development. Hydro states as a third environmental principle: “We will expand our knowledge of processes and products through research and development to ensure that our solutions are appropriate for the environment in the long term, giving increased benefits from our investment of time and resources.” While the general commitments related to products and processes were made, regardless of constraints, the environmental principle related to R&D explicitly refers to contraints in both time and resources. It illustrates the increased soberness of current environmental policy making, eliminating unrealistic aims and objectives set out in initial policy statements, many of which were published prior to the UNCED Conference in 1992.

Hydro knows that some external stakeholders do not necessarily believe what they are told by the company, they need proof. The firm acknowledges this by explicitly including a fourth principle on attitude towards public concern: “We will demonstrate openness in environmental questions. We will develop and publicise information on all significant environmental aspects of our activities.” Hydro is thus stating that it is committed to behave in a transparent manner. Indirectly, this gives the impression that this is also the responsible way. However, such commitments are not always easily achievable in practice, at least not worldwide. The literature tells us quite clearly that international strategic management does not guarantee a particular performance level, despite specific, even focused, policy statements (Bartlett & Ghosal 1995). Apparently, Norsk Hydro acknowledges this, as the final environmental principle is explicitly focused on organisation: “We will work actively to increase the organisation’s awareness of environmental issues and of the significance of our activities for the environment. We will encourage the individual employee’s involvement in environmental work. We will emphasise that all levels of Hydro’s management share the responsibility for integrating the company’s environmental principles into long-term objectives and strategies.”

Through a more coordinated use of human resource management, Hydro aims to promote what is obviously perceived as mutually reinforcing aims of commercial and ecological success. Focus is placed on environmental responsibility. However, the operating principles remain commercial strategies that are already well developed wherever the firm is operating and wherever products are marketed. Hydro is focusing on re-use and recycling, but the internal organisation is still asked to include environmental principles in corporate strategies. Traditional corporate strategies are complemented and extended by
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environmental solutions. This is a significant challenge with regard to how, and to what extent, environmental responsibility will be promoted aboard.

As in the case of Hydro, the evolution of Alcan’s integrated environmental management was initiated as early as the late 1970s with a published environmental policy. However, as with the other TNCs that I have studied in detail, the integration of environmental management into the day-to-day operations did not occur until the 1990s. Following an extensive management review that resembled the management loop presented in figure 4.3, the policy statement was revitalised in 1997 to focus attention on the proclaimed benefits created by aluminium use. Compared to Norsk Hydro, Alcan’s policy is much more focussed on aluminium. Alcan went along the strategic path from merely focusing on minimising damage into maximising commercial opportunities in what they perceive to be an environmentally responsible manner. Their environmental policy is phrased as a vision, stated as follows.102

Protection of the environment is a high priority for every Alcan employee. This objective requires our full cooperation in a continuing effort to improve our products and production processes. The unique properties of aluminium provide opportunities that conserve energy and resources, and thereby reduce a product’s environmental impact over its life-cycle. Aluminium’s high strength to weight ratio, corrosion resistance, thermal and electrical conductivity, barrier properties and economical recyclability make aluminium an environmental choice for a wide range of uses. Full integration of environmental performance with our health and safety, quality and cost objectives ensures our competitive position.

The vision statement of Alcan sets out three important priorities for achieving Alcan’s environmental goals in the next century: a commitment from every Alcan employee to continuous improvement, a determination to capitalise on aluminium’s unique properties, and a pledge to make environment equal to other business objectives. Accompanying the vision statement, Alcan has published a number of guiding principles to manage global operations:

− work with suppliers and customers to design and manufacture products that take full advantage of aluminium’s properties through their life-cycle.
− use world class practices in existing operations and incorporate, in new plants and processes, technologies that meet social, economic and environmental demands.
− communicate with employees, consumers, communities, businesses and government to achieve greater environmental understanding.
− comply with legal requirements and, where appropriate, use more stringent internal standards based on our expertise.
− make effective use of environmental management systems that continually improve our performance consistent with defined goals.
− respond effectively to environmental emergencies with highly trained response teams and through agreement with others.

Compared to Hydro’s principles, Alcan’s are more demanding and more specific. This can partly be explained by the corporate structure of Norsk Hydro being more diversified. A fair comparison should obviously have included the more specific environmental principles developed by Hydro’s light metal division. Nevertheless, it is interesting to note that Alcan appears to be more focused on external stakeholders than Norsk Hydro. While Hydro focuses on projecting a forthcoming attitude towards the public, Alcan seems to be concerned with establishing a better understanding among suppliers, customers, communities, businesses and governments. Another interesting observation is the somewhat broader approach applied by Alcan, as state-of-the art technologies are not only deployed to meet economic and environmental, but also social demands. The boundaries of Alcan’s commitments are extended beyond concerns for nature, into a concern for society in general.

102 Statements are taken from Alcan’s homepage: http://www.alcan.com/Environment.nsf/Topics-E/Policy
Based on studies of environmental reporting prior to 1998, an equivalent reasoning was not found in Norsk Hydro’s statement of environmental principles.103

All the TNCs referred to have been scrutinised in one way or another. Achieving stated environmental commitments is obviously difficult. This is especially the case with those firms who have not having adequately thought through the practicalities of actual implementation, both in terms of resources required and the difficulty of incorporation into the organisation’s existing management structure, both nationally and globally. Concerns can increasingly be related to three dimensions: product, production and safety issues. Needless to say, this is particularly the case for LDCs’ activities and the challenge of strengthening cross border environmental management. Consequently, as public scrutiny and civil regulation are strengthened through an increasingly transnationalised civil society with access to new information and communication technologies, a more global approach to reviewing environmental effects is needed by those TNCs that have actually made environmental commitments.

c. Review of environmental effects

Alcan, Norsk Hydro and Bayer strengthened environmental commitments in times of relative stability in terms of corporate assets. This was not the case for ICI. As presented in chapter three, dramatic changes have dominated ICI during the 1990s. Whilst Bayer, Alcan and Norsk Hydro are still involved in traditional business activities, ICI redefined its core business activity from being a bulk chemical manufacturer to being a producer of speciality chemicals. Bulk chemical production means pollution, and, as a result, several pollution intensive business segments have been sold. The ICI businesses are currently closer to the customer, as higher value products are produced and marketed. New corporate challenges have been created and new reviews must be made, particularly in terms of increased customer orientation and product stewardship initiatives. However, the change also signifies that ICI, who has increasingly outsourced and sold raw material producing units, must further extend the scope of its environmental concern. At least this will be the case if the firm is to comply with its own environmental policy commitment:104 “provide appropriate safety, health and environment training and information for all our staff, contractors and others who work with us, handle our products, or operate our technologies.”

Traditionally, environmental reviews provide a superficial and brief overview of the environmental performance of an organisation, in terms of issues such as existing provision of environmental management, accident and emergency planning, environmental effects, legislative requirements, production processes, purchasing, products, waste minimisation and communications. The data produced from the review should enable realistic policies and recommendations to be developed that are relevant to the particular issues, impacts and objectives of the organisation. However, as commitments are strengthened, review procedures must also be strengthened and often extended. Environmental reviewing and reporting have been strengthened, as exemplified by the “Environmental Burden Report”.

Firms vary when it comes to actual environmental reviewing procedures. Some concentrate solely upon economic indicators relating to various environmental issues such as emissions, energy consumption and waste generation. Others include more indirect effects,
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including activities of subcontractors and customers. Increasingly, reference is made to political effects, particularly when proposing trade measures to strengthen international environmental regimes like the Basel Convention. ICI took an interesting approach by stating: “ICI opposes the use of trade measures as a general means of promoting environmental protection, but recognizes the need for a limited number of Multilateral Environmental Agreements to address exceptional environmental issues which have a significant implication for the global environment”. The propensity of ICI to support market impeding trade measures is limited, but not generally negative. This can have implications for the dynamics of the triangular environmental diplomacy, particularly in the international arena.

ICI’s “Environment Burden Report” focuses on seven generic physical impacts relating to acidity in air and water, hazardous air emissions, aquatic oxygen demand, aquatic ecotoxicity, ozone depletion, global warming and photochemical ozone creation. Specific disposals to land, air and water are presented. In the case of on- and off-land disposals, the report distinguishes between inorganic compounds, metals and compounds, and organic compounds. In the case of emissions to air and water, ICI distinguishes between acid gases and acids to water.

The depth of an environmental review may vary from being a comprehensive review of all aspects of the organisation’s environmental performance to more fragmented studies. What we define as ‘all aspects’ is, however, even challenged by the TNCs themselves, as external concerns are increasingly becoming included. This is illustrated by Bayer’s 82 pages long “Responsible Care Report” of 1999, where 11 pages are dedicated to product stewardship and the environmental performance of distributors and customers. A further 10 pages are dedicated to dialogue, not only with Bayer employees, but also increasingly with external stakeholders. As stated by Bayer: “in this age of global networking, new and ever more rapid means of communication facilitate frank and objective dialogue with staff and general public”. Some firms use external consultants, and this is the case for all the TNCs I have studied. However, the geographical scope of third-party verification varies. In the case of the Responsible Care Report of 1999, Bayer asked Arthur D. Little to provide a review. The report contains data on 170 production sites, but the review conducted by Arthur D. Little took the form of random “inspections” at six of the sites included in the report, of which only plants located in Europe (Wuppertal-Elberfeld (Germany) and Antwerp (Belgium)) were visited. The remaining four, located in France, Brazil, South Africa and the US, were studied by means of telephone interviews. External verification underlined the limited scope and approach, but stated: “the company [Bayer]…remains true to its own commitment to seek continual improvements”.

Regarding more in-depth reviews of actual affiliated units in LDCs - subsequently defined as ‘environmental audits’, all comprehensive data collection and specific studies are still carried out by internal staff. Although I found some minor initiatives such as inviting local societal groups to comment upon current external societal activities, and even propose

105 The Basel Convention relates to international trade measures to eliminate trade in hazardous wastes between OECD and non-OECD countries.
106 Speech made by David Wakeford, ICI, at a Trade and Environment conference at the Royal Institute of Royal Affairs, 11 April 1997.
107 For further details, see http://209.237.161.34/environmental/perform/perform_eb.htm
108 For further details, see http://209.237.161.34/environmental/perform/perform_eb_land.htm
110 For further details see http://www.adlittle.com/about/index.asp
changes and improvement with respect to local procedures and dialogues, global environmental reviews are made as an intra-firm exercise. As stated by the Group Environmental Manager of ICI Paints: “Internal approaches are normally chosen to ensure a better understanding of the actual environmental performance”. However, this is becoming increasingly more difficult. Contracted work like that conducted by Arthur D. Little is initiated, but excludes a more thorough study of FDI projects in LDCs. This is still left to the TNC and the cross border environmental management procedure.

d. Revision of environmental policies

Bayer invited Arthur D. Little to confirm whether the environmental initiatives were creating improvements in environmental management and practices. According to their statement, Bayer is learning, illustrating the continuous need not only for improvements but also for revisions to particular commitments. However, the findings of an environmental review, regardless of whether it is externally verified, do not automatically translate into action. Policy statements may be revised, but such revisions are often carried out as a consequence of actual corrective action. This is illustrated in figure 4.4. At this initial stage, many firms find themselves struggling both for direction and resources, and corporate managers shelve the review findings because there is no mechanism to implement practical environmental management initiatives. The findings of the review must therefore be incorporated in a systematic manner to facilitate action, improvement and performance measurement. It is a general impression that current revisions to environmental policies are performed rather as a consequence of ‘management loop dynamics’, illustrated in figure 4.3, than as a consequence of initial reviews as illustrated in figure 4.4. Despite presenting the Environmental Burden Report of ICI and the Responsible Care Report of Bayer as initial reviews, these recent reports are actually the outcome of previous policy commitments promoting transparency and dialogue with the general public.

Thus, when understanding current efforts relating to TNCs operating in LDCs, revisions to environmental policies could, in a way, represent the initial and final stages of efforts to promote continuous improvement. This is also the reason why the arrows in figure 4.4 indicate a loop from the final reporting stage (which to a large extent can be related to the Environmental Burden Report of ICI and the Responsible Care Report of Bayer) back to the stage of revising current environmental policies. During the 1990s, all four TNCs studied made significant efforts to refine environmental policy. As a consequence, extensive documentation has been produced, more or less accessible to the public, indicating actual improvements in policy and practices. This sounds rather mechanical. The general challenges of international strategic management, remind the reader of the challenges of fulfilling environmental commitments stated by TNC HQ. As indicated in figure 4.4, one remedy increasingly acknowledged by TNCs expanding activities in LDCs, is the need for strengthened training procedures. Traditionally, the aim is internal employees and most of the efforts are limited to employees working at locations in the home country. However, efforts are being extended, as firms are becoming more transnationalised in their environmental policy orientation. With explicit reference to the research questions, however, investigations should be made into whether employees at LDC plants are also recipients of such training initiatives.

112 According to Dr. Richard Robson, Environmental Communication Manager, ICI, on 27 May 1997.
e. Training

An EMS includes revision of environmental policies. However, this is normally undertaken as a result of actual implementation. Consequently, reviews must rather be followed up by training initiatives to cope with the challenges identified in the reviews conducted. As part of the environmental principles, Norsk Hydro states: “We will encourage the individual employee’s involvement in environmental work. We will emphasize that all levels of Hydro’s management share the responsibility for integrating the company’s environmental principles into long-term objectives and strategies”. Implicitly, this is largely a question of training. ICI is more explicit: “In particular we will: provide appropriate safety, health and environment training and information for all our staff, contractors and others who work with us.” As for any new issue introduced, the success of the EMS is very dependent upon training to encourage an understanding of the issues involved among employees, and to develop an understanding of their role and responsibilities within what can be termed “the greening process”. Roome (1992:15) suggested: “the improvement of managerial systems needs to recognise the value of building the belief and commitment of the workforce to an environmental policy”. What I suggest is that these training efforts can even be extended beyond the project specific linkage of FDI and the environment. The question is how this can be pursued. According to the reasoning of Ghosal and Nohria (1993), transnational control can be pursued through elements of centralisation, normalisation and normative integration, through various forms of socialisation. If normative integration is combined with a differentiated fit, training initiatives with respect to environmental management can easily be realised beyond project specific equity interests.

A policy related linkage between FDI and the environment is also related to the general external perception of a firm’s behaviour. To enable the change in environmental commitments and organisational culture that is required for successful environmental control, training can play a key role in increasing the general public’s awareness of environmental issues, and achieve a certain degree of understanding of issues such as energy, waste management techniques as well as recycling. Netherwood (1995) argued the importance of training taking place at all levels in the organisation. It should include senior management, who hold key positions for allocating resources to environmental management, middle managers, who are affected by environmental issues on a daily basis, and other staff who have influence on the processes and practices of the organisation that affect the environment. However, no reference is made to such dialogue with external stakeholders. However, what actually happens remains to be verified, as more specific case studies will be conducted later.

Gilbert (1993) stated that the establishment of an environmental training programme is essential in order to remove suspicion towards environmental management among other corporate personnel, and to facilitate the change in management strategies necessary for environmental improvement. This can be forced through a structurally uniform cross border environmental management scheme. However, the literature suggests that normative integration into new values will create more lasting results (Bartlett & Ghosal 1995). But what about external suspicions and civil scrutiny? Perhaps an increased involvement of TNCs in environmental policy communities relating to particular FDI projects in LDCs could reduce this scrutiny? Is this reasoning also relevant for understanding efforts made by several TNCs, including Norsk Hydro, to become more committed to the Global Compact initiative of the UN?
Norsk Hydro has made a lot of effort to cultivate relationships with the local communities in which they operate. The firm is mainly based in Norway, and in Holmestrand for example, the Rolled Products Division has established close working relationships with its neighbours and holds regular meetings with them. By the end of the 1990s, however, Norsk Hydro had become increasingly transnationalised. Norsk Hydro recently became involved in Utkal Alumina International (UAIL) in Orissa, India. Here, Norsk Hydro has a 45 percent ownership stake in the project. At UAIL, explicit efforts have been made to strengthen relationships with local communities. Training schemes have been initiated to create sustainable social-economic systems within the local communities affected by the project. Policy communities are constituted through the need for training. At the same time, the bauxite/alumina project is challenged by those questioning the general viability and sustainability for local communities, and the project is disputed. However, efforts are being made to extend training schemes into the external localities where FDI projects are initiated. The case of UAIL confirms the need to approach TNCs and FDI in LDCs as more than merely an investment and location issue causing certain specific environmental effects. This is the traditional way of viewing the linkage between FDI and the environment. TNCs are promoting environmental and social advocacy. A major reason for the current protests against UAIL was the initial decision of Norsk Hydro to delegate community affairs to local management. These local Indian officers had not been subject to the dynamics of cross border environmental management, and no effort was made to promote any form of normative integration. A key principle embedded in the dynamics of environmental management at local or global level, is allocation of responsibility.

113 For further details, see: http://www.fivh.no/norwatch/index.htm
114 For further details on initiatives presented by Norsk Hydro, see: http://www.hydro.com/hits/oslo2067.nsf/AllById/E565F5054ADE5A6412569AE003CADE4

f. Allocation of environmental responsibility

Policies are defined and subsequently revised. Nevertheless, corporate staff may deny responsibility or ‘pass the buck’ on environmental issues. This was very much the case in the Union Carbide tragedy in Bhopal in 1984. To ensure that policy is implemented, clear management responsibilities need to be defined for all involved, including those involved in environmental reviews. According to Gilbert (1993), the ultimate aim should be the integration of environmental responsibilities into job descriptions and performance measurement. All the TNCs underline that each member of staff should be clear about why he or she is carrying out environmental management responsibilities. This again emphasises the importance of training, but for our purpose, we need to extend the perspective into considering the various alternatives for governing globally dispersed corporate units, as presented by Ghosal & Nohria (1993). However, actual integration into day-to-day procedures is often ‘forgotten’, as more urgent commercial matters must be dealt with. According to Netherwood (1995), responsibilities should ideally be allocated during workshops and departmental meetings that concentrate on the implications of environmental review, rather than be tagged on to the end of meetings under ‘any other business’. Gilbert also stresses the importance of recording these responsibilities to ensure that they are not forgotten, and also so that they are auditable and not lost in restructuring and personnel changes. Again, no reference is made to external stakeholders. The focus is internal, even limited to for instance a particular plant in the UK.
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Environmental managers at individual plants may find that they have no power or authority to actually get things done because the lack of senior management approval seriously limits the opportunities available to promote further industrial ‘greening’. The authority factor also has significant implications for the status of environmental management within an organisation. This is perhaps even more important within larger and global entities such as the TNCs I have studied, promoting a strengthening of cross border modes of environmental control.

It is also important that there is a mechanism to ensure that managers actually fulfil their environmental responsibilities. This can be ensured by defining a number of performance outputs, derived from the responsibilities of each individual, for example the provision of documentation, or the provision of information to other staff, which also facilitate the later stages of the EMS.

g. Setting of environmental objectives and targets

Organisations need to define, based on environmental review, a set of objectives and targets that are realistic and attainable. They should be sufficiently short-term to be of some significance, and sufficiently long-term to enable effective measurement of environmental improvement. British Standard 7750 defines environmental targets as: “detailed performance requirements, quantified wherever practicable, applicable to the organisation or parts thereof, that arise from the environmental objectives and that need to be set and met in order to achieve those objectives.” Gilbert (1993) suggested that targets should be demanding in order to provide motivation, satisfaction and a sense of achievement when they are met. In practice, this balance may be difficult to achieve. However, what Gilbert does suggest is that each individual concerned with environmental management throughout the organisation should have a set of targets and goals to achieve. These can be set at workshops with representatives from every level of the organisation, where all staff work out what is achievable within a given period of time, how it will be achieved, and how it will be measured and documented.

In 1990 ICI, as part of specifying their new environmental strategy, set four environmental objectives, relating to: new plants, waste reduction, energy efficiency and recycling. The objectives, including more specific targets, were formulated as follows:115

− ICI requires all its new plants to be built to standards that will meet the regulations it can reasonably anticipate in the most environmentally demanding country in which it operates that process.
− ICI will reduce wastes by 50 percent by 1995, using 1990 as the baseline year. The company will pay special attention to wastes that are hazardous. In addition, ICI will try to eliminate all off-site disposal of environmentally harmful waste.
− ICI will establish a re-vitalised and more ambitious energy and resource conservation programme with special emphasis on reducing environmental effects so that we make further substantial progress by 1995.
− ICI will encourage recycling within its businesses and customers.

As a direct outcome of these efforts, the work leading up to the Environmental Burden Report was initiated. The targets set in 1990 were general and all encompassing. As illustrated by the fourth target, product stewardship was one of ICI’s concerns. In 1995, ICI initiated a follow-up of the 1990 objectives by defining what they termed “Challenge 2000”. The goal was to halve the environmental burden of their operations worldwide with respect to those categories listed in the Environmental Burden Report: Ecotoxicity, Aquatic Oxygen

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Demand, Acidity and potentially hazardous emissions to air. In addition, ICI set a target for improving energy efficiency per tonne of production by 10 percent, by 2000, compared to 1995. As subsequently verified by the Environmental Burden Report, published in 1999, as a direct outcome of the 1995 redefinition of environmental targets, a much more specific approach was undertaken, one reason being directly linked to the need to develop a more specific action plan for ICI’s global activities.

The approach chosen by ICI is very scientific and technical, including almost incomprehensible calculations of actual environmental loads, or what they term ‘burdens’. Norsk Hydro has chosen a more general approach, arguing that eco-efficiency is not a contradiction in terms. There are more references made to environmental achievements compared to those presented by ICI, but similarly specific targets are not set. Nevertheless, in the case of light metals, Norsk Hydro sets similar, albeit less specific targets or goals, for the period 2001 – 2005:

- increase the use of environmental criteria as a basis for design of light metal applications and products
- be a global player in the recycling and remelting of light metals
- fulfil the Norwegian aluminium industry’s voluntary agreement for a 55 percent reduction of specific greenhouse gas emission by 2005
- eliminate SF6 emissions in magnesium coating
- develop an improved disposal solution for spent pot lining at aluminium plants
- establish the technology basis to achieve BAT emission at the Porsgrunn magnesium plant

While ICI has sat the target at a 50 percent reduction in various emissions, some of the targets set by Norsk Hydro are more intentional, referring to environmental criteria as a basis for certain light metal applications and products. Furthermore, explicit reference to commercial strategies is stronger as Norsk Hydro aims to become a global player in recycling and remelting. This might appear paradoxical, as Norsk Hydro is significantly less transnationalised than ICI, but this perhaps reflects the general strategy of the company to become a global player, even in the field of environmental management. This is also the aim of “new” Alcan, which explicitly states that: “Equally important is our unwavering commitment to safety, health and the environment”. As later referred to when analysing ‘old’ Alcan’s activities in Jamaica, specific targets on environmental management were developed. However, no specific targets are specified by the new Alcan. In order to achieve specific targets, an explicit action plan must be developed and implemented, as subsequently illustrated with reference to Jamaica.

h. Development of action plan to achieve environmental objectives and targets

An action plan should be created to implement recommendations from reviews and to meet objectives and targets. This should be well defined, with appropriate procedures, responsibilities and measurement mechanisms identified. I approached ICI in 1996, at a time when the four objectives set in 1990 were being compared to actual performance in 1995. When assessing these targets, ICI found that all new plants had been built to meet the first objective referred to in the previous section. Referring to the second objective of reducing wastes by 50 percent, hazardous wastes had been reduced by 69 percent. However, non-hazardous wastes had been reduced by mere 21 percent, meaning that total wastes had been reduced by merely half the target. However, regarding the less specific objective on

116 For further details, see: http://209.237.161.34/environmental/perform/perform_eperform.htm
117 For further details, see: http://www.alcan.com/
energy efficiency, energy consumption relative to production volume was almost 18 percent better than in 1990, and an increasing number of ICI’s products were re-used or recovered and recycled.\textsuperscript{118} Progress had apparently been made.

Piasecki (1995) argued that the Bhopal tragedy was the environmental equivalent to Pearl Harbour in as much as it triggered a violent wake-up call that shook many nations and firms. Fifteen years later, the mere mention of Bhopal at public meetings sends some chemical firms running for cover. At the same time, this triggered initiatives such as the GEMI and voluntary code of conduct guidelines proposed by CMA. For Union Carbide, in particular, the Bhopal tragedy was also a trigger that forced the firm to take rapid action. A radically different action plan was developed, not only to find remedies in India, but also globally. This was particular the case eight months later when a similar, though less devastating, release occurred at the Institute plant in West Virginia, USA. Arthur D. Little was hired to reorganise the company’s entire environmental review process, and a new vice president was appointed to strengthen the environmental review process (Piasecki 1995). However, rather than merely strengthening environmental reviews, what he proposed was a radical restructuring of the environmental audit procedures. Another way of interpreting these initiatives is to say that new efforts were made to strengthen the cross border environmental management of Union Carbide.

It is important to keep in mind that environmental action plans must be understood within the context of general commercial priorities. According to ICI representatives, the new Challenge 2000 approach, that began in 1995, turned ICI into an ‘environmental advocate’.\textsuperscript{119} At the same time, however, this TNC embarked upon another action plan to radically restructure the whole company from being a bulk chemical manufacturer to a manufacturer and marketer of speciality chemicals of higher value and lower environmental burden. External observers confirmed that ICI, through their environmental initiatives during the 1990s “do a good, honest job”\textsuperscript{120}. It is important, however, to keep in mind that a significant share of the improvements measured in 1999 is a function of divestments of pollution-intensive and even obsolete business segments in bulk chemical manufacturing. The implication is that significant improvements in reducing hazardous waste volumes are not equally reflected in the general wastes generated by the remaining segments relating to speciality chemicals such as paints.

\textit{i. Operational environmental control}

Gilbert (1993) stated that this part of EMS should include a documented set of practices, procedures and systems to ensure that all environmental management activities and the achievement of relevant objectives and targets are carried out under controlled conditions. Much of the previous discussion regarding corporate environmental strategies is related to this level of reasoning. Steger (1993) only indirectly referred to operational environmental control, as he was concerned with market opportunities given the environmental character and risks of the firm in question. My own, more evolutionary approach, is more compatible with the reasoning of Roome (1992), as he extended the issue to include these internal

\begin{footnotesize}
\textsuperscript{118} Information has subsequently become available in the latest environmental report from 1997, but I obtained this through an interview with Dr. Richard Robson, Environmental Communication Manager of ICI plc on 27 May 1997.

\textsuperscript{119} Stated by David Wakeford, the International Trades Manager of ICI, on 28 May 1997.

\textsuperscript{120} Stated by Peter Knight, an independent consultant commissioned to write the 1995 Safety, Health and Environmental (SHE) report.
\end{footnotesize}
challenges, including challenges of institutionalising appropriate, efficient and competent control of environmental operations. What makes my approach somewhat different to Roome’s, however, is the fact that those subject to environmental management are embedded in a transnational corporate universe that applies various forms of environmental control.

Operational control is the first measurement and verification of whether or not what is meant to be done is actually initiated according to plan. This is relevant both for local firms or TNCs. However, it may be challenged due to the chosen governance structures and particularly if a more differentiated fit is chosen. Furthermore, operational control implies that corrective measures are taken if this is found not to be the case. However, the capabilities of polluting TNC affiliated units in LDCs to actually take corrective action, and the likelihood that they will do so, will vary depending on the form of transnational control and the particularities of cross border environmental management. Few argue that Union Carbide’s ownership made any significant difference at the Bhopal plant in 1984 (Shrivastava 1987). However, as a direct result of the revitalisation of global EMSs, remaining affiliated units within the corporate universe of Union Carbide were by no means left to adapt to local procedures and practices. These units are still owned by Union Carbide, or today Dow Chemicals, but what has really changed is the character and form of transnational mode of control - the specific procedures of cross border environmental management. The differentiated fit has been substituted by a more centralised approach that promotes structural uniformity. A question that remains is whether normative integration is promoted in an attempt to sustain efforts to strengthen cross border environmental management.

As illustrated by Netherwood (1995), clear documentation should facilitate operational environmental control. Ideally, such documentation should also introduce employees, even at affiliated units, to the EMS. Furthermore, such an initiative should clarify their responsibilities, indicate which records are to be kept up to date, and describe the procedures for carrying out environmental management activities. Operational environmental control should also facilitate definition of training requirements, and provide the basis for subsequent stages in EMS, such as the audit, review and evaluation of EMS as well as provide ‘proof’ to customers that EMS is functioning properly. Many firms develop a management manual to cover all these functions and requirements. These can be rather specific, as illustrated by an example taken from my empirical findings:

ICI’s environmental guidelines on waste management

All affiliated ICI units should have arrangements for proper management and disposal of waste, and for the maintenance of records of all solid, liquid and gaseous wastes. These guidelines are only recommended, not mandatory. If the affiliated unit comply with the guidelines by other means, this is fine, but information obtained from local staff at the various plants in India indicated quite strongly that the guidelines were, in practice, actually considered to be mandatory.

The general principle for all waste streams from an affiliated plant is that they should be identified, characterised and qualified. Furthermore, it is a principle that waste streams should be disposed of in accordance with specific technical guidelines, including particular concepts

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121 Which did not include activities in India, as all equity interests were divested by 1991.
122 Information on ICI’s environmental guidelines was provided by ICI India’s former Environmental Manager, P.J.Nag, during various interviews in the spring of 1996.
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of effluent treatment. Finally, it is stated as a principle that the impact on the environment of ICI’s waste disposal operations should be kept to a minimum practicable level, by using waste minimisation and by appropriate choice of disposal techniques, contractor disposal routes and sites. ICI’s waste management guideline also focuses on accountability. The production and disposal of waste streams do not normally contribute to profit. It is unlikely, therefore, to receive adequate attention unless appropriate costing structures are in place. The cost of disposal of waste streams should be charged directly to the product causing the emission. Therefore, it should constitute part of the plant’s standard costs. The level of charging should be sufficient to ensure the availability of funds and resources to provide an adequate disposal service. The activities of sites and business managers should include developing schemes aimed at reducing disposal costs, including reducing the size of waste streams for disposal.

The example of ICI’s waste management guidelines, introduced in the beginning of the 1990s, illustrates how corporate HQs are increasingly defining the scope of acceptable environmental behaviour at affiliated units, regardless of location. These efforts, however, do not merely focus on plant specific cases. Some waste is not handled on-site at the plant. Contractors are asked to dispose of certain wastes. Suppliers are also equally included in TNCs’ corporate concerns. According to corporate environmental standards developed by all the TNCs studied, reviews of the environmental performance of both suppliers and contractors would be conducted. This is to ensure that competent contractors are selected, monitored and supplied with sufficient information to ensure that the health and safety of their employees is not placed at risk through TNC activities. When referring to contractors, it is assumed that this obviously refers to persons working at TNC plants, but information gained from representatives of all the TNCs studied, confirms that this equally applies to activities outside the plant facility.

Examples of actual operational environmental control guidelines shed no light on whether or not more specific focus is set on external and physical environmental issues - for instance where contracted waste management firms actually dispose of TNC waste. However, this is somewhat better covered when referring to suppliers and the question of purchase and supply of raw materials, equipment and services. A more thorough discussion of this is provided in the chapters on bauxite-alumina production in Jamaica and cross border environmental management in India.

j. Environmental audits

In the wake of the Bhopal tragedy, Union Carbide undertook a mission to ensure that such an incident could never happen again. This was done partly by strengthening current practices, and partly through divestment. ICI has not experienced such a tragic incident as Union Carbide. Nevertheless, it initiated similar actions. With respect to strengthened practices, in the case of both Union Carbide and ICI, explicit focus was placed on environmental management, and particularly environmental control, through auditing. This was done through normalisation initiatives to keep the parent company more in touch with the remaining portfolio of global manufacturing activities. The question to be discussed subsequently is whether or not that actually came to pass in Jamaica and India.

Environmental auditing takes place at various levels, but normally refers to three basic types of control procedures: operational, specialist and management audit. The operational audit is a systematic check to establish whether all activities are being carried out in
accordance with the current management system. This audit can also be termed as a
’systems compliance audit’. The specialist audit is a specific, periodic, in-depth examination
of the adequacy of particular aspects of the management system and its implementation
versus specified environmental standards and the so-called ‘recognised best practice’. The
management audit is an overall assessment of the effectiveness of management’s
implementation of the environmental standards set by the TNC in question. What is of
particular relevance in this study is to focus on audits that deal with the organisational
structure, environmental roles and responsibilities, and the procedures to operate and
manage local activities. Furthermore, it is relevant to audit the activities and processes
involved in environmental management and the operating procedures and records used to
improve the environmental performance of the organisation. The audit can be carried out
internally or externally, but a general requirement is that there is a degree of objectivity
involved in the exercise. In other words, the auditors will need to be independent of the areas
being audited. Netherwood (1996) argued that there can be problems at this stage of EMS,
similar to those experienced during environmental reviews, in that there is resistance to
interference and a reluctance to be identified as an individual or department that is failing the
organisation. This was exactly the case for Union Carbide, but it did not prevent the company
from proceeding, despite a lot of "bloodshed".

According to mandatory standards among the TNCs I have studied, formal auditing
procedures must be defined and implemented in order to ensure that systems adopted to
meet these standards are soundly implemented, maintained and observed. Deficiencies
identified during audits must be formally recorded, their implications assessed and corrective
actions prioritised and acted upon. To comply with environmental standards, specific
guidelines for the audit of management systems have been developed. When discussing the
auditing procedures, I found that the companies all refer to ‘recognised best practice’. When
asked about the actual significance of this, I was told by corporate informants that this refers
to the body of knowledge contained in national and international standards and codes of
practice, group or industry guidelines, professional knowledge, experience from past events,
and similar sources that require professional judgement in their application. Apparently, the
concept of “recognised good practice”, despite being used as a term of reference, is not
really a specific operational guideline, but rather a reminder that the firm should do the best
possible in a given situation. As made clear in table 4.2, the actual codes of conduct
proposed by various business organisations vary. TNCs permit themselves to make certain
allowances for international differences in the practices adopted by affiliated units.
International standardisation of EMS within a particular TNC obviously allows some national
responsiveness and differentiated fit. However, as I will illustrate later, the “proof of the
pudding lies in the eating”.

k. Corrective action

My general findings indicate that there is a genuine desire and feeling of responsibility to
become more publicly accountable in terms of environmental protection. The actual
procedures vary, but increasingly, companies are publishing statements on planned
improvements and fixed targets, and providing data on actual improvements. Furthermore,
environmental reports include external review, such as Arthur D, Little’s in the case of
Bayer’s Responsible Care Report of 1999. Deloitte & Touche examined the Environmental
Report of 1999 made by Norsk Hydro. However, the review made by Bayer was limited to a
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The approaches chosen by TNCs vary, but there is, without doubt, an increasing tendency to acknowledge mistakes. As stated in ICI’s 1998 SHE report: “In 1998 we were prosecuted four times for infringements of the law. This compared to 11 times in 1997”. All the prosecutions were related to European and mostly UK based operations, particularly in Runcorn and on Teeside. Furthermore, it is interesting to read the following statement: “We are embarrassed by our shortfalls in performance and apologise unreservedly for all unintentional releases... All incidents are treated very seriously, investigated fully and any lessons shared across the ICI Group, and where appropriate with other companies”. ICI is publishing commitments to learn from and correct mistakes, and these corrections are not necessarily limited to formally affiliated units in the UK or abroad. One way of interpreting these commitments is to argue that ICI is positioning itself in a role as environmental advocate, as explicit confirmed by an ICI officer. This might have further implication for triangular environmental diplomacy.

Data on corrective actions are difficult to get access to, and most of it relates to initiatives belonging to the subsequent and final stage of the environmental management system, the final reporting of environmental performance compared to environmental commitments. However, as illustrated by the case studies from India, this is a continuous learning process. EMS is, to a very large extent, functioning as illustrated in figure 4.3 - a management loop containing elements such as thinking, planning, doing and measuring.

I. Report environmental performance internally and externally

Environmental reporting is taking place throughout the business community. A striking feature of most initial reports is the limited geographical scope. Whilst Norsk Hydro, in 1989, was among the first to publish an environmental report, it took many years before global activities were more thoroughly included. This is, of course, partly a reflection of their limited global reach in terms of FDI location. However, Norsk Hydro has been involved in global markets as a trader for many decades. Alcan is more transnationalised, and this is also reflected in their environmental reports. However, these issues were not thoroughly included until 1997, further confirming the recent emergence of global environmental reporting. Bayer subscribed to the Responsible Care Principles in 1994, but it still took three years before environmental reports focused on LDC activities thoroughly. Still, actual concerns relating to external reviews outside the OECD region are limited. However, the scope has increased as Arthur D. Little, albeit by telephone, contacted Bayer plants in South Africa and Brazil, further reflecting efforts of strengthening global environmental control of affiliated Bayer units in LDCs. As with Norsk Hydro, ICI was among the pioneers in publishing environmental reports. However, as in the case of Norsk Hydro, most of the concerns are related to home country locations. However, with the SHE Challenge 2000 announced in 1995 and subsequent environmental burden reporting in 1999, a more general and thorough approach is now

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125 David Wakeford, op.cit.
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4.6 Cross border environmental management - formulation or implementation?

The debate between evolutionary and deterministic perspectives on environmental strategies can serve as a backdrop to the ongoing conceptual developments in the field that has been called ‘international strategic management’. Hofer (1975) argued that international strategic management is fundamentally concerned with the establishment of organisational goals, strategies, structures and control mechanisms. Lecraw & Morrison (1996) argued that the debate could be classified into two broad themes: strategy formulation (including both the process of formulation and actual strategy content) and strategy implementation (including the design of the organisational structure and the selection of ownership and control systems). Let me illustrate this with the following empirical reference: “this TNC...subscribes fully to the concept of sustainable development. Our contribution to help realise the concept today is to apply our innovative technological and engineering skills to produce new products with lower environmental impact and more product from less raw materials, more efficiently”.126 The statement reflects strategic environmental choices, but is it appropriate for implementation?

Chandler (1962) argued that most early research on international business strategy recognised the difference between the strategy of the firm and the organisational structures used to implement this strategy. Chandler’s conceptualisation of strategy as broad patterns of organisational behaviour, provided much of the foundation for a further stream of research, such as the work of Ansoff (1965), who focused on the strategy formulation process, the content of strategies and the nature of strategy-structure linkages. Perhaps the most notable planning framework is that developed by Lorange (1976), which focused on the adaptation and integration requirements for TNCs dependent on a variety of organisational types ranging from worldwide product divisions to geographical areas. Means of balancing the costs and benefits of adaptation versus integration were suggested during different stages of planning. I will argue that Lorange’s work made important and relevant contributions by explicitly recognising the tight linkage between a TNC’s strategy and its structure.

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Furthermore, this work recognised two broad and conflicting imperatives that face TNCs: adaptation of the organisation at the local level to meet host country conditions, versus international integration of TNC activities, irrespective of local conditions. Another way of approaching these issues is by referring to the various forms of corporate governance, as elaborated by Ghosal & Nohria (1993).

The degree of specificity is an important characteristic of guidelines. Vagueness leaves many escape routes and does not, therefore, foster much confidence in implementation and follow-up. In addition to specificity, the existence of compliance mechanisms is perhaps even more crucial. If guidelines do not provide for monitoring, carried out by bodies that are seen to be reliable, the mere adoption of the codes of conduct proposed by CMA, ICC or CERES, as presented in table 4.1, does not guarantee anything. It could merely be seen as ‘green-washing’ (Greer and Bruno 1996). If voluntary initiatives are specific and contain compliance mechanisms, the likelihood that firms will conform to them will be greatest. An analysis of a large number of international codes of conduct shows that, in general, the likelihood of compliance is rather low (Kolk et. al 1999)

Table 4.2 International codes of conduct; likelihood of compliance?

<table>
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<tr>
<th>Specificity:</th>
<th>Percentage of 24 trade and industry associations</th>
<th>Percentage of 84 TNCs</th>
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<tr>
<td>Inclusion of strong prescriptive/restrictive action</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>No quantitative standards</td>
<td>83</td>
<td>61</td>
</tr>
<tr>
<td>No time horizon</td>
<td>88</td>
<td>77</td>
</tr>
<tr>
<td>Clear time horizon</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Reference to international and/or home country standards</td>
<td>25</td>
<td>39</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Compliance:</th>
<th>Percentage of 24 trade and industry associations</th>
<th>Percentage of 84 TNCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear monitoring systems</td>
<td>8</td>
<td>24</td>
</tr>
<tr>
<td>Provisions for a monitoring party</td>
<td>25</td>
<td>68</td>
</tr>
<tr>
<td>Provisions for an external monitoring party</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Inclusion of sanctions</td>
<td>0</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: Kolk et. al 1999

Among 24 trade and industry associations, only 2 out of 24 (8%) have codes of conduct that include restrictive action in the case of violations. The figure was somewhat better among the TNCs studied. As many as 20 (83%) of the trade and industry associations did not quantify standards. As shown in table 4.2, the situation among the 84 TNCs included was somewhat better. However, the majority of branch organisations and individual TNCs did not announce a time horizon at all. Very few included a clear time horizon in their codes of conduct. This reflects the findings from the four TNCs previously referred to. Only ICI publicised specific time horizons for environmental commitments. Only one out of four branch

127 Probably even more well known is the contribution of C.K.Prahalab's unpublished doctoral dissertation from Harvard 1975: "The strategic process in a multinational corporation", where he introduced the concept of integration-responsiveness. Lorange's concept of integration-adaptation was apparently introduced independently of Prahalab's work.
organisations made explicit references to international and/or home country standards. Among the TNCs, 39 percent made such references. Interestingly, fewer than four out of ten TNCs studied explicitly referred to regulatory political authorities as a term of reference in specifying the content of their cross border environmental management.

The specificity of codes of conduct is limited and often vague, and, according to Kolk (2000), can be used as a proxy for probable compliance with publicised environmental commitments. To focus more particularly on actual compliance, only 2 out of 24 industry and trade organisations have established clear monitoring systems among their members. This figure is better for the individual TNCs referred to in table 4.2. As many as 68 percent of TNCs did provide a monitoring function, but only one in ten TNCs provided external monitoring. The four TNCs presented previously seem to be above the average of what Kolk (2000) found, as two out of four did include external reviews. Nevertheless, the global transparency of current activities is limited. Transparency is actually non-existent among trade and industry associations, of which only 25 percent provided monitoring at all. Interestingly, none of the branch organisations mention sanctions in case of violations, while 24 percent of TNCs did include such a reference. Unfortunately, Kolk (2000) does not specify what ‘sanctions’ mean. However, it can be assumed, as subsequently verified through studies of particular TNCs operating in Jamaica and India, that they refer to intra-firm action rather than economic sanctions induced by political authorities. 25 percent of the TNCs studied by Kolk et.al (1999) confirmed that corrective actions were taken. Consequently, 25 percent of the 84 TNCs studied indicated the establishment of environmental control measures across borders. Later, I will illustrate and discuss the modality and character of actual implementations, with specific reference to Norsk Hydro, Alcan, Bayer and ICI.

Implementation and enforcement are as critical to voluntary initiatives as they are to regulations. If a firm subscribes to the ICC charter to “introduce policies and commitments to adopt equivalent or not less stringent standards of operations as in the country of origin”, it would have monitoring systems in place. Consequently, many of the concerns regarding TNCs international operations could be effectively addressed on a voluntary basis. Unfortunately, this is not the case, as misbehaviour and cross border environmental defection is documented even among TNCs subscribing to environmental guidelines. Self-monitoring is not necessarily reliable for all parties, and thus, civil regulation becomes further strengthened, despite corporate voluntary regulatory efforts.

Opponents of voluntary initiatives point at the weak implementation and compliance mechanisms. They also emphasise the so-called ‘free-rider’ problem, the phenomenon that non-compliant firms take advantage of the self-regulating activities of others. In this way, relatively good performers are punished. Environmental improvements are limited, so endangering their voluntary compliance. Opponents of voluntary initiatives focus on the legitimate role of regulatory authorities, claiming that the emerging ‘watchdog’ function of transnational civil groups should rather be fulfilled by national governments or international regimes. This particularly applies to firms that are not visible and/or have no identifiable product names, such as chemical suppliers of intermediate products. In the case of ICI, the firm seems to have solved most of its environmental hazard challenges through sales and outsourcing. At the same time, an increased focus on speciality chemicals and final products makes the firm more exposed to environmentally conscious consumers.

States should regulate, but the regulatory capacity of many governments and international organisations is limited. The protests against the proposed MAI treaty reflects the current propensity of public scrutiny through transnational civil action – particularly as the OECD
proposal was withdrawn from further negotiations. At the same time, environmental issues are an explicit part of the agenda of the UN initiated Global Compact, repeating petitions made by WCED in 1987 that TNCs should contribute to more environmentally sound development in LDCs. Environmental politics seems to have become privatised into what I term ‘triangular environmental diplomacy’, in which TNCs are invited to become part of policy communities and networks concerned with environmental management.

4.6.1 What is cross border environmental management all about?

An EMS consists of various procedures, starting with the formulation of environmental policies that are codified into standards to be implemented through specific guidelines. This is subsequently illustrated in figure 4.5, and will subsequently be discussed with explicit reference to the TNCs previously presented. The objective of strengthening these efforts can be debated. Some argue that these are merely efforts to ‘green-wash’ the reputation of TNCs, but the TNCs themselves argue quite strongly that efforts are initiated primarily to influence local procedures. This is the situation regardless of whether procedures are located adjacent to corporate HQ, at other locations within the home country, or at foreign location within or outside the OECD region. However, for production units located far from corporate HQ, the transnational challenges of enhancing compliance with corporate environmental priorities are huge. How do TNCs institutionalise a system of transnational control that eliminates violations of corporate priorities? To achieve this in accordance with political priorities, local procedures must be audited and integrated in a transnational corporate network that provides access to necessary resources. The board of the TNC sets the formal corporate environmental policy, and the relevant policy refers to global operations. To facilitate compliance with these rather general and often vague commitments, more specific environmental standards are developed. These are presented and discussed in accordance with figure 4.5.

What makes the environmental management efforts of ICI, Norsk Hydro, Bayer or Alcan different to the environmental management system presented in figure 4.4, is their transnational and global character. Not only do the firms seek compliance in the national arena; all affiliated units, regardless of location, are asked to comply with corporate environmental guidelines. This requires more extensive control than that required for domestic manufacturing units. Beyond specific mandatory standards, operational guidelines are defined to enable individual units to comply with the environmental standards.

Part of the solution relates to strengthening EMS at affiliated units, which can be influenced by factors other than cross border environmental management initiatives. As previously referred to, all TNCs became environmentally conscious as a direct consequence of formal environmental regulations. These factors might still be instrumental in understanding actual TNC behaviour in LDCs like India and Jamaica. However, strong arguments have been proposed to suggest that the regulatory capacity to enforce formal environmental regulations is weak, particularly in the case of LDCs. However, the potential impact of corporate control measures such as environmental audits relating to particular operations, special projects or managerial issues in general, however, is large. The TNC’s board has at its disposal the resources to enable strong compliance by units, regardless of location. The TNC could strengthen transnational environmental control. Despite the fact that the ownership advantages of being transnational are often conceived in intangible terms, environmental audits could demonstrate a rather tangible result of such transnationalisation,
particularly as such control measures may also function as inputs to a review of environmental policy and practices of the TNC as such. This is exactly what happened to Union Carbide after Bhopal.

Thus, what we perceive as a central dynamic of cross border environmental management is a circular process created by particular TNC guidelines influencing local procedures, which are subsequently audited with the overall objective of proposing improvement plans.

Figure 4.5 A Cross Border Environmental Management System (CBEMS):

As illustrated in figure 4.5, a CBEMS starts and ends with environmental policies, but includes a more direct and operational understanding of review procedures and effects on local procedures at TNC units. A study of TNCs and environmental considerations in LDCs is in itself a challenging task. To focus on specific project linkages between FDI and environmental protection as being impacted by cross border environmental management and strengthened transnational corporate control, may be regarded as sufficient in itself. However, the questions raised in this study extend beyond project specific issues at TNC units.

Theoretically I have argued for the interpretation of TNCs as more than mere economic agents reacting to external market signals. Not only that. I argue that TNCs may be perceived as non-state actors in world politics and as a natural object of analysis in studies related to public policy concerns suchs as industrial pollution control and natural resource conservation. TNCs officially advocate global environmental responsibility. If TNCs strengthen project specific efforts through cross border environmental management initiatives, why should these efforts not also be manifested amongst external stakeholders? Thus, an important task in the empirical study that follows is to document if, and to what extent, TNCs are becoming part of policy networks and specific communities aimed at strengthening environmental awareness and particular performance in the LDC where the TNC has located FDI projects. According to the corporatist literature, this has traditionally been approached through studies of relationships between political authorities, regulators and the corporate sector. As illustrated by Wilks & Wright (1987), the relationships between governments and industry in Japan, Western Europe and the US vary around different dynamics of bargaining. Meadowcraft (1998) argued that creative solutions are required to
enable collaborative environmental interaction among groups from different social sectors. Nevertheless, such accords may present potential advantages. The argument proposed and theoretically elaborated in the previous chapter, is that countries receiving FDI inflows are increasingly becoming part of transnational corporate networks. The potential for creating triangular environmental diplomacy is increased. Domestic environmental regulations are still valid, but enforcement is often lax. At the same time, a number of TNCs are strengthening environmental control across national borders, often irrespective of formal regulatory requirements in the FDI hosting country. Increasing transnationalisation is caused by changes in political and corporate priorities, enabling the establishment of CBEMS. The specific design of such CBEMSs may vary, but figure 4.5 represents a simplified version.

The rationale for summarising my general argument on corporate environmental management as done with the use of figure 4.5, is merely that it is reflecting the general research findings so far. Despite the focus on management, we must not forget, however, the significant relevance for public policy matters. I am concerned with the environmental role of TNCs controlling affiliated manufacturing and mining units in LDCs such as Jamaica and India. I question whether, and to what extent, an assumed strengthening of transnational corporate control is actually enhancing improvements in TNCs’ environmental management procedures and practices at affiliated units in Jamaica and India.

There is a strong normative bias in this reasoning particularly as I raise the question whether corporate environmental management system can achieve public policy goals related to strengthened industrial pollution control and natural resource conservation. First of all, I am assuming that TNCs are actually willing to strengthen transnational environmental control. Consequently, I assume that TNCs are capable of promoting more than mere cross border environmental defection strategies. However, while the TNC critics refer to the Bhopal tragedy as ‘proof’ of what TNCs are capable of doing, inspired by the reasoning of Shrivastava (1987) I use the same tragic case as a reference point for seeking subsequent changes in some TNCs’ environmental conduct in LDCs. A second normative bias in my reasoning is related to the dynamics of transnational corporate co-ordination. Traditional approaches assume that TNC conduct is either a function of politics or economics. Some would further argue that my approach ignores the crucial and instrumental role of domestic environmental politics within the FDI hosting country. I admit that this thesis could easily have been designed in a completely different manner, but then I would not have had the same opportunity neither theoretically nor empirically, to elaborate on the transnational environmental diplomacy initiated by certain TNCs. As reflected in the undertitle of the dissertation, I do not argue that these factors, nor other influential factors such as emerging forms of ‘civil regulation’, are insignificant. Quite the contrary. The design of figure 4.5 is merely a reflection of my own initial research design. During this study, I remain focussed on the TNC and the actual influence of transnational corporate control. However, the subsequent question is then related to TNC’s actual influence of what?

It is questioned whether TNCs’ can achieve public policy goals can be distinguished between project specific efforts at affiliated plants and broader impacts. The potential dynamics visualized in figure 4.5 can represent a cross border environmental management system that create project specific linkages at the affiliated LDC plant. This is in itself interesting as it challenges the general public perceptions of TNCs’ environmental concerns in LDCs. However, the question whether TNCs can achieve public policy goals must be related to broader issues than merely a discussion on managerial practices as such. Despite the focus on cross border environmental management, the overall aim of the thesis is rather
related to whether the theoretical argument of a transnational environmental diplomacy creates linkages between the particular FDI project and environmental improvements.

Consequently, figure 4.5 must be treated as an illustration of a central dynamics partly explaining the environmental concerns documented subsequently. Further the illustration can be used as a point of departure from which the subsequent analysis and discussion of the proposed research questions will be undertaken. The approach taken to discuss TNCs and environmental concerns in LDCs is rare as few apply such a managerial approach. However, as reflected in the final chapter, a better understanding of cross border environmental management systems may shed new lights into the opportunities as well as limitation related to TNCs environmental concerns. At the same time it is important to keep in mind the broader theoretical framework within which the managerial dynamics are functioning, enabling a more appropriate and valid understanding of the actual relationship between TNCs and environmental concerns in LDCs. To proceed let us start with corporate environmental management in the Jamaican bauxite/alumina industry and ask whether the interesting efforts subsequently documented can be explained by cross border environmental control exercised by transnational aluminium corporations?
Dr. Art Reid, the Corporate Environmental Affairs Manager at Alcan Jamaica stated:

“The bauxite/alumina industry in Jamaica shares the view of the public at large that prevention of environmental degradation should be a common objective for all of us. As inhabitants of planet earth, we share a common heritage and we have a vested interest in preserving the integrity of the environment for present and future generations. To some extent we are all polluters, and we therefore have an obligation to work together to find practical solutions to environmental impairment rather than attempting to apportion blame. It is inevitable that industrial development will have some environmental impact and that trade-offs may be necessary in some circumstances. However, most of the potential negative impacts can be avoided or mitigated by careful risk assessment and the implementation of ameliorative measures as appropriate”.

This statement reflects the attitude among many environmental managers involved in bauxite mining and refining into alumina, not only in Jamaica or India, but wherever these activities are located. As illustrated by the number of environmental commitments prior to the UNCED conference in 1992, corporate representatives increasingly acknowledged environmental problems, and this was also the case among environmental managers of the pollution-intensive aluminium industry. Dr. Reid underlined the traditional inevitability that industrial development will have some negative physical impacts. At the same time, he argued that negative impacts could be avoided or at least mitigated. Given that host authorities and the public in general, including environmental NGOs, accept the necessary trade-offs, Dr Reid argued that Alcan Jamaica had the best solutions for promoting more sustainable industrial development.

As in the case of Jamaica, most of the world’s bauxite/alumina activities, and particularly those located in LDCs where the bulk of the bauxite reserves are found, are under TNC control. Consequently, most of the bauxite/alumina activities in LDCs are part of transnational corporate networks. This is particularly striking in Jamaica, as all four alumina refineries, as well as the export oriented bauxite production at St.Anns, are controlled by TNCs. The economy of Jamaica is small, and heavily dependent on a few value-added activities such as tourism and bauxite/alumina production. The capital requirements are huge, and no private Jamaican entrepreneurs are involved as minority owners in the industry. The Jamaican authorities, however, have acquired a small share in most of the plants (with the

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128 This chapter reflects my initial field-work on TNCs and environmental issues in LDCs, published as early as 1993. Most of the empirical findings were made before the theoretical framework was developed, and mainly reflects the first of my research questions, as they are primarily related to project specific linkages between FDI and environmental management

129 Stated during an interview at Alcan’s Ewarton plant on 28 June 1993.

130 I am not discussing the concept of sustainable development, but rather using TNCs’ environmental measures or statements from TNC representatives to analyse impacts of transnational corporate co-ordination and control within Jamaica’s bauxite/alumina industry.

131 For further details, see the statistics provided by the Bank of Jamaica; http://www.boj.org.jm/
exception of Alpart). Nevertheless, the operational responsibility for all Jamaican bauxite/alumina plants remains with TNCs that all have their HQs in North America.

The situation in India is radically different. Until the launch of the current economic reforms, foreign equity control had not been allowed into India's bauxite-aluminium industry. Domestic private industrial entrepreneurs and public authorities together promoted an infant aluminium industry. TNCs such as Kaiser and Alcan, but also European aluminium companies such as Pechiney, were invited in as minority partners and suppliers of technologies not available locally. This, however, is currently changing due to new economic reforms. This will later be illustrated by the case of Utkal, in which Norsk Hydro is heavily involved. Here, for the first time, investors are complying with regulatory requirements to conduct an Environmental Impact Assessment of both the proposed mining and refining activities. Subsequently, environmental clearance has been granted by both local and central Indian authorities. Nevertheless, the project is heavily criticised, both by local and foreign NGOs. The Utkal project includes corporate practices that go far beyond traditional standards for bauxite/alumina production in India, and massive resistance is documented.\textsuperscript{132}

The statement made by Dr. Reid regarding Alcan Jamaica can be understood and interpreted merely as a commitment proclaimed by a local environmental manager operating within the logic of the Jamaican political economy. He acknowledged, however, that his specific work in Jamaica was embedded in a transnational corporate network, and that these foreign contacts have enabled Alcan Jamaica to gain leverage through easier access to financial, technological and human resources not easily available locally. This leverage, manifested as voluntary initiatives, can be converted to political influence relating to natural resource conservation and environmental protection (Perkins 1998). In contrast to India, and despite being open to any kind of transnational influence, there seems to be little concern among local or foreign NGOs regarding the negative impacts of Jamaica's bauxite-alumina activities. Consequently, the Jamaican case of bauxite/alumina production indicates that transnational influence merely remains in the hands of transnational aluminium corporations.

I interviewed Dr. Reid in 1993, at the very beginning of Alcan's efforts to strengthen environmental policies and practices worldwide. His statement reflected a traditional concern among corporate representatives that environmental issues could be retrofitted into current business operations as a kind of 'end-of-pipe' procedure. As reflected in environmental statements referred to previously, during subsequent years, a corporate reorientation appears to have taken place through TNC representatives, even Dr. Reid himself. Rather than treating environmental issues as a technical challenge, social and political issues are increasingly put at the forefront. Transparency and dialogue with locally affected people are also promoted.

In the case of Jamaica, as in India, few changes in the environmental regulatory frameworks have been introduced. Actually, traditional and rarely enforced command and control measures are increasingly being substituted by more market based instruments in increasingly closer cooperation with the industrial players involved. Environmental and

\textsuperscript{132} Limitations on foreign equity in India's bauxite-aluminium industry made a planned comparison between India and Jamaica difficult. The case of Utkal, in which Norsk Hydro is involved, is still in the pipeline. The analysis of India, will rather draw on more general findings relating to the transnationally controlled chemical industry. However, the Utkal case will nevertheless be used as an illustration that transnationalisation not only strengthens TNC leverage. Facilitated by communication technology, NGOs worldwide and in Norway in particular, have questioned the proposed business plans presented by the Utkal partners. A number of new players are directly involved in this industrial project, illustrating how transnational civil agents increasingly challenge Indian, as well as transnational corporate priorities.
economic policies are being liberalised and increasingly subjected to international and transnational influence. Despite this, strengthened environmental initiatives are being taken. I argue that the significant driver triggering current initiatives is found beyond the national dynamics of bauxite/alumina production. This is also the case for India’s traditionally protected bauxite/alumina industry, as transnational inputs are increasingly permitted. Due to a strengthening of transnational control, and based on experience from other affiliated operations worldwide, particular activities are subject to change. The extent to which this really has taken place within the bauxite/alumina industry is the major focus of this empirical chapter. In addition, the chapter will aim specify the degree and character of the asserted transnational causality.

5.1 TNCs in the Jamaican bauxite/alumina industry

Historically, almost all trade between developed countries and LDCs in the bauxite/alumina industry has taken place between affiliates of TNCs headquartered in the Western developed world. The aluminium industry is very much a global business. According to a survey conducted by the UNCTC at the end of 1979, the six largest aluminium TNCs - the ALCOA, Pechiney, Alusuisse, Alcan, Reynolds Metals Company and Kaiser Aluminium and Chemical Corporations - accounted for 63 percent of bauxite mining and 66 percent of alumina production. Governments and private investors from LDCs accounted for 16 percent of bauxite mining and 7 percent of alumina processing activity (UNCTC 1981). Despite radical changes in economic and political structures, surprisingly few changes have taken place with respect to bauxite/alumina production. Most of those listed as the corporate majors in 1979 still have a dominant position in the global bauxite/alumina industry. During 1999, however, two major merger plans were announced. Alcan, Alusuisse and Pechiney announced a planned merger. Shortly afterwards, Alcoa announced plans to take over Reynolds. In March 2000, plans for the first merger were cancelled, both because Pechiney resisted and because the proposal was challenged by the EU’s anti-trust concerns (Hveem, Heum & Ruud 2000). The outcome of the merger plans between Alcoa and Reynolds is subject to similar concerns in both the US and the EU. In the case of Jamaica, however, the only significant change has been the replacement of Reynolds with Norsk Hydro, and the TNCs continue to be in charge of operational control. The proposed merger will not have a significant influence on current operations within India’s bauxite/alumina industry.

Historically, the dominant role of TNCs in the bauxite/alumina industry and their relative stability can be explained by the enormous capital resources needed for bauxite mining, and in particular, processing into alumina (Stuckey 1983). Opportunities for small-scale production are virtually non-existent (Hennart 1989). The critical minimum investment is hundreds of millions of US dollars. Besides, the technology and management requirements for promoting cost-efficient production and general operation require large organisation such as TNCs (Davies 1989). This situation is even more prevalent at the subsequent stage of primary aluminium production, but is driven even further by the enormous energy requirements. As Jamaica has no energy supplies, there are no aluminium smelters, and all

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133 As illustrated by the environmental plans proposed for the Utkal project in India.
134 Despite Pechiney’s withdrawal, Alusuisse is proceeding and as per the autumn of 2000 it will merge with Alcan.
alumina is exported ‘internally’ to TNCs’ smelters, located in the US, Canada and Norway, or through external market transactions.\(^{135}\)

Due to political regulations, abundant energy supplies and the availability of necessary resources locally, India has promoted an infant industrialisation, which includes both the primary aluminium production of ingots, as well as fabrication of various aluminium products. Jamaica could have promoted its own bauxite/alumina industry (Davis 1989), and proposals have also been made to collaborate with Trinidad to secure sufficient supplies of gas to enable the construction of an aluminium smelter (Manley 1987). However, the alternative chosen has rather been to trust transnational aluminium companies to realise national development strategies (Rousseau 1987). Consequently, as elaborated by Stephen & Stephen (1984), Davies (1989) and Ruud (1993), the reciprocal dependency relationships became very skewed. The implications for the regulatory strength of bauxite exporting host countries, such as Jamaica, were significant.

Table 5.1 Alumina capacity per country/region, capacity and firms involved as per 1998 in thousand metric tons per year\(^{136}\)

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Capacity</th>
<th>TNCs with operational responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>6 325</td>
<td>Alcan, Alcoa, Kaiser and Reynolds(^{137})</td>
</tr>
<tr>
<td>Western Europe</td>
<td>4 840</td>
<td>Pechiney, Alcan, Alcoa</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>6 205</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>13 450</td>
<td>Alcoa</td>
</tr>
<tr>
<td>Brazil</td>
<td>3 370</td>
<td>Alcan, Alcoa</td>
</tr>
<tr>
<td>Jamaica</td>
<td>3 358</td>
<td>Alcan, Alcoa, Kaiser</td>
</tr>
<tr>
<td>Surinam/Venezuela</td>
<td>3 530</td>
<td>Alcoa</td>
</tr>
<tr>
<td>Guinea; Africa</td>
<td>640</td>
<td>Pechiney</td>
</tr>
<tr>
<td>India</td>
<td>2 008</td>
<td>Alcan &amp; (Norsk Hydro(^{138}))</td>
</tr>
<tr>
<td>China</td>
<td>3 490</td>
<td></td>
</tr>
<tr>
<td>Rest of Asia</td>
<td>1 965</td>
<td></td>
</tr>
<tr>
<td>Total production capacity</td>
<td>49 181</td>
<td></td>
</tr>
<tr>
<td>LDC production</td>
<td>19 136</td>
<td></td>
</tr>
</tbody>
</table>

Source: UNCTAD (2000a)

Table 5.1 confirms that the TNCs classified as the big six in 1979 are still heavily involved in alumina production worldwide. In terms of location, alumina production continues to be located in LDCs. Of a total alumina refining capacity of 49 181 000 metric tonnes in 1998, as much as 38.9 percent was located in LDCs\(^{139}\). To enable this production, bauxite must be supplied, and a total of 127 570 000 metric tonnes of metal grade bauxite ore were mined out at opencast mining operations. As much as 55 percent came from LDCs. In contrast, only

\(^{135}\) For further details on Jamaica’s international trade, see data provided by the Statistical Institute of Jamaica: [http://www.statinja.com/](http://www.statinja.com/)

\(^{136}\) Only including metallurgical grade and referring to gross weight, not aluminium content of saleable product.

\(^{137}\) Reynolds has later merged with Alcoa.

\(^{138}\) As a consequence of involvement in the Utkal project. For further details, see the next chapter.

\(^{139}\) Defined negatively as activities not located in Western Europe, North America or Australia.
34.9 percent of primary aluminium production was located in LDCs, indicating a clear division between raw material exporting LDCs and industrialised developed countries. India, however, is different, with a primary aluminium capacity of almost 1 million metric tons.\textsuperscript{140}

The dominance of some of the ‘big six’ is well illustrated by the case of Jamaica, having a total alumina production capacity as per 1996 of 3 408 000 metric tonnes.

Table 5.2  Bauxite mining and alumina refining capacity in Jamaica, as per 1998 (thousand metric tons per year)

<table>
<thead>
<tr>
<th>Local company/TNC in charge</th>
<th>Bauxite</th>
<th>Alumina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamalcan/Alcan</td>
<td>2 600</td>
<td>1 108</td>
</tr>
<tr>
<td>Alpart/Kaiser &amp; (Hydro)</td>
<td>3 600</td>
<td>1 450</td>
</tr>
<tr>
<td>Jamalco/Alcoa</td>
<td>2 000</td>
<td>800</td>
</tr>
<tr>
<td>Kaiser Jamaica Bauxite</td>
<td>4 000</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: UNCTAD (2000a)

As presented in table 5.2, and illustrated by the map\textsuperscript{141}, all bauxite mines, as well as alumina refineries in Jamaica, are operated by North American TNCs. At present, four integrated bauxite/alumina operations and one bauxite mine are operated by three TNCs: Kaiser and Alcoa, both headquartered in the US, and Alcan of Canada. Reynolds Metals Company, closed down its operations in 1984 and relocated much of its activity to Australia, which is currently producing as much as 37.6 % of the world’s total bauxite (UNCTAD 2000a). The Jamaican authorities have marketed the closed down mining areas located at Trelawny on the North coast. But despite recent efforts to reactivate the mine,\textsuperscript{142} there seems to be no prospect of any TNCs being either willing to reopen the mine or setting up a new integrated bauxite/alumina refinery.

\textsuperscript{140} Information is compiled by UNCTAD and further information on bauxite, alumina and aluminium production can be found at: \url{http://www.unctad.org/en/docs/poitcdcomd13.en.pdf}

\textsuperscript{141} The map illustrates activities as per 1973. The current situation is almost identical, with the exception of Reynolds mining activities in St. Ann having been stopped.

\textsuperscript{142} According to Metal Bulletin, 28 April 1997, a feasibility study has been made both for the reopening of the mine as well as for construction a new 1-mtpy-alumina refinery.
The Aluminium Company of Canada, Alcan/Jamalcan

Alcan is a major aluminium corporation that, after the merger with the Alusuisse, will consolidate its position in downstream markets. The implications for bauxite/alumina, however, will be limited and no impacts can be traced to current activities in Jamaica. Since the 1950s, Alcan has operated mining fields and two alumina plants in Jamaica through the company Jamalcan, 93 percent owned by Alcan and 7 percent by the Jamaican government. Originally, it was a wholly owned subsidiary of Alcan, called Alcan Jamaica Ltd (Aljam). However, in 1980, the government purchased an equity share in the company, and Aljam became Jamalcan. Alcan operates two integrated plants, located close to the bauxite deposits. One is located at Ewarton in the parish143 of St.Catherine, using bauxite supplied from the Schwallenburg bauxite deposits. The other integrated plant is located at Kirkvine in the parish of Manchester. Both facilities had an initial installed production capacity of approximately 500 000 tonnes of alumina each, but current production volumes are 560 000 and 548 000 tonnes respectively (UNCTAD 2000a). Increases are achieved without physical expansion, but plans are being made to expand the production capacity at both refineries to more than 1.5 million metric tons.144 Alcan perceives Jamaica as strategically important for sourcing alumina for the Alma primary aluminium smelter in Canada.145

143 Parish is equivalent to county.
145 The new Alcan smelter is located close to the Isle-Maligne smelter that was closed down in December 1999. Despite the new plant's five-times greater annual output (375 000 compared to 76 000 tonnes), according to Alcan, total emissions of fluoride will be only slightly above those at Isle-Maligne. The Saguenay-Lac-St-Jean region is also home to three other Alcan smelters - Arvida, Laterriere and Grande-Baie Works. In addition, the area hosts Alcan's only alumina refinery in Canada, the Vandreuil plant. Elsewhere in Quebec, Alcan operates two other aluminium smelters, Beauharnois and Shawinigan Works. Consequently, the Vandreuil refinery does not have sufficient capacity to supply all six Alcan smelters in Quebec, and a substantial volume is sourced from the two Jamaican refineries at Ewarton and Kirkwine. For further information, see details at Alcan's homepage: http://www.alcan.com/News.nsf/AlmaProgRepE/Home+Page
The Aluminium Company of America, Alcoa/Jamalco

Aluminium Company of America is the world’s largest aluminium company, with ownership interests in all production stages of aluminium worldwide. As indicated in table 6.1, the company is involved in alumina production throughout the world, including Jamaica, and, following the merger with Reynolds, its position is further strengthened as the world’s largest producer. Alcoa initiated bauxite mining in the Mocho Mountains of Jamaica in the late 1960s, and, since 1972, has operated an alumina plant at Woodside, Clarendon, with an initial annual production capacity of 600,000 tons. In the late 1970s, the government purchased a 6 percent equity share in the company, thus forming Jamalco. Due to disagreements about tax policies, Alcoa closed the plant temporarily in 1985 (Ruud 1993). Later the same year, Alcoa allowed the factory to be reopened at the requests of the Jamaican government, through a new company called Clarendon Alumina Production Ltd. (CAP). Upon finalising the agreement, in 1988, Alcoa and CAP entered into an agreement that transformed the former Jamalco into a joint venture, 50 percent owned by Alcoa, 44 percent owned by CAP, and 6 percent owned by Jamaica Bauxite Mining Company (an equity share which in 1989 was transferred to CAP). Jamalco is operated and controlled by Alcoa.

Kaiser Aluminium and Chemical Company - Alpart

Kaiser is a fully integrated aluminium producer, involved operationally in all stages of the production chain. However, compared to Alcoa and Alcan, it is significantly smaller and more diversified, with activities in non-aluminium related chemical segments also. Kaiser is involved in two operations in Jamaica: one bauxite mining company, Kaiser Jamaica Bauxite Company (KJBC), and the integrated bauxite/alumina operations at Aluminium Partners of Jamaica, Alpart. The KJBC, situated in the western part of the parish St. Ann’s, is the only Jamaican company that exports crude bauxite. As for Jamalcan and Jamalco’s activities, Alpart is an integrated bauxite/alumina plant.

Alumina Partners of Jamaica, Alpart, was established in 1966 by the three US corporations: Kaiser Aluminium & Chemical Corporation, Reynolds Metals Corporation and Anaconda, with an initial refining capacity of 1 million metric tons of alumina per year. This capacity has subsequently been increased, and the current annual capacity is 1.4 million metric tons. The plant is located adjacent to considerable bauxite reserves in the Essex valley. However, due to the relatively low bauxite quality, requiring higher operational costs, the initial production volume in 1969 did not exceed 200,000 metric tonnes of refined alumina. Alternative sources were sought, and the valley bauxite was replaced with higher

146 For further information, see: http://www.alcoa.com/
147 For further information, see: http://www.kaiseral.com/k/kais002/kais002.nsf
148 I was not allowed to study the bauxite mining operations of Kaiser at St. Ann’s, but through Norsk Hydro I was granted access to relevant managers and operators at Alpart. The challenge of focusing on Alpart is the lack of direct information from Kaiser. Almost all the information is provided through Norsk Hydro, the minority partner, which in 1988 replaced Reynolds as the equity partner at Alpart. However, Norsk Hydro Aluminium has no operational or management responsibility, and influence is rather exercised through board decisions and strategic planning. The obvious observation is that my explicit focus on cross border environmental management, understood as dynamics between parent firm and affiliated units, cannot be directly applied in the case of Alpart. Nevertheless, I will use Alpart as an introductory case to understand current environmental challenges relating to both bauxite mining and alumina refining. To discuss the current dynamics of cross border environmental management within Jamaica’s bauxite/alumina industry, however, I have, rather, chosen to use another Jamaican case influenced by transnational flows: Jamalcan and the impacts of Alcan’s cross border environmental management. However, Alpart is mining its bauxite in the vicinity of Jamalcan’s operations, and this will be used as a local term of reference in the subsequent analysis.
quality bauxite from the Manchester plateau, located approximately 15 kilometres from the alumina plant, and not very far from Alcan’s bauxite mine for the Kirkvire plant. New bauxite was provided, but, during the 1970s, the partners at Alpart failed to achieve the maximum installed capacity of one million metric tons of alumina. Subsequently, various operational hurdles were overcome, and, in 1981, production peaked. However, according to corporate sources, the economic situation deteriorated, and, in the following years the production level was dramatically reduced. In 1985, the then owners, Kaiser and Reynolds, decided to suspend production activities at Alpart.149 Anaconda had already withdrawn, and so did Reynolds. Hydro was searching for new, more reliable sources of raw material supplies for Norwegian aluminium smelters, and Kaiser was persuaded to reopen the production activity at Alpart, with Hydro as a minority partner.

Aluminium Partners of Jamaica, Alpart, is currently a partnership between Kaiser Aluminium Corp and Norsk Hydro, in which Kaiser owns 65 percent and Norsk Hydro, through its wholly owned subsidiary Hydro Aluminium Jamaica, 35 percent. The parish where Alpart is located, St. Elizabeth, is typical of Jamaica in general: an agricultural district, and Alpart is the single largest manufacturing industry in the parish.150 Production at Alpart is divided into two separate parts: the mining of bauxite at the Manchester plateau and the processing of alumina in the Essex valley. The alumina is sold partly to the partner’s own smelters in the US and Norway, 35 percent to other aluminium corporations, and only 5 percent on the alumina spot market. In accordance with its primary reason for involvement, Hydro Aluminium uses all its share of production to feed its primary aluminium smelters in Norway. Until the recent investment in Brazil151, the Alpart alumina supply satisfied 30-35 percent of demand at Hydro’s Norwegian smelters.152

149 It should be mentioned that the decision to scale down Alpart operations happened at a time when the Jamaican government radically increased the so-called ‘bauxite levy’, the taxing of bauxite/alumina operations. According to Norsk Hydro, high oil prices, low alumina prices and, not to forget, high production taxes, forced the owners to close down the factory.

150 Alcan’s activities at Kirkwine are located less than 15 kilometres away, but belongs in another parish, Manchester.

151 The acquisition of a 25.3 percent interest in the alumina refinery Alunorte in Brazil represents a significant increase in Hydro’s own alumina production. Alunorte has an annual production capacity of about 1.5 million tonnes of alumina. The ownership share ensures Hydro about 375 000 tonnes of alumina per year. A planned expansion at Alunorte will increase the plant’s annual production with approximately 825 000 tonnes, start-up scheduled for 2003. Alunorte gets its bauxite from Mineração Rio de Norte, a bauxite mine in northern Brazil. Hydro holds a five percent interest in this mine. For further details, see Hveem, Heum & Ruud (2000).

152 Until the 1986 merger of the former independent aluminium producers ÅSV and Norsk Hydro, Norsk Hydro’s annual production of aluminium was around a mere 200 000 tons, and the need to secure the supply of alumina was limited. The company could afford to be exposed to price fluctuations in the alumina market. At present, Norsk Hydro Aluminium is producing more than 640 000 tons annually, and plan are being made for further expansion to more than 900 000 tons of primary aluminium per year. After the merger, Norsk Hydro Aluminium became one of the largest purchasers of alumina on the world market. Thus, dependence on alumina supplies increased, and similarly corporate vulnerability. The vertical integration into alumina activity must be viewed as the realisation of a strategic goal to reduce corporate vulnerability to external supplies of alumina. With the partner acquisition at Alpart, Norsk Hydro became involved in the Jamaican bauxite/alumina industry. It is not the first time, however, that Norsk Hydro has been interested in Jamaican bauxite/alumina activity. During the government of Oddvar Nordli in 1979-1980, initiatives were taken to strengthen Norwegian aluminium companies’ involvement in Jamaica. Motivated by an offer from the Norwegian government, Norsk Hydro, in cooperation with Årdal og Sunndal Verk and Elkem, became interested in a bauxite/alumina project in the parish of Manchester. Through this, technological experience at up-stream, sourcing level would be gained (based on Hungarian technology) For various reasons, however, the project was never realised.

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5.2 Public policies concerning the Jamaican bauxite/alumina Industry

The bauxite/alumina sector’s significant position in Jamaican society has led to the creation of several governmental institutions directly focusing on various aspects of industrial activity. The overall responsibility is shared between the Ministry of Agriculture and Mining and the Jamaica Bauxite Institute (JBI). However, the JBI manages the bauxite resources and carries out research and development work on all aspects of the industry.

The Jamaican government has developed environmental standards to regulate the environmental effects of bauxite/alumina industrial activity. This is co-ordinated by the Natural Resources Conservation Authority Act of 1991. There are maximum standards for the levels of sodium in ground water and emission of sulphur dioxide. However, the authorities have not enacted any sector specific environmental legislation. According to Mr. Miller at the Jamaica Bauxite Institute, the environmental standards were, rather, incorporated into general sector relevant policy.\(^{153}\) With few alternative economic activities, Jamaican bauxite/alumina policy is concerned with tax revenues, mineral rights and ownership. The Jamaican government has not specifically articulated related environmental concerns.\(^{154}\) Concerns, however, have been raised, but appear rather to be related more to the rehabilitation of mined out land than to pollution from alumina refining activities.

The environmental policy relating to bauxite mining is co-ordinated by the Mines and Geology Division of the Ministry of Agriculture and Mining.\(^{155}\) The Ministry operates on the basis of a number of principles expressed or implied in law. The Minerals (Vesting) Act and the Mining Act of 1947 are the two principal pieces of legislation. However, there are also written but confidential agreements between the various TNCs and the Jamaican government that have granted flexibility to individual operators with respect to the statutory requirements of the Mining Act. According to the mining regulations, the owner of the minerals, the government of Jamaica, may grant licences to individual persons or corporate entities to explore for minerals, and mining leases to recover minerals from the land. Both local and foreign persons and companies are equally eligible for these licenses and leases. Furthermore, it is stated that fair and reasonable compensation shall be payable to owners or occupiers of land for any violation of surface rights or damage done to the surface of the land, or to livestock, crops, trees, buildings or works, occasioned by prospecting or mining activities. In this context, the following is stated as an important principle: “The land on which bauxite is found shall generally be available for agricultural purposes both before and after mining. Land from which bauxite has been mined shall be restored, as closely as is practicable to the level of agricultural productivity which existed prior to mining”.\(^{156}\)

I have underlined the words ‘generally’ and ‘as closely as’ in the previous section. After quite extensive travelling throughout Jamaica, observing the radical scarring of the topography of mined-out areas, I have observed that regulatory requirements are not always met. The Ministry confirms that the regulatory authorities have interpreted the restoration requirements as relating merely to areas in which agricultural activity took place prior to when bauxite mining began.\(^{157}\) A challenge, however, is that most of the areas with significant

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\(^{153}\) Information granted during interviews in 1993 and up-dated through a telephone conversation in April 1995.

\(^{154}\) As argued by Girvan (1990): National Conservation Strategy: A Political Economy Perspective, working paper published by ISER, the University of West Indies

\(^{155}\) JBI and the Mines and Geology division of the Ministry of Agriculture and Mining are physically located in neighbouring buildings.

\(^{156}\) Stated in the Mining Act of 1947, Article 5.

\(^{157}\) According to comments made by the Commissioner of Mines, Mr Geddes, during an interview on 24 June 1993.
bauxite occurrences are government land, and local farmers are normally not allowed to use this for agricultural purposes, as the area is dedicated to future bauxite mining. Consequence, the mining companies are not required restore these areas. Visiting several of the older and vacated mining areas within the parishes of St. Ann, Clarendon and Manchester, huge craters resembling moon landscapes, with an uninviting topography with steep earthen walls rising more than ten meters are easily visible. It is dangerous to move around and the destroyed areas are unsuitable for alternative economic activity.

Where previous agricultural activity did take place, different forms of compensation have been made. The mining company might have purchased land, including all crops, livestock, buildings and structures on the land. Officially, these purchases are made ‘on behalf of’ the government, since the bauxite companies are not encouraged to own mining land. This strategy was traditionally chosen, as the companies needed ownership for pursuing corporate strategies of gaining access to bauxite. There are different opinions regarding actual practice with respect to compensating for occupying the land with bauxite deposits (Berkåk 1985). In almost all cases, the TNC did pay some compensation, but this was often done in spite of, and not as a consequence of, mining regulatory requirements. This was particular the case when farmers were occupying such areas illegally, or at least unofficially, and even in cases when the farmer had gained informal permission by local political authorities. Bauxite mining, however, is a national issue, and all decisions are centralised in Kingston (Payne 1988, Barnett 1992).

A better compensation strategy, which has been chosen more recently, is for mining companies to exchange land for other, non-bauxite, land. As part of this strategy, not explicitly stated in the statutory requirement, although public servants argue strongly for such an approach, the mining company should compensate farmers affected, by relocating everything that existed on the landowner’s property; houses, tanks, crops, etc. According to several sources, the Ministry encourages this approach, assuming that some financial compensation is also granted, due to the inconveniences of relocation and loss of income from crops. Even this strategy is not without pitfalls. Landowners who sell their land may at first deem the cast to be inexhaustible and find, in the long run, that they are bereft of both land and money.

A third strategy proposed by the regulatory authorities is to let the mining company merely pay direct compensation for the use of land and the loss of income and, thus, loss of use of land. This is rarely done because it directly challenges public policy. Mining companies are paying royalties, levies and taxes on mined-out bauxite. According to this strategy, at least a portion of the royalties, which represent a significant source of revenue for the authorities, would be rather allocated directly to the landowner. Depending on the amount, the landowner could easily and quickly become a rich man at the expense of public revenues. Reynolds left Jamaica, apparently as a direct consequence of tax policies. Jamaican royalties are already at a level that is significantly higher than comparable bauxite economies in Brazil and Guinea. Takinginto account that other acquisition costs are high, there is limited leverage for the authorities to add such compensation payments to what they are already receiving. Royalties are fixed, and this explains why such a strategy is hardly supported. According to local TNC representatives, they do not like the strategy either, as money easily disappears in liquor. Families suffer and the social impacts are devastating. Thus, the chosen strategy is

159 Statements made by both representatives of Alcan and Alcoa during field-work in 1990 and 1993.
either that the mining company purchases the land and/or swaps it for non-bauxite land. Regardless of strategy, bauxite deposits are acquired by TNCs aiming to exploit the mineral ore as part of their overall commercial strategies. The question to pose is related both to the outcome of these initiatives, and the case of restoration: what is the actual causality?

The Mining regulations of 1947 require that all mined-out land is restored as nearly as practicable to the level of agricultural productivity existing prior to mining. When travelling around, visiting other mined-out areas, we did find former bauxite fields restored to pastures and even root crops, tree orchards, and areas containing houses, schools and recreation centres. I have not been able to find specific public regulations defining the actual procedures of these restoration programmes. This is particularly the case when such restoration is undertaken in areas without prior agricultural activities.

As regards former agricultural areas, the Commissioner of Mines issues certificates for satisfactorily restored land. Fines can also be issued if companies fail to meet the requirements. Such fines were traditionally set at Jamaican $500 per acre, but in 1994 they were formally increased to USD4,500. According to Lyew-Ayee at JBI, this was done to encourage companies to restore land rather than pay a fine. However, by June 1996, not a single fine had been issued.

Nevertheless, JBI argued that the land restoration programme had been a great success. In some areas, for example along the Winston Jones Highway near Mandeville, housing and pastures have been established in fields where Alcan’s subsidiary Jamalcan mined bauxite. Lyew-Ayee points out that in many cases, when land has been restored, it has subsequently deteriorated. This happens because new agricultural cultivation is not supported. Consequently, the Ministry of Agriculture and Mining has recently developed a Bauxite Community Rehabilitation Programme that aims at redeveloping whole communities, with roads, water supplies and various feasible cultivation opportunities. All this sounds very nice, but the fact that is that the example of Winston Jones Highway was a voluntary initiative taken by Alcan. The area had never been exploited and there had been no previous agricultural activity, as the government had ‘saved’ the area for future bauxite mining. Consequently, Alcan was not requested to initiate the restoration programme of the area pursuant with the requirements in the Mining Act of 1947, and such an area would normally have been left destroyed.

Governmental policy towards the industry has focused primarily on economic issues, in particular taxation and ownership. In the 1950s and 1960, a liberal policy was followed, but in the 1970s it was replaced by a more nationalistic, radical policy under the leadership of Michael Manley. During the 1980s, the conservative Seaga government again promoted a more liberal policy. However, both liberal and radical approaches neglected social and ecological issues. Despite the restoration requirements included in the 1947 Mining Act, environmental concerns related to bauxite/alumina production have not really been part of the Jamaican political agenda. Under the leadership of Prime Minister Patterson, government policy can be described as a compromise between the need for popular support and the necessity to keep business running. ‘Softer’ political issues are included, and despite the introduction of the Natural Resources Conservation Authority Act in 1991, the environmental issue is still not a central concern.

160 According to Parris Lyew-Ayee, responsible at JBI for land rehabilitation, interviewed at JBI HQ, 28 June 1996.
161 ibid.
162 According to Perkins (1998), op.cit.
163 As per autumn 2000.
For various reasons, present economic policy is much more pragmatic than the policy of the 1970s, and the need to keep business running appears to have become a priority. With lower aluminium prices, which reduce profit margins, combined with radically stiffer international competition, particularly from Australian bauxite/alumina exporting, public efforts to strengthen regulatory requirement on environmental issues seems to be far from centre-stage politics (Girvan 1990). The overall aim of the regulatory authorities has rather been to get the sector running, and the authorities have, apparently, succeeded as all the integrated bauxite/alumina facilities have recently made commitments to further expansion in production capacity. Thus, the basis for government revenues can be extended. This happened during a period when Jamaica had severe economic problems. The unemployment rate was, and still is, alarmingly high. The country has been incapable of servicing its foreign debt obligations, particularly due to an unfavourable development in the bauxite/alumina industry. During the 1970s, Australia in particular, and Brazil to a lesser extent, challenged Jamaica’s position as a leading bauxite/alumina producer. The end of the Reynolds bauxite activities in Jamaica, the standstill at Alpart in the mid-1990s, as well as subsequent operational problems, including an explosion at Jamalco’s Woodside plant in November 1996 which caused an eight-day shutdown, made the government even more aware of their dependency on TNCs. The brutal fact is that there are not really that many alternative economic options for a bauxite/alumina dependent LDC like Jamaica.

In the wake of events, however, expansion work has been initiated at all the alumina refineries, and extensive maintenance work has also been undertaken. Economic growth appears to be promoted through more liberal economic policies, regardless of political colour. However, environmental policies are not equally in focus. It has been preferred to incorporate environmental policy into general sector policy, rather than by establishing a particular agenda, and individual TNC have had their own individual agreements with Jamaican authorities. These agreements are confidential and not available to the public or researchers. Government policy can thus be analysed as an indicator of the relative bargaining strengths of the host country and transnational investors. A pertinent question is whether this implies that public policies are explicitly sacrificing the environment to promote industrial growth and export earnings. Historically, the answer is yes, but the case of Alcan’s restoration programme along the Winston Jones Highway indicates that this is not necessarily the only possible outcome. Knowing the political priorities, however, the appropriate question is: who actually did pull the environmental trigger?

In 1974, strongly inspired by the leadership of Jamaica’s Prime Minister Michael Manley, the International Bauxite Association (IBA) was established. In the words of Michael Manley: “to strengthen the position of bauxite producing countries vis-à-vis the multinational corporations and their host governments” (Manley 1987:46). Inspired by the 1973 OPEC initiative, the bauxite producing countries wanted to increase national revenues through increased taxation of bauxite/alumina production and exports. However, the planned collective action proposed by IBA created defections and free riding, as bauxite producing countries such as Australia did not support the idea of IBA. Neither did Guinea, which actually hosted the inaugural meeting in 1974.164 Besides, TNCs like Reynolds relocated their operations to the more favourable political and economic climate offered by Australia.

164 There are different views concerning the extent to which the IBA has justified its existence. But there is not doubt that IBA did good work in disseminating information about new systems of taxation and new national policies in general. As shown in the case of Jamaica, however, the actual impact on national revenues did not create the expected results.
Without collective strength, Jamaica was unable to maintain its radical policy and the six fold increase in taxes introduced in the early 1970s was later reduced and harmonised with the tax regimes of competing bauxite exporting countries (Ruud 1993). The Jamaican government introduced the Natural Resources Conservation Act of 1991, and regulatory agencies such as the JBI, UWA and the Ministry of Mines and Agriculture are in the process of establishing environmental standards to which the industry should adhere (Perkins 1998). The lack of stringent environmental legislation can, however, be interpreted as either political unwillingness, or limited strength, to pursue these issues any further. The concern of local and foreign NGOs is also missing, a significant contrast to the Utkal case in which Norsk Hydro is involved. This could create a challenging situation with respect to environmental management, unless those asked to promote further industrial expansion promote voluntary, proactive initiatives together with the industry exposed to strong transnational activities.

5.3 Environmental impacts of bauxite/alumina production

In nature, aluminium is never found in its metallic state, but is a common constituent of many minerals, where it is normally combined with silicon and oxygen. Bauxite is the only ore from which aluminium can be economically extracted. Once the ore is mined, a chemical process is used to extract aluminium oxide, or alumina, and an electrolytic process reduces the alumina to aluminium. Some four to five tonnes of bauxite are required to produce the two tonnes of alumina that yield one tonne of aluminium. Aluminium is marketed as the ‘green metal’, as natural resources are converted from red bauxite ore into white alumina powder to silvery aluminium metal. A UNEP report confirms, however, that the bauxite/alumina industry creates several environmental problems, which in various ways threaten both people and the environment (UNEP 1981). It is argued that there prevails general significant environmental challenges generated by the activity of the aluminium industry (Young 1992). The Environmental Guidelines of the World Bank state that the principal environmental concerns in bauxite mining are land reclamation, runoff water control, dust control and infrastructure impacts. With regard to the refining of bauxite into alumina, disposal of bauxite residue, dirt losses, emissions from fuel burning, waste liquid and slurry streams other than red mud, noise and infrastructure impacts are the principal environmental concerns (World Bank 1988).

To illustrate the central environmental challenges, I have chosen to refer to Alpart, particularly as a government representative at Jamaica Bauxite Institute confirmed that Alpart, as an average bauxite mining and alumina refining company, can be associated with the principal environmental concerns identified within the industry. Furthermore, Alpart is very relevant as I have no data relating to Kaiser’s cross border environmental management. Only through Hydro sources have I been granted access to rather relevant information, useful in the analysis of Alcan’s cross border environmental management system. However, Alpart is obviously a relevant case to illustrate environmental impacts related to issues such as land consumption and scarring of topography, contamination of ground water and polluting air emissions. Consequently, as an introduction to the actual efforts taken by Alpart, let me briefly explain these potential impacts:

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165 This is done by Norsk Hydro, Alcan and Alcoa.
166 According to Learie Miller, environmental engineer at the JBI, in a meeting on 14 September, 1990.
Land consumption and scarring of topography:

The open-pit mining at the Manchester plateau is necessarily a land consuming process. In spite of better quality at the Manchester plateau compared to the bauxite in the Essex valley, Alpart still has to mine a huge quantity of ore to satisfy the plant’s needs. In 1996, Alpart processed 1.4 million tonnes of alumina, and, given the need for 2.3 tonnes of dry bauxite to produce one tonne of alumina, this quantity alone required more than 3.2 million tonnes of moistened mined bauxite ore.

When visiting the area in the beginning of the 1990s, an average of 12 households had to be resettled each year. This was a direct consequence of expanding mining activities. However, in comparison to the area of Mocho Hills, where Jamalco mines, Alpart’s mining expansion has not led to any severe conflict over land use (Berkaak 1985). The reasons may be that fewer households are affected at the Manchester plateau, and that this area is not to the same extent taken out of agricultural use. The affected families are resettled in adjacent areas, and, as far as I could judge, apparently satisfied with the compensation offered by Alpart.167

The most apparent impact of mining activity is the scarring of the topography. The huge excavators effectively remove the topsoil and dig out the ore, leaving the topography dramatically changed. If the mined-out areas are not reclaimed or restored, the area will be hazardous and unsuitable for any future socio-economic activity.

Contamination of ground water:

I was informed that one of the main environmental problems at Alpart is contamination of ground water. A World Bank report confirms that during the first operational years, groundwater contamination did occur at Alpart. According to the source, the main reason for this contamination was lack of sealant in the construction of the mud lake structures (World Bank 1986). Thus, by not paying the price for sealing the pond, the adjacent land bore the cost of environmental degradation. I have not found evidence that the Alpart partners actually violated any regulatory requirements, as environmental requirements, or lack of such, were embedded in the contract drawn up between the Jamaican government and the three original partners: Kaiser, Reynolds and Atlantic Richfield (later Anaconda).

In the beginning of the 1980s, Odd Are Berkaak made a study of issues relating to the bauxite/alumina industry in Jamaica. One of his approaches was the social and ecological impact of bauxite mining on small farming communities. He focussed particularly on the mining areas in the Mocho Hills of Clarendon. According to Berkaak (1985:27): “The pollution from the biggest alumina plant on the island, the Alpart plant..is threatening the Nain-Pepper aquifer upon which the Mandeville water supply scheme is based”. He further states, without referring to any source, that the liquid phase that seeps into the aquifer has a pH of 14 (Berkaak 1985:28). During my visit to Jamaica, I was not able to confirm, either from JBI or other sources, whether Berkaak’s reference to the pH value in the Nain-Pepper aquifer was actually correct. According to Hydro Aluminium, however, the ground water contamination was not that serious. According to monthly comparisons of pH values during 1973, the average pH was approximately 8, the highest rating being 10.1. The following year, the monitoring showed similar pH values, the highest rating being 10.2. Similar monitoring in December 1990 showed a value of 7.4-7.5. In spite of lower pH values, Alpart’s

167 I was later told by others that only those who collaborated with Alpart received proper compensation in the form of alternative housing etc. Others were paid off and asked to leave the area.
representatives confirmed that the ground water contamination had been, and still may be a potential environmental hazard.\footnote{168 According to the Alpart representative, Ms. Andrene Jones, during a field visit on 18 September 1990.}

**Polluting air emissions:**

The production process requires considerable energy, and petroleum fuel consumption represents more than 30 percent of net operating costs. According to the JBI, the petroleum used at Alpart, as well as other Jamaican alumina plants, has a relatively high sulphur content. Thus, the fuel burning for power and steam generation creates hazardous emissions of sulphur dioxide, $SO_2$. Adjacent to the factory lie several houses with galvanised iron roofs that have been corroded. Many believe this is due to emissions from the plant, particularly $SO_2$ and moist bauxite dust. According to the World Bank, the most significant evidence of increased corrosion near alumina plants is provided by a thorough study funded and conducted by Alcan. This study found evidence of accelerated corrosion within a 3 km radius of its Jamaican plants, Kirkwine and Ewarton. Berkaak (1985) found similar phenomena, concluding that alumina production had a significant impact on corrosion. Alcan did acknowledge its environmental responsibility.

According to Hydro Aluminium, the management of Alpart is aware of the corrosion problem, and a total of 400 households in the vicinity of the plant have received economic compensation. However, studies similar to that of the Alcan investigations have not been made. There is disagreement amongst the experts as to the cause of corrosion. Carlton E. Davies states that it is complicated to precisely identify sources of corrosion. The attacks could be due to the marine environment or fairly normal atmospheric conditions acting on inappropriate gauge materials or improperly constructed materials.\footnote{169 According to Mr. Davies’ address, op.cit.}

In addition to the above issues, issues such as dust and noise may be relevant. The transportation of bauxite in the mining field, the mining, transportation and calcination of limestone, as well the calcination and transportation of alumina all create substantial dust problems. The noise issue is particularly connected to operation of the conveyor belt that transports ore from the mining fields down to the factory. The belt is constructed with uncovered metal rollers, and the friction of the wheels creates considerable noise.

### 5.3.1 Environmental actions taken by Alpart

Carlton E. Davies highlighted six potential problems that have arisen from the various aspects of industrial operations within the bauxite/alumina sector of Jamaica: dust, noise, plant spillage,\footnote{170 These are rather to be treated as a health hazards, particularly as the plant is set up within a sealed area in which all spillage is recycled.} seepage from mud disposal pond, polluting air emissions, the scarring of topography in the mining fields.\footnote{171 Address to the Jamaican Conservation Development Trust at their Annual Meeting 1 September 1990. Carlton E. Davies was the Executive Chairman of the Jamaica Bauxite Institute (JBI), the governmental institute in charge of bauxite/alumina issues, including environmental affairs.} At Alpart, both water and oily liquids are sprayed continuously on the access roads, to impede dust creation. According to Mr. Adamson, dust fall is not a substantial problem.\footnote{172 Mr. Adamson, Mine Maintenance Superintendent, provided an interesting field visit covering all areas of the mining field. As far as I could observe, dust fall is significantly limited due to liquid spraying.} The same source also referred to recent initiatives of covering the conveyor belts’ metal rollers with rubber bands to reduce noise. However, major
challenges still remain. Let us focus on the efforts made by Alpart to deal with plant spillage, seepage from mud disposal ponds, polluting air emissions, the scarring of topography in the mining fields.

Land restoration following topographical scarring in the mining fields

Alpart has initiated activities to restore mined-out areas. It was not fully explained to me whether this, as reflected in the regulatory requirements, was limited to areas where agricultural activities had been located, or whether the company had a policy of restoring all mined-out land. However, I did observe that considerable efforts were made by Alpart to restore scarred topography and destroyed former agricultural land. As confirmed by JBI, the restoration efforts made by Alpart are perceived to be satisfactory and in accordance with mining regulations.

According to personnel in the mining area, however, the company has not established any specific goals for reclamation activities, neither the extent nor the speed. This in striking contrast to the detailed mining plans. The mining processes are strictly supervised by representatives from the Mining Department, authorised in accordance with statutory requirements defined in the Mining Act of 1947. According to this act, the pits must be controlled both before mining starts and after the excavators have hit the limestone layer beneath the ore. Thorough statistics have been compiled regarding the occurrence of bauxite ore and the quantity of mined out ore. However, in all areas where no previous agricultural activity had taken place, the quantity and quality of reclaimed areas are not supervised or controlled by the same authorities. The regulations do not urge the company to restore, and Alpart is left to its own judgement regarding how much and what to do, as well as with what dedication.

I was not able to obtain any reclamation target information, specifying the level of activity involved in the reclamation efforts at destroyed, mined-out areas. At the present level of reclamation activity, the company will not be able to keep pace with the mining progression, and plans have also been made to increase the quantities of bauxite to be mined. An increasing number of mined-out acres will therefore be left destroyed and so not potentially useable for future agricultural exploitation.

Waste management control to avoid seepage from mud disposal ponds

Comparing land restoration efforts to more traditional pollution control, there are interesting similarities, but also differences. During my field-work, I was not able to document stringent regulatory requirements, either for bauxite mining or alumina refining. In other words, the bauxite/alumina plants were operating under rather lax regulatory control. Voluntary restoration efforts created goodwill, but in terms of operational costs, land reclamation was purely cost creating. Pollution control at the alumina refinery is also cost creating, but spillage of caustic soda as red mud represent economic loss that can, at least partly, be avoided through more efficient waste management procedures.

At the beginning of the 1990s, several projects were initiated to improve manufacturing efficiency. At the same time, decisions were made to abandon the use of one particular disposal site, the North pond, which had been the cause of the environmental problems of

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173 According to Jon Arild Larsen, Norsk Hydro, HAMP, due to the proposal for expanding the refinery to achieve an annual production capacity of 2 million metric tons, Alpart needs to expand the current annual mined-out volume of 3.6 to 5 million tons of bauxite ore.
the 1970s. At the remaining disposal site, the South pond, technical modifications were made. The so-called ‘counter current decantation’ process was extended to 10 washing stages. By increasing the number of decantations, more caustic soda can be recovered and reused in further refining of bauxite into alumina. In addition, apart from the increased level of recycling, less alkaline solution will be pumped into the disposal sites, the mud lakes. Finally, my source in Norsk Hydro informed me that Alpart plans to construct a new disposal site that will reduce the caustic liquid content by approximately 50 percent.174 The real production rate of red mud residue is 5-10 tonnes per tonne produced alumina. Alpart produces approximately 1.4 million tonnes of alumina annually. This implies that Alpart generates 7-14 million cubic tonnes of hazardous red mud slurry that need to be disposed of every year.

Atmospheric emission control

Dust and sulphur dioxide emissions have caused environmental impacts in the vicinity of plants, and Alpart has installed various types of filter in the production kilns. According to a JBI representative, the installed filters, particularly the electrostatic ones, have reduced dust emissions effectively.175 Thus, people living in the vicinity regard the sulphur dioxide emissions from the powerhouse as a bigger environmental problem than ordinary dust fall. However, due to cost considerations, Alpart has been reluctant to use oil with lower sulphur content as a fuel. Rather than eliminating or at least partly preventing SO₂ emissions from the powerhouse, end-of-pipe technologies were chosen.

As well as Alpart having economic incentives to increase efficiency in consumption of caustic soda, the company has an even greater incentive to economise with fuel consumption. The emission of sulphur dioxide directly correlates to the use of sulphur containing petroleum. Using consistent bauxite quality, one tonne of alumina can be refined with a fuel consumption of less than 2 barrels. Knowing that fuel consumption represents more the 30 percent of operating costs,176 efforts have indeed been made to improve fuel efficiency. Consequently the emission of sulphur dioxide may be limited. Whether this will eliminate corrosion of zinc roofs is rather difficult to predict, due to the fact that the cause of such corrosion is, as previously mentioned, still under debate.

I found it interesting to discover that several commissions and samplings have been made for years. Underground waterways have been examined, and a considerable number of corporate reports have been produced, but no significant environmental initiatives have been undertaken.177 Complaints have been made locally, as well as from Kingston. Until 1990, however, little was done either to increase production efficiency or to decrease environmental hazards. I presume that Kaiser representatives would disagree,178 but it seems to me that the Alpart tradition has been to mute local protest rather than eliminate the source of the environmental problem. A vicious circle of compensation has been institutionalised, with the result that solely affected households have been temporarily satisfied. There have been

174 Traditionally, the red mud slurry pumped into Alpart's waste disposal sites had a liquid phase of 80-90 percent. As illustrated by subsequent efforts initiated by Alcan of so-called ‘dry mud stacking’, waste disposal procedures could be even further improved to enhance the reuse of the huge areas that current disposal sites occupy.
175 Personal communication with Mr. L. Miller at JBI in April 1993.
176 According to information granted by J.A. Larsen, Norsk Hydro.
177 I obtained this information mainly during a meeting with Mr. Carl Behrens at Norsk Hydro's research centre. In spring 1990, Mr. Behrens was engaged by Norsk Hydro Aluminium Jamaica to analyse the Norsk Hydro geological ground conditions at Alpart.
178 As referred to previously, I have not succeeded in establishing any dialogue at all with representatives of Kaiser.
obvious disagreements between the present partners, but increasingly, environmental issues seem to be integrated into the commercial strategies of Alpart. Previous owners did not facilitate such efforts, nor did the authorities. Local civil groups have not gained any influence and there are no transnational networking activities to address the challenges at Alpart. Thus, it can be deduced that Norsk Hydro becoming a 35 percent owner in 1988 did have a catalytic effect. However, Norsk Hydro is only a minority partner at Alpart, with no operational responsibility, and I will rather investigate Norsk Hydro using the case of India. The Jamaican case will rather be illuminated by analysing current procedures and practices at Alcan.

5.4 Current environmental strategies in Jamaican bauxite/alumina activity

Through the presentation of Alpart, I have shed some light on current environmental problems. Documented preventive environmental measures at Alpart can be found. The examples of SO2 emission and red mud waste disposal procedures illustrate the challenges of eliminating polluting sources among highly capital intensive industrial entities. Dr. Art Reid, Environmental Manager of Alcan Jamaica, emphasised that prevention of environmental degradation should be a common objective for all. Other TNC representatives in Jamaica, including Kaiser and Alpart, have made similar statements, however, what is interesting to observe is that Dr. Reid and his Jamaican team have converted these commitments into actual action.

Dr. Reid’s reasoning relates to trade-offs - that industrial development will inevitably create some negative environmental impacts - is still very relevant. In contrast to Dr. Reid’s statement in 1993, his boss, the CEO of Alcan, J. Bougie, did not refer to any such negative impacts and did not focus on trade-offs. There remain significant negative environmental impacts caused by bauxite mining and refining, but, in contrast to the statement made by Dr. Reid, the person actually in charge of promoting environmental performance at Alcan’s Jamaican operations, the CEO, did not seem to allow for such trade-offs. He reoriented focus towards full compatibility with nature and people, fully aware that this is a daunting task. Dr. Reid likes to remind us of current facts, but we observed a rather impatient CEO, driving his affiliated units into what he would have liked to term ‘environmental leadership’.180

The CEO of Alcan stated rather bluntly that industry has the technological solutions at hand to make mining and refining operations fully compatible with the environment. This could appear to be an internal contradiction, but there seemed to be more inconsistency in rhetoric than practice. Let me illustrate this by posing two questions: It is inevitable that open cast bauxite mining scars the topography, but is it inevitable that the topography is left destroyed forever?

It is impossible to refine bauxite into alumina without generating substantial hazardous waste, but is it inevitable that liquid red mud ponds will be left as destroyed wasteland forever?

Through describing current initiatives, I have established that Alpart’s answer is partly “no” to the first question, but “yes” to the second. Despite the statement of Dr. Reid, through

179 As particularly reflected in the concluding section of the pamphlet: “The bauxite/alumina industry and the environment”, published as a supplement to the Daily Gleener on World Environment Day 1991, and jointly produced by the Jamaican Bauxite Institute and all the bauxite/alumina companies, including Alpart and Kaiser Jamaica Bauxite Company.
180 This is actually stated in a pamphlet, "Continual Environmental Improvement", also published on Alcan’s homepage: http://www.alcan.com/Environment.nsf/Sub/Topics-E/Continual
current operations at the Schwallenburg/Ewarton and Kirkwine facilities, Alcan has answered “no” to both questions. Let us see what is actually done.

Both current land reclamation techniques and actual practices of dry mud stacking at Jamalcan’s two integrated plants, are very much functions of local initiatives. Despite my explicit focus on transnational ties and cross border management, it is impossible to neglect the evolutionary local process leading up to the current status which Alcan’s CEO referred to when launching the blueprint for environmental global leadership. The current rehabilitation procedures for mined-out areas are based on initiatives made by local employees more than twenty years ago. Dry mud stacking technology is newer, but, at least to some extent, developed with the intensive use of local entrepreneurship. These two innovative processes triggered radically improved environmental performance by Jamalcan. Furthermore, employees at Alcan’s affiliated units have also played a rather catalytic role in strengthening general environmental management awareness among other mining companies operating in Jamaica. A question remains as to whether these initiatives have also been disseminated to projects where Alcan does not have operational responsibility, such as the case of Indal.

5.4.1 Land rehabilitation initiatives by Jamalcan at mined-out bauxite pits

Alcan’s global strategy regarding land rehabilitation procedures was initially developed in Jamaica. Mr. G.W. Morgan developed it in the mid-1970s (Morgan & Steven 1979). Twenty years later, his initiative was introduced in the form of policy guidelines for the reclamation/restoration of mined-out pits at Alcan Jamaica Company. His efforts remain the benchmark for almost all subsequent work on reclamation and restoration, not only by Alcan and other mining companies in Jamaica, but also by other affiliated bauxite-mining units of Alcan worldwide. The efforts of G.W. Morgan were even referred to in a paper presented by a representative of the Commissioner of Mines, Kingston, at a mining technique conference in Luleå, Sweden in 1993 (Neufville 1993).

G.W. Morgan’s initiative was made several years before Alcan, in 1978, published its very first environmental policy. The chairman and CEO at the time, Mr. N.V. Davies, explained that the statement was meant for distribution to Alcan employee around the world, to strengthen their awareness of the basic principles and policies that had guided Alcan’s conduct over the years. As Mr. Davis stated: “It is not, of course, possible to prescribe specific responses to every industrial and social problem that will arise in a widespread international enterprise. I have confidence, however, that the publication of this statement, and the continuing efforts of Alcan personnel to meet these standards, will enable the company to continue to merit public understanding and trust.”

Initiatives had already been taken, and perhaps it is rather that G.W. Morgan and Alcan Jamaica’s innovation and entrepreneurship triggered the efforts of Alcan to publicise them as corporate commitments. I will apply the observations made during my field-work in Jamaica to elaborate further on land rehabilitation initiatives taken by Jamalcan.

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181 Ibid.
182 On 23 March 2000, Alcan announced its sale of the Indal shares to Hindalco, a competing aluminium company owned by the Indian Aditya Birla group.
184 On 24 June 1993, Mr. Morgan accompanied me to one of the rehabilitated mined-out areas along the Winston Jones Highway in the vicinity of Mandeville, adjacent to the Kirkwine alumina plant - not far from where the Alpart mining activities are located.
The principal objectives of the Jamalcan’s reclamation/restoration programme are:

− To maximise the quantities of level land created during reclamation\(^{185}\) so as to facilitate greater utilisation of mechanical equipment for farming activities and at the same time minimise soil erosion.

− To restore\(^{186}\) land disturbed by mining to at least the level of agricultural or pastoral productivity that existed prior to disturbance.

− To conduct research to investigate rehabilitation\(^{187}\) techniques which may be applied to mined-out areas and associated marginal land.

The focus on marginal land is very interesting. This land is marginal for agricultural use, in the sense that such land is not easy to cultivate because of limitations such as slope, excessive amounts of stones on the surface, very shallow soil and sometimes excessive amounts of calcium carbonates in the soil. Consequently, only limited agricultural activity is found on bauxite bearing marginal land, and only limited areas of mined-out areas are subject to compulsory restoration in accordance with the Mining Regulations of 1947.

During the 1970s, Jamalcan, under the supervision of G.W. Morgan, initiated more systematic testing of reclamation procedures to facilitate access to new mining areas. Expansion often required that rather heavy machinery needed to pass by empty bauxite pits, and, without some reshaping, this was difficult. G.W. Morgan had been in charge of restoring these areas previously cultivated areas, but, together with colleagues, he gradually saw the inefficiency of merely restoring some areas while leaving others untouched. This was particularly evident when heavy machinery was transported through areas not previously cultivated.

Current reclamation procedures include more than merely reshaping topography. Resoiling is also included, and this cannot be explained by focusing only on the transportation of heavy machinery. In fact, continued transportation renders resoiling futile. Resoiling was performed as defined in accordance with regulatory requirements. However, the mining regulations do not specify the character and quality of restoration activities. In several places, the mining companies have performed some restoration by making grass land, but this if often carried out without proper reclamation and reshaping of the mined-out areas. As G.W. Morgan explained, regulatory requirements forced the mining companies to do something regarding the mined-out areas along the Winston Jones Highway. However, rehabilitation efforts were not promoted in a consistent manner throughout the various mined-out areas. This was also influenced by the fact that rehabilitation efforts sometimes impeded further expansion of bauxite mining. To find remedies, G.W. Morgan initiated a process of strengthening the reclamation practices of Alcan Jamaica to achieving a more mutually beneficial practice, both for Jamalcan and impacted local communities. This included the following practices:

a) Topsoil handling

From the mid-1970s until 1992, Alcan followed a procedure of stripping at least 30 cm of surface soil. From 1 July 1992 onwards, this minimum requirement was extended to 45 cm.

\(^{185}\) Reclamation refers to the activities necessary to reshape and resoil a mined-out area.

\(^{186}\) Restoration refers to the activities necessary to plant and establish crop in a newly reclaimed area.

\(^{187}\) Rehabilitation refers to the combination of the processes of reclamation and restoration.
From the very beginning of bauxite mining, soil has been stored for subsequent resoiling, but practices varied extensively and there were no systematic management procedures in place. What became an Alcan practice, subsequently followed by the other mining companies, was a conscious practice to stockpile topsoil in a nearby mined-out pit. However, as part of the procedure proposed by Morgan, the empty pit was reshaped before using it as a topsoil storage area. When the stored topsoil was recovered, sufficient topsoil was left in the pit to effect the resoiling of the storage itself, and new topsoil was used in reclamation work whenever possible.

b. Reshaping the mined-out pit

In 1975, Alcan Jamaica initially adopted general guidelines for reshaping pits. In contrast to topsoil handling, these guidelines were developed by a group consisting of representative of all the companies operating bauxite mines in Jamaica at that time.\(^{188}\) This could easily turn into a very technical debate on the details of the reshaping guidelines, and the guidelines did only present best practices. No further commitments to actual practices came out of the collaborative efforts to develop the guidelines for reshaping. It was recognised that the reshaping techniques applied would be governed primarily by the profile of the mined-out pits. Since profiles often vary within a pit, different reshaping techniques would have to be applied to various parts of a pit. Consequently, practises vary as much between the companies as they do between profiles.\(^{189}\) The proposed reshaping methods, as presented in 1975, were discussed with the authorities. The Commissioner of Mines knew what to do, but as illustrated in the case of Alpart, a systematic management plan was not developed.

On 1 July 1992, Alcan Jamaica developed policy guidelines strengthening the initiatives previously begun by G.W. Morgan. Rather than referring to the six cases developed jointly by the industry in 1975, Jamaican proposed the following mandatory standards for reshaping mined-out pits: 1) vertical faces of greater than 3 meters should not be cut, 2) vertical faces of less than 3 meters should be demolished, 3) Vertical faces remaining after reclamation should be fenced and revegetated. Applying these simplified procedures to the six cases allowed Jamaican to systematise its efforts. This resulted in a transparent and more comprehensible rehabilitation plan that was easy to implement and enforce.

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188 In additional to Alcan, this included Alcoa Minerals of Jamaica, Alpart, Kaiser Bauxite Company, Revere Jamaica Alumina Ltd (which later went broke and closed down all its activities), and Reynolds Jamaica Mines.

189 Six cases were used to illustrate reshaping best practices. The first case refers to the situation where the area bordering the pit consists of ripable limestone with a slope of less than 25 degrees, with vertical faces less than 3 meter high. Reshaping can then be done by *bulldozing irregularities* in the pit floor and fringe areas to create a smooth bowl, leaving a maximum slope of 25 degree. *In the second case*, the fringe areas or benches within the pit have a maximum slope of 10 degrees and minimum width of 9 meters. The underlying limestone is ripable. Reshaping is done by *selective bulldozing* of the fringe areas and/or benches within the pit to a minimum width of 9 meters so that useful areas of level land are not disturbed. This technique may be regarded as a combination of the smooth bowl and maximisation of the level. *In the third case*, the area bordering the pit consists of ripable limestone with slopes steeper than 25 degrees. Reshaping is suggested to be performed by so-called "rimming". With this technique, a new floor level for the pit is selected, so that cuts from the side and fill into the pit area are equal. *In the fourth case*, the area bordering the pit consists of non-ripable limestone with slopes steeper than 25 degrees. Reshaping by "filling" is recommended so as to create a new floor by trucking fill from a borrow pit beyond the periphery of the pit being reclaimed. *In the fifth case*, a mined-out area creates a pit floor that is convex upward and steeper than 25 degrees. The underlying limestone is ripable, and reshaping is performed by bulldozers *creating bench terraces* of minimum width of 9 meters and slopes of less than 10 degrees. *The final case*, refers to exceptionally rugged and difficult areas that do not fit the conditions specified in the previous cases of best reshaping practices.
c. The resoiling of reshaped pits

During the 1970s, Alcan's policy was to resoil pits with a minimum soil cover of 30 cm. This was a direct function of the practice of stripping an equivalent depth of topsoil before initiating mining. As the minimum requirement for stripping topsoil was increased to 45 cm in 1992, the resoiling standard was also increased to a minimum of 45 cm. The reasoning behind increasing the layer from 30 to 45 cm was a direct result of agricultural field experiments conducted by Jamalcon. Furthermore, it was underlined that in areas selected for planting deep-rooted trees, resoiling should be as deep as 60 cm or more. In other areas, resoiling could be limited to a minimum of 25 cm, when restored areas were to be used as grass pastures. A minimum of 45 cm was needed for cash crops and 60 cm for trees. The 1992 guidelines specified that citrus, excluding lime, should only be planted in areas where the reclaimed soil depth-spread is 60 cm or greater. Other deep-rooted trees, usually grown on non-mined bauxite land, should only be planted in reclaimed areas where the soil depth-spread was greater than 60 cm. Beyond the resoiling focus, the guidelines of 1992 also explicitly set a standard for introducing graded drains to reduce soil erosion, further facilitating cash crops.

5.4.2 Waste management at Jamalcon's alumina refineries

To dissolve the alumina out of the bauxite/lime mixture, a solution of caustic soda is added, and the resulting slurry is heated under high temperature and pressure in a digester. Boiler steam is used to produce these conditions. The alumina in the bauxite dissolves to form sodium aluminates. The mixture leaving the digester is depressurised in flash tanks. Steam is vented to the atmosphere, carrying with it caustic aerosols and volatile organic matter that creates, as referred to in the Alpart case, potential health and environmental hazards. The cooled mixture is then clarified by adding flocculants, which cause the mud to settle and separate from the liquor containing the aluminates. The liquor is then treated with sodium sulphate and filtered to remove the last of the impurities. The residue, the red mud, is disposed of in various ways, traditionally, as in the case of Alpart, through so-called 'wet mud stacking'. The alkalinity and high sodium content of these waste disposal sites pose a potential threat to soil and ground water, as illustrated by the case of Alpart.

For the World Environment Day 1991, a Daily Gleaner supplement entitled “The Bauxite/Alumina Industry and the Environment” was published, in which the industry was presented, including a number of characteristics of current operations both in mining and refining into alumina. The role of regulatory bodies was particular focused upon, and the JBI was presented as a responsible regulatory body in environmental matters also. An explicit reference was also made to environmental legislation in the Jamaica bauxite/alumina industry, and particularly the Natural Resources Conservation Authority Act of 1991 (actually introduced a few weeks before the supplement was published). Let me highlight a few statements: “The NRCA reserves the right to refuse a permit or licence if it is satisfied that the operation is likely to be harmful to public health or to any natural resources.”

When visiting Jamaica in 1993, and despite the fact that they acknowledged significant disruptive environmental practices, I did not hear single reference made to this act by the

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190 Suitable cash crops for restoration have been recommended by the same Morgan (1981)
191 According to Alcan's guideline, suitable trees for use in restoration are Caribbean Pine, Breadfruit, Avocado Pear, Ackea, Lime, Pimento, and other shallow rooting trees traditionally grown on thin soil over limestone.
192 Referred to in footnote 181.
TNCs involved. Sources at Alpart were not even aware of the new act, despite the fact that: “The NCRA also has the legal power to ask for and receive any information on pollution control facilities at any bauxite/alumina plant. Such information may be on the performance of the facilities, the quantities and condition of effluents discharged, and the area affected by the discharge of effluents.” Alpart paid compensation directly to impacted households, despite the fact that: “The NCRA can enforce these controls by ordering immediate cessation of the offending activity, or even closure of the plant. These controls can also be enforced by stringent fines and/or imprisonment”.

During my field-work in 1993, I did not find any evidence of this act actually being enforced. When contacting TNC representatives in 1996 and subsequently during the autumn of 1998, nobody could confirm whether any plant had been closed or that any fines had been issued. The supplement further presented land rehabilitation procedures and water quality monitoring. Indirectly, the industry confirms that seepage from waste disposal sites into groundwater and adjacent agricultural fields is a significant problem. With respect to red mud, possible uses for the tailings, either as building material, cement, concrete, road materials, bricks, roof tiles or ceramics are presented. However, not a single sentence is related to waste management and procedures for disposing of hazardous red mud slurry. The reason was simple, by 1991, little had actually been done to develop sounder waste disposal techniques. In 1993, however, I visited Alcan at the Ewarton plant to observe the efforts made to systematise an alternative process - the 'dry mud stacking method'. The environmental impacts are still not fully verified, but immediate effects gave clear signals that this method radically improves the sustainability of waste disposal techniques. The perception of the inevitability of environmental hazard has changed, and, once again, despite the lack of local political regulatory pressure.

The NCRA can rather be viewed as a result of TNC efforts, triggered by decades of trial and error by G.W. Morgan and other committed experts. In 1993, the NCRA was still a kind of public ‘green–washing’, equivalent to many other environmental policy statements made by TNCs in connection with the UNCED Conference in Rio in 1992. However, an environmental management system was not in place to actually enforce increased corporate compliance with the commitments enshrined in the policies. This was also the case for Alcan. Not until 1997 was their EMS really in place at a transnational level. However, the vitalisation of cross border environmental management systems had already been initiated and was significantly impacting local waste management procedures when I visited the Ewarton plant in June 1993.

In order to assess the degree and extent of contamination, Alcan established water quality monitoring points around the two alumina plants located at Kirkwine and Ewarton. This practise has subsequently been supported and acknowledged by the Underground Water Authority, and adopted as a mandatory procedure applicable to all assessments of the degree and extent of contamination. Influenced by Alcan initiatives, current monitoring consists of sample collection from surface and ground water sources and joint sampling from all the monitoring stations. Water samples are analysed to determine hardness, alkalinity, turbidity, pH, and colour, and the concentration of sodium, chloride and calcium. The procedures for assessing the extent of contamination were historically directed toward the disposal of red mud in wet ponds. As illustrated by Alpart, the risk of groundwater pollution due to seepage from these ponds is high. Combining this with the fact that these

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193 Colour refers to measurements of thickness and whether it is clear.
huge ponds were aesthetically unattractive and not at all sustainable for any future economic purpose, during the late 1980s Alcan initiated a process to modify waste management procedures. Alpart later initiated a process to modify the practice of wet mud stacking. However, as argued by Dr. Reid,\textsuperscript{194} as long as it remained wet, the ponds would remain unusable for alternative purposes. In addition, as the original ponds were not sealed, the potential seepage and contamination were merely reduced - not eliminated.

The waste disposal methods developed at Alcan’s Ewarton plant is a process in which thin layers of thickened red mud are spread on sloping impermeable beds and sun dried to 75 percent solids. The caustic in the slurry is recovered in a special holding pond and recycled to the plant for reuse. Because of its fine particle size, Jamaican red mud has poor filtering qualities and cannot be thickened by traditional vacuum filtration methods.\textsuperscript{195} Instead, so-called ‘deep thickeners’, which use the sun as an active drying agent, achieve the required thickening. Alcan in Jamaica developed this process during the 1980s, and it has subsequently been used at other affiliated units controlled by Alcan. This could easily become very technical, but in essence, the process reverses what normally happens and gives both environmental and economic advantages. Let me illustrate this briefly.

The dry stack methods, as developed and implemented at the Ewarton plant, have several environmental and economic advantages compared to traditional wet stack methods of disposing of red mud slurry. First of all, it permits only small quantities of chemicals to be discarded with the washed and dewatered red mud filter cake. Secondly, the treated red mud filter cake material usually has excellent soil sealing characteristics, and seepage of chemicals into the ground water is practically eliminated. Thirdly, chemical diffusion into supernatant rain water can be trapped by specific dam design features or, where required, by flood control towers, permitting excess rain water to be collected and returned to the plant site. A fourth advantage compared to wet mud stacking is the greater stability of the dry waste. Alcan has chosen to add a hardening chemical to the red mud cake, and this may further enhance the stability of the deposited waste. Related to this is a reduced risk of structural dike failure. Dust can be controlled through manageable methods. Finally, perhaps the most significant advantage is the opportunity to promote land reclamation similar to that performed in bauxite fields. The procedures are somewhat different, but the outcome can be similar, in terms of replacing destroyed areas with grassland, cash crops and trees.

Jamalco has chosen another method of mud disposal, the so-called ‘clay-sealed’ mud disposal lakes. These lakes are designed to maintain zero discharge from the plant to the environment through strict enforcement of operational protocols.\textsuperscript{196} Through various technical solutions this is achieved, but the lakes continue to occupy a significant area that Alcan’s dry-stack methods eliminate. Consequently, Alcan’s methods are more sustainable with regard to alternative agricultural/socio-economic purposes.

Dry mud stacking has only been fully developed at the Ewarton plant so far, but at Kirkwine, efforts have been initiated to implement similar waste management procedures. Jamalcan is also using the experiences gained at Ewarton to guide and enhance the waste management project at Kirkwine, and similar efforts worldwide are being guided by the results achieved and increasingly documented at the Ewarton plant.

\textsuperscript{194} Dr. Reid accompanied me during the plant visit to the Ewarton plant.  
\textsuperscript{195} Using mechanical drums.  
\textsuperscript{196} A management challenge in itself, as illustrated by the case of Brazil. See the following chapter on conflicting forces influencing cross border environmental management.
5.5 Environmental strategies at TNC affiliates in Jamaica – a result of cross border environmental management?

In 1987, Alcan supported the establishment of a Chair at the University of the West Indies, focused on Caribbean Studies and Sustainable Development, and, together with other aluminium producing TNCs, published a supplement to the Daily Gleaner newspaper in 1991. The overall aim of both these initiatives was to create the impression among Jamaicans that the foreign controlled bauxite/alumina industries took the issue of environmental protection and natural resource conservation seriously. These efforts could be analysed in a local Jamaican context. However, local criticism at the time of the 1991 supplement was almost non-existent. In accordance with the reasoning of this thesis, local changes can rather be related to efforts taken by the parent company to strengthen voluntary environmental efforts. We have referred to initiatives prior to the UNCED Conference in 1992. These local commitments can be related to the same initiatives, but we must then extend the perspective beyond Jamaica.

All the TNCs supporting the 1991 supplement have subsequently initiated extensive environmental efforts, and millions of US dollars have been allocated to various environmental projects, particularly at the alumina refineries. A USD110 million expansion programme at Alpart has been agreed upon by the owners, of which some 70 percent are measures intended to improve environmental control. According to Norsk Hydro, this includes installation of new dust collectors, expansion of the mud washing procedures and installation of a modified dry mud disposal system, as referred to previously.197 Independent of recent plans, several million US dollars has already been invested to improve environmental performance at Alpart. A number of the recent efforts initiated by Alcan have already been mentioned, and since 1990, a total of almost USD50 million have been spent on environmental projects, both at the Ewarton and Kirkwine integrated bauxite/alumina plants.

Focusing merely on financial outlays, Alpart appears to be the most responsible, as more money has been proposed to be spent. However, the recent plan has been postponed. Evaluating plans is a way of measuring environmental responsibility, as is frequently carried out, particularly within environmental economics. However, plans are often vague, and it is far beyond my competence to make such a comparative exercise. What I will rather try to do is to understand the dynamics of transnational influence. If Alpart is becoming more responsible, to what extent is this a direct consequence of Norsk Hydro or Kaiser’s strategic environmental management? Norsk Hydro is neither in charge of local operations nor capable of integrating Alpart into a cross border environmental management system including direct control and co-ordination of local operations. Initiatives taken would be at the mercy of Kaiser, which probably explains why the latest USD100 million plan still remain in the pipeline.

The cross border environmental management systems of Alcan, including policies, standards and guidelines that influence local procedures, have all been strengthened – as illustrated by recent statements from CEO Bougie. As efforts have been strengthened, it could be concluded that this is due to pressure from corporate HQHQ. But is it that clear? The environmental policy initially stated in 1978, did lay the foundation for various modes of transnational influence. Explicit focus on environmental issues, however, did not dominate

197 Information was published on Norsk Hydro’s site for Hydro Aluminium Metal Products (HAMP): [http://www.hamp.hydro.com](http://www.hamp.hydro.com/), in February 1999. As per August 2000, however these plans have been postponed!
the global corporate agenda. Environmental issues relating to land reclamation and red mud stacking were to a large extent delegated to the affiliated units, and a strategy of local adaptation prevailed.

In terms of sound environmental management, this strategy gives certain indications that the outcome ought to have been negative, but this was not the case. As a direct consequence of the locally delegated efforts, exemplified by the work of G.W. Morgan, Alcan institutionalised reclamation and restoration procedures at mined-out areas that created new opportunities for locally affected people through access to rehabilitated areas with significantly higher yields than prior to bauxite mining. Impacts have later been seen among other mining companies in Jamaica, and at other affiliated Alcan units in LDCs. Local adaptation gave Alcan an opportunity to promote innovative measures that subsequently created corporate environmental strength worldwide, as later exemplified by Alcan’s bauxite mining fields at Poços de Caldas, Brazil.

When focusing on the efforts of G.W. Morgan, the CEO of Alcan, Jaques Bougie made the following statement: “... and although we have started up sizeable operations in countries with varying levels of social and economic growth, our commitment to environmental standards and community relations has never varied. Our environmental values are not negotiable. But they are exportable.” \(198\) It can be argued that this statement includes several errors. There is no doubt that environmental standards and community relations have varied. As illustrated by land reclamation and red mud stacking, Alcan has strengthened efforts, even producing land rehabilitation guidelines in 1992. According to G.W. Morgan, as early as the late 1970s he had proposed a minimum resoiling depth of 45 centimetres. Nevertheless, it took Alcan 15 years of intensive research and development to be convinced of the necessity. Environmental values are obviously negotiable, but he was right to conclude that these standards appear to be exportable. The question is: where are such experiences exported to, and why did they not materialise to the same extent in India as in Brazil?

For many years, local efforts by G.W. Morgan and his team were supported and acknowledged by corporate HQ, but in terms of becoming a reference for transnational coordination, little actually happened. When asking people in charge at comparable units in Brazil and India, they confirmed that the Jamaican efforts have only very recently been used as a term of reference for other Alcan activities. \(199\) Land reclamation was rooted in local traditions, and environmental responsibility was literally a local responsibility. The responsibility continues to be local, but with explicit reference to Morgan and his Jamaican team, the CEO and top management of Alcan are increasingly using ‘good’ cases not only as an illustration, but also as a reference for the development of corporate standards and guidelines. This has particularly been the case for dry mud stacking of red mud slurry - exemplified by the proposed Utkal project.

In the previous chapter, a few references were made to Alcan’s efforts to initiate an extensive management review. A reformulated environmental policy statement was issued in 1997 in which an explicit focus was placed on global environmental management. At a conference in Jamaica in September 1998, Jacques Bougie, the president and Chief Executive Officer of Alcan stated, \(200\) “Quite frankly, I don’t think there is an aluminium producer of any significance in the Western world who doesn’t share our preoccupation and

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199 This has not happened in India, but has to a limited extent taken place in Brazil.
200 This statement was made as part of a keynote address at the Jamaica Bauxite Institute’s International Workshop on Rehabilitation of Mined Lands and Red Mud Ponds, held in Kingston, Jamaica, 28 September 1998.
concerns about preserving the environment. As individual producers, but also as an industry, we must continue to improve our environmental performance. And let’s face it, we can all do better than we have been doing so far. For example, there are a significant number of people who have doubts about our industry’s mining practices as they relate to the environment. Yet, the fact is that, as an industry, we do have the technical solutions at hand to make our mining and refining operations fully compatible with the environment.

The case of Alcan is illustrative of current environmental management initiatives, not only in understanding the actual relationship between the parent firm and this particular affiliated unit, but also in further elaborating on corporate efforts to create collaborate agreements with external parties. In the previous chapter, I referred to a Alcan’s vision statement. According to Alcan, a global environmental management system is a global commitment to ensure that Alcan’s industrial processes are compatible with the environment. Despite focusing on the environment, it is internally focused, demanding participation and support by all who works for and with Alcan. The actual outcome, however, also involves outward oriented activities, particularly those affected by Alcan’s industrial activities. This is illustrated by the third environmental principle: “communicate with employees, consumers, communities, businesses and governments to achieve greater environmental understanding”. The efforts made at Winston Jones Highway can be used to illustrate such efforts. The question is whether these initiatives were taken as a direct consequence of G.W.Morgan’s own commitment and dedication to improved social change in Jamaica, or whether they can be related to transnational control.

Cross border environmental management is perceived as continuous improvement - a ‘virtuous’ circle. However, it is difficult to judge whether this automatically creates such continuous improvement, or whether it can also create more ‘vicious’ circles, disruptive and continually damaging both to people and the environment. As empirically documented worldwide, bauxite mining is, by definition, disruptive, as open cast mining destroys any existing socio-economic activity located in the mining areas (Young 1992). The refining of bauxite into alumina also causes significant environmental harm, in terms of atmospheric emissions, liquid discharges and hazardous waste. This, therefore, is the case for Alcan. In such a setting, Alcan promotes its global EMS as a process for continual environmental improvement by disseminating and integrating principles and procedures into local industrial activities.

According to one of the six guiding principles, Alcan is committed to using world-class practices in existing operations, and to incorporating technologies that meet social, economic and environmental demands in new plant and processes,. At the new Alma Smelter in Canada, Alcan has built a state-of-the-art smelter that will replace a fifty-year-old plant. A radical change is taking place. At the bauxite/alumina plants in Jamaica, more evolutionary changes are taking place. But even these changes create improvements that can become corporate standards. This is the case for dry mud stacking, and the experience at Ewarton has been explicitly used in the design of the new alumina refinery of Utkal, India. Current waste management schemes, through dry mud stacking, are enabling the future use of waste ponds for alternative purposes. This has not happened before, at either Alcan’s plants in Jamaica, Brazil or India. Despite being a partner of Alcan’s in Utkal, in 1993, Norsk Hydro stated that such radical environmental improvements could not be realised. Today,

201 This is actually stated in the pamphlet "Continual Environmental Improvement", also published on Alcan’s homepage: http://www.alcan.com/Environment.nsf/Sub/Topics-E/Continual
202 According to statements made by representatives of Hydro Aluminium during my field visit to Alpart in 1993.
however, Norsk Hydro is to a large extent justifying its involvement at Utkal by explicitly referring to the dry mud stacking technology developed by Alcan’s Jamaican plant at Ewarton.

5.5.1 Voluntary reclamation of bauxite mines - a function of local environmental commitment rather than cross border environmental management?

The Jamaican Commissioner of Mines has confirmed that the Mining Regulations do not force the companies to restore mined-out areas to agricultural or pastoral land unless the destroyed areas were previously exploited economically. Jamaicans, particularly small farmers in the countryside, however, argued that the legislation should be changed - that the TNCs should reclaim and rehabilitate all destroyed land. As previously discussed, an increasing share of bauxite leases located in ‘unregulated’, ‘virgin’ areas are actually reclaimed and rehabilitated, including the sowing of gin grass to promote pastoral activity. Cropping as well as forestry has also been promoted.

Estimates made by local managers gave an average reclamation cost per km$^2$ of USD600. The cost is relatively low, but each year additional square kilometres of Jamaican land are disturbed, and a substantial percentage of this is located in more remote, previously unexploited areas. According to corporate representatives, the cost of maintaining mining is increasing, but still relatively low. In contrast to voluntary reclamation, maintenance programmes are necessary to ensure continued exploitation of the bauxite ore. Thus, as long as reclamation is not required in accordance with the mining legislation, it can be viewed, at least in the short term, as being economically irrational.

We have seen that, in several cases, rehabilitated land has become more productive and economically attractive to exploit than it was prior to being disturbed for mining purposes (Morgan and Steven, 1979). Land is a scarce resource in Jamaica. In addition, the traditional distribution of land makes it impossible to benefit from any economies of scale. According to the most recent agricultural census, the total number of farms in 1978 was 179,700, of which 146,200 were smaller than 5 acres. 300 farms were larger than 500 acres, averaging 1,952 acres. The total acreage cultivated as small farms represented only 35% of the acreage cultivated by farms larger than 500 acres (Census of Agriculture 1985). Considering also that only 60% of the small-scale farmers actually own their land, the vulnerable situation of these farmers is obvious. It can be argued, therefore, in accordance with Beckford’s (1972) normative statement, that it is imperative to rehabilitate almost any mined-out land, regardless of the size of the affected farms.

According to statements from corporate representatives, the companies ought to give more in return for the bauxite. It was argued that there is a need to promote and extend agricultural and pastoral activity. According to my informants, voluntary efforts to reclaim bauxite mines are made out of a sense of obligation to the affected society, regardless of legal requirements. In the case of Alcoa’s reclamation of bauxite mines in Poços de Caldas, Brazil, revegetation and restoration were even performed regardless of local preferences for choosing more commercially exploitable species. There is no doubt that reclamation of virgin land was carried out regardless of legal requirements. The question is whether the actions

203 Stated by the Commissioner of Mines, 6 July 1993.
204 Gin grass is locally termed Ginigrass.
205 According to Mr. G.W. Morgan at Alcan Jamaica. Information obtained during a taped interview on 24 June 1993.
206 Corporate representatives of ALCOA and ALCAN.
were driven by the environmental commitment of individual corporate managers. Alcoa argues that “habitat preservation requires that companies operate world-wide in a manner to protect environment, preserve biodiversity, minimize the effects and impacts of operations on communities, and avoid improper soil degradation and deforestation”\textsuperscript{207} To specify these objectives, the company states that “preventive actions and corrective actions should be taken to reclaim or restore natural resources affected by such industrial operations as mining...... Reclamation and restoration plans should be consistent with sustainable development concepts to ensure that the results do not compromise the ability of future generations to fully utilise the areas involved”.\textsuperscript{208}

Alcominas’ operations began in 1970 with the start-up of a fully integrated bauxite-primary aluminium complex in Poços de Caldas, Minas Gerais, Central Brazil. D. D. Williams, the first Alcoa employee at the Poços facility, is still the mining manager in charge of land reclamation. In 1974, Mr. Williams wanted, on his own initiative, to try to reclaim one of the depleted ore bodies. A Sao Paulo revegetation company was contracted but little was done. In 1976, increasing levels of complaints were made against Alcominas and Alcoa, particularly through the crusade of a Poços radio news reporter, who argued against mining “moonscapes” and open pits visible from the town\textsuperscript{209} - a town which is one of Brazil’s most important tourist resorts. Seeking information about mine reclamation techniques, Alcominas signed an agreement with the University of Vicosa. Mr. Williams also conducted extensive field trips to Alcoa bauxite sites in Western Australia, USA and Jamaica. In 1978, the company announced that it would not mine in the forest above the city, and a new reclamation program was launched. Modified versions of the land reclamation programme of 1978 have led to improved techniques involving topsoil storage, final surface regrading, subsoiling, rainwater runoff conduction, fine sediment storage, native herbaceous seed gathering and application and use of forest leaf litter as a revegetation medium. The promising results even produced a governmental request from the Federal Brazilian Institute for the Environment (IBAMA) to document and generalise the principles of land reclamation. Under Mr. Williams’ coordination, a land reclamation manual\textsuperscript{210} was published in 1990, directly based on the experience at Alcominas. The manual, which now functions as a rather authoritative guideline for the whole mining industry, has also been used as a term of reference for the modification of relevant environmental legislation within the various Brazilian states.

Contrary to the rather critical journalistic campaigning in the late 1970s, the current reclamation activities seem to be appreciated by local communities. While local farmers would have liked to continue revegetation using exotic species of Australian eucalyptus and pine, several studies from the 1980s indicated that the pine tree in particular impeded rather than promoted biodiversity. Although the commercial value of certain exotics is higher, Williams and Alcominas initiated a revegetation scheme that focused rather on the promotion of biodiversity. The challenge, however, is that local farmers seem to be less interested in biodiversity and more interested in firewood and commercial exploitation of single-species forestry areas. Between 1550 and 1990, the Brazilian Atlantic rain forest has dwindled to five

\textsuperscript{207} A corporate pamphlet: Sustainable development. The Alcoa perspective, undated.
\textsuperscript{208} Ibid
\textsuperscript{209} It is interesting to observe that many of the complaints related to mines that belonged to another bauxite mining company, the nationally owned Companhia Brasileira de Aluminio (CBA). Alcoa received all the attention and complaints. Being foreign, it obviously made the company more exposed to scrutiny.
\textsuperscript{210} “Manual de Recuperacao de Areas Degradas pela Mineracao - Tecnicas de revegetacao”.
percent of its original size, partly due to being cleared for pasture, but also due to uncontrolled logging for fire- or pulpwood. In such a situation, it seems challenging to specify and operationalise the question of habitat and resources in accordance with Alcoa’s policy statements, when local preferences seem to favour monocultural revegetation rather than biodiversity.

Since 1988, Brazil’s constitution has required all mined-out areas to be reclaimed. However, the regulation indicates neither how, nor to what extent, this should be done. The bauxite companies are forced to make their own interpretation. Consequently, some efforts are made on a rather minimalist scale, excluding extensive revegetation or restoration of biodiversity. The case of Alcominas is by many considered to be very illustrative of the development of bauxite mine reclamation. It has even been used as a term of reference for developing general guidelines for reclamation efforts, not only within the Brazilian mining industry. The concluding question is whether Alcoa’s dedication to biodiversity that even challenges the local priorities of more profitable logging, can be interpreted as an irrational economic choice due to Mr. Williams’ environmental commitment to restoring biodiversity.

5.5.2 Voluntary reclamation of bauxite mines - a rational choice?

According to a survey co-ordinated by the International Primary Aluminium Institute (Martyn 1992), 13 out of 17 aluminium companies operating worldwide have formal written standards regarding reclamation procedures. According to my data from Jamaica, three of the five bauxite mining leases are operated with similar formal procedures. Due to the efforts of Alcominas and the publication of the reclamation manual, there has recently been a significant improvement in Brazilian land reclamation. Nevertheless, many small companies have still not implemented systematic reclamation procedures. The procedures prior to and during mining are rather standardised, but when it comes to subsequent restoration and reclamation, very often no written formal procedure exist - even when reclamation is undertaken. Interestingly, but hardly surprising, is the fact that the highest frequency of voluntary reclamation was initiated by TNCs that already had formal compliance-oriented reclamation programmes (Ruud 1993). Most of the Jamaican bauxite is mined-out in open-pit mines with 3-10 meter thick bauxite horizons.

With an average density of 2 t/m³ and an average depth of some 5 meters, some 10 million tonnes of bauxite can be mined-out of 1 km². Despite the fact that reclamation costs are not high enough to “raise costs out of proportion to the value of the ore body”, the money can be put to other uses. Thus, the additional effort of rehabilitating mined-out areas does not have significant economic impacts compared to other activities. Nevertheless, it does represent extra cost. Therefore, let us seek out arguments that support the assertion that voluntarily accepted additional reclamation costs can be analysed as a function of profit maximisation rather than a normative moral commitment.

212 Due to insufficient data collection, my discussion must be considered in Popper’s (1972) words as being “within the context of discovery”, rather than “within the context of verification”.
213 According to Prof. Dr. Luis Enrique Sanchez at the Polytechnical University of Sao Paulo, Brazil.
214 Information granted by corporate representatives, but later confirmed and verified by the Commissioner of Mines.
215 One of four exemptions under the Mining Law, Article 5.2, which allows companies in some cases not to rehabilitate previously cultivated land.
Standardisation of global activity embedded in cross border environmental management

Due to vertical integration, backward integrated bauxite mining activities become part of the transnational organisation and, thus, part of transnational corporate strategy. Among the many ways in which corporate management strategies affect local managers, Stopford and Strange (1991) argued that the stronger the transnational networks and the greater the standardisation of production techniques, the lesser the possibilities for local adaptability. Previously, Alcoa had been involved in extensive bauxite mining activity in its home country, the US. Bauxite is a non-renewable natural resource and the most attractive US deposits have been depleted. During the last decades, Jamaica and Brazil have supplied US alumina and aluminium plants.

A relatively large percentage of US bauxite deposits were located in populated areas with economic, particularly pastoral activity. The US Mining Act also required comprehensive compensation schemes in what we have called virgin areas. It can be argued that the standardised operational procedures developed at home have been used as the reference for Alcoa’s worldwide bauxite mining activities. The reclamation procedures were included as an integral part of mining activities and, due to the high degree of standardisation of opencast mining activities, it was rational for the company to disseminate reclamation techniques in accordance with programmes and procedures developed at HQ. Eliminating reclamation procedures previously integrated into standard operational mining procedures could have actually represented extra cost for the company. Contrary to an intuitively rational perception of how the company should adjust to local conditions, to minimise costs, the transnational network and international co-ordination of mining activities rather promoted uniform mining procedures and practices. It can be agreed that it is economically more favourable to implement identical standards for similar corporate operations worldwide. Adjusting a mining manual, as well as training corporate mining managers in accordance with local specifications, is expensive. It might be cheaper to copy standardised practices and procedures of mining as well as reclamation.

Consequently, it can be argued that voluntary reclamation initiatives, particularly because they do not represent a significant additional cost, can actually be perceived as a consequence of a global corporate strategy motivated by the prospect of achieving benefits from economies of scale. Due to their co-ordination, corporate mining activities have proven to be rather successful at reducing liability and increasing control, predictability and efficiency - all central elements in an efficient corporate environmental management strategy. A counter-argument can obviously be related to the case of Alcominas. Despite extensive reclamation plans developed at corporate HQ, it was the local management of Alcominas itself, and particularly Mr. D. D. Williams, who initiated a process which today has created one of the most promising land reclamation programmes in the aluminium sector.

Facilitating access to new bauxite mines

Previously, Jamaican as well as Brazilian bauxite mines located in areas where no previous economic exploitation had occurred, remained to a large extent unreclaimed. The companies normally complied with existing regulations and finished the mining activities. When the authorities granted authorisation to leave mined-out areas, technical equipment such as excavators and shovels were relocated to where new mining concessions had been granted. However, the new concessions were often located in the vicinity of the mined-out areas, often as an extension of the previous mining fields. Extensive investments in
infrastructure had already been made, railways lines or conveyor belts had been constructed, and the companies wanted to promote optimal utilisation of existing transport infrastructure. However, shortly after the expansion, it was a common experience that lack of reclamation, erosion, changing watercourses and the generally scarred topography impeded access to new bauxite deposits. By reducing the potholes and steep hillsides and by rehabilitating the areas, erosion was impeded, landslides were stopped and the access roads were more easily maintained, thus facilitating the transport of ore.

Previous calculations of the economics of expanded mining activities had not initially taken sufficient account of transportation efficiency. When previously mined-out areas remained unreclaimed, particularly during the rainy season, access roads were frequently destroyed or covered by landslides from adjacent ‘unrepaired’ hillsides. To clean the access roads, excavators and shovels had to be transported from the active mining field, significantly reducing excavating capacity. It is conventional wisdom that tree planting and various kinds of sowing bind topsoil and reduce erosion. By rehabilitating previously mined-out areas, the company could consequently avoid disruption of the mining operations and transportation, which could otherwise impede the continuous flow of bauxite to the local refineries. Faced with such a scenario, the additional but voluntary reclamation costs could turn out to be profitable outlay in terms of transportation efficiency compared to additional costs from bottlenecks in the access roads. In the case of Alcominas, all mined-out areas are rehabilitated and revegetated, regardless of other future mining areas. However, the local management accepted the idea that reclamation and erosion prevention measures in general could facilitate access to pits, and, thus, increase transportation efficiency.216

Obtaining new mining leases

Without mining leases, the utility of local alumina plants is severely reduced. Bauxite could, at least theoretically, be imported from other bauxite fields or even other countries. However, unless located close to smelters, production statistics indicate that access to raw materials is the most decisive location factor for new alumina plants. With no aluminium smelters, ores are the specific locational advantage of Jamaica. As one of the first corporations to get involved in Jamaican bauxite exploitation, Reynolds Metal Company established mining facilities in the 1950s. During the 1960s and 1970s, the shipping facility on the north coast was modernised to facilitate the export of bauxite to Reynolds’ alumina plant in Corpus Christi, Texas, USA.

In 1974, the socialist Peoples National Party, led by Michael Manley, won a majority in the parliament, and the government initiated negotiations with the bauxite companies, to increase both public holdings and taxation. The Jamaican government succeeded in increasing the levels of bauxite taxation, but not in keeping all the companies in Jamaica. Despite higher transportation costs, in 1984, Reynolds decided to relocate its Jamaican mining operations to Guinea. Reynolds had been offered favourable mining leases but decided to shut down the Jamaican activities and relocate because of the six-fold increase in royalties and export taxes. The government acquired some of Reynolds’ mining equipment, but the mining operations are still closed down.217

216Information granted during visit to Pocos de Caldas and Alcominas, 12 – 14 July 1994.
As opposed to Reynolds, the other TNCs decided to stay in Jamaica, and different corporate strategies were pursued to secure the best access to present and future bauxite concessions. Alcan has supported the construction of a regional public hospital and co-financed the expansion of the local high-school. These initiatives can, at least in the short run, be perceived as irrational inasmuch as nobody has forced the company to make these additional financial commitments. Additionally, nobody has forced the company to voluntarily reclaim previously virgin land in the hills north of Mandeville. Nevertheless, such initiatives have occurred, the company has increasingly tried to establish a profile of being a responsible corporate citizen.\footnote{According to Dr. A. Reid, Corporate Environmental Affairs Manager of Alcan Jamaica, July 1993.} However, if one extends the time perspective, all these actions can also be seen as rational choices made by corporate managers to secure and even increase political goodwill, and thus hopefully continued and increased access to Jamaica’s extensive bauxite reserves.

Compared to the assets invested in Jamaica and the export value generated, the cost of reclaiming empty bauxite pits is insignificant. If, however, the company loses access to mining fields by not being granted new bauxite leases, the company will definitely suffer much higher costs. Many of the capital investments realised are sunk costs, and it could prove very difficult to find a potential buyer. Thus, the voluntary reclamation of bauxite mines can be understood as an action motivated by a rational calculation of how to maximise the net present value of Alcan’s mining and refining assets in Jamaica.

\textit{Discounting future corporate liability}

A rational economic choice is to choose the investment alternative with the highest net present value for future activities. The net present value, however, is not only influenced by the size of costs and income. The company must also take into consideration future risks from strengthened environmental regulations. The proposal for total reclamation responsibility, as legislated in Brazil, has previously but unsuccessfully been presented to the Jamaican Parliament and could easily be raised again in the future. Thus, the rational corporate manager can avoid liability by initiating activities that will eliminate exposure to future economic claims. It is obvious that Alcominas’ initial reclamation efforts were heavily influenced by local political pressure. If the risk of being held financially liable for non-reclaimed mining areas is sufficiently high, it might be better to initiate reclamation of mined-out areas immediately rather than accept the risk of increased future liability. As Alcoa Brazil’s Corporate Environmental Affairs Manager Vianna stated: “I look carefully at what the EPA is doing, because probably two years from now, the same laws are going to be applied in Brazil.”\footnote{Stated in a Harvard Business School case, 1990.}

Thus, reclamation beyond compliance can be understood as a direct function of the perception of corporate managers that sometime in the near future it will not only become compulsory to reclaim all future mining fields, but also to reclaim already mined-out areas. Depending on the probability, it can be cheaper to reclaim while the technical equipment is still located in the affected areas. Initiating additional programmes when mining areas have already been closed down and equipment moved to new bauxite concessions, can turn out to be relatively more expensive, reducing the net present value of exploiting the bauxite fields in question.
**Improving the green image**

Tree-planting schemes initiated by TNCs in developing countries such as Indonesia and Brazil are becoming increasingly significant. I contend that these voluntary initiatives can be understood within the context of rational economic choice. In addition to the general publicity value, they can be seen as a compensatory strategy to offset emissions of greenhouse gases elsewhere, increasingly becoming a relevant argument in the wake of the Kyoto Protocol.

By marketing a company as “the company with the green image, producing the green metal”, the relative goodwill towards the company might even increase, creating higher consumer confidence, and, hopefully, higher demand for the company’s aluminium products. Aluminium as a product has many advantages compared to competing metals. Aluminium, however, has an Achilles’ heel: the amount of energy required to reduce aluminium oxide to primary aluminium. Aluminium requires so much power that the metal has been called ‘congealed electricity’. According to Young (1992), in 1990, the world aluminium industry used an estimated 280 billion kilowatt-hours (KWh) of electricity - nearly as much as in the entire energy consumption of Africa. According to Hydro Aluminium (1993), 57 percent of the electricity used today to produce primary aluminium worldwide comes from hydroelectric power stations, the rest from power stations using coal (33%), nuclear power (5%), gas (4%) and oil (1%). A plant based on hydropower emits approximately 5 kg of greenhouse gases\(^{220}\) per kg of primary aluminium produced. For fossil fuels, the emissions of greenhouse gases are approximately 20 kg per kilo aluminium produced. In 1990, total aluminium production was 18 million metric tonnes and aluminium producers emitted approximately 190 million tonnes of greenhouse gases. The potential impact on global climate change is obvious.

Combined with the creation of a general picture of corporate environmentalism, for instance by publishing colourful pamphlets on environmental programmes and achievements\(^{221}\), tree planting itself could be treated as a specific compensatory scheme for aluminium producers. By initiating tree planting, the impact of increased emissions of greenhouse gases, particularly from aluminium production using fossil fuels, could more easily be justified because of the increased CO\(_2\) fixing capacity of recently planted trees in revegetated mining areas.

### 5.6 Is the transnational mode of control a relevant dimension in itself?

In this brief analysis of corporate environmental decision-making, I have argued the importance of distinguishing between two levels of analysis: the individual decision-maker within the firm, and the firm as an entity. It can be assumed that the individual decision-maker acts on behalf of the corporate norm of profit maximisation. This norm, however, is not necessarily identical to his own individual preferences. Jon Elster (1989) has shown that not all actions can be understood within the context of rational choice. What is needed is to accept alternative or complementary types of motivations to rational profit maximisation. I have proposed an alternative but not necessarily competing motive: environmental commitment. I argue that the individual, in certain situations, is motivated by factors that are compatible with what he considers to be morally correct. The question is: what will be

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\(^{220}\) Hydro Aluminium is explicitly referring to greenhouse gases such as carbon dioxide (CO\(_2\)), methane (CH\(_4\)) and dinitrogen oxide (N\(_2\)O).

\(^{221}\) As in the case of Alcominas.
achieved? The empirical case of reference is foreign controlled bauxite reclamation in Jamaica and to some extent Brazil, and by using five arguments compatible with the perspective of rational choice, I have suggested that morally phrased environmental projects initiated by committed corporate decision-makers, can, to a large extent, be explained by the profitability of the project in question.

When the Brazilian government in 1988 made it compulsory to reclaim all mined-out areas, the experience previously gained at Alcominas turned out to be a rather tangible asset for Alcoa. No new additional outlays were needed, and the expertise had even been sold to other mining companies. By initiating such relatively limited, but nevertheless cost-creating actions, future costs can be reduced. The company reduces insecurity by initiating such efforts. This is not incompatible with the argument of moral obligation such as environmental commitment. I contend that the profitability of these efforts actually facilitated the development of corporate environmental commitment, but it is not proven that the occurrence of environmental commitment is actually caused by rational calculation. Quite the contrary, I believe that the individual environmental commitment of corporate managers such as D. D. Williams, arguing and actually believing that the company could promote more sustainable development, is a genuine normative commitment, a conviction developed independently of corporate economic strategies. What is important, however, is the fact that the consequences of voluntary reclamation turned out to be economically beneficial to the company. Today, the land reclamation at Alcominas is a well used term of reference, and it is used both in Brazil and elsewhere as ‘confirmation’ that Alcoa accepts its environmental responsibility. Ordinary corporate objectives turned out to be compatible with objectives of environmental protection, a win-win situation was created and further environmental protection was promoted. A relevant question to be asked, however, if we should try to generate more general understanding, is the significance of moral obligation in situations where no economic incentives exist.

During the 1980s, several TNCs experienced lower profit margins, and even periods of loss making. Energy costs were increasing, and the metal price declined. During the spring of 1994, representatives from 6 of the major aluminium producing countries achieved cuts in global aluminium production. In December 1993, the metal price on the London Metal Exchange was quoted at USD1.050 per tonne, a price not even covering all variable costs at many aluminium smelters. Consequently, factories were closed, and at all stages of the aluminium production chain, financial difficulties and even loss-making activities were identified. To survive in an economic situation of extremely low profit margins, if any at all, the companies had to seek an economically optimal solution at all stages of the production chain.

At the up-stream stage of bauxite mining, the efforts of some corporate managers to promote more sustainable development can be severely hampered if the proposed projects are presented in times of financial difficulties, particularly if the project has a purely cost creating character in the short term. I do not definitely conclude that the reclamation of bauxite mines can only be realised if it creates either a predicted cost reducing or income-generating effect. As I have argued, the fulfillment of environmental commitments is not necessarily a counter preferential choice compared to the realisation of maximum corporate profits. However, I would suggest that the firms’ objective of profitability, rather than individual environmental commitments, seem to determine the current extent of land reclamation by Jamaican bauxite mines beyond the requirements set by the Jamaican government. My findings from Brazil are more inconclusive and need to be more thoroughly analysed. This is done in the the subsequent chapter with an empirical focus on TNC activities in India.
The Alpart publication “Pipeline” states: “Alpart will be a caring company and a good corporate citizen. [PR plays a major role in ensuring that] activities of the company are conducted in the public interest.”\textsuperscript{222} A caring company conducting itself in accordance with public interest has to accept its environmental responsibility, and the current initiatives do confirm that Alpart intends to do so. However, such an attitude requires that the company has a total understanding of all potential as well as actual environmental impacts. An Alpart employee; Mrs. Andrene Jones confirmed that by 1993 Alpart had still not effectuated any complete environmental impact assessment.\textsuperscript{223} If the company is to conduct itself in the public interest, its relationship to adjacent communities is crucially important. Therefore, the company ought to establish a dialogue, not just to mute complaints, but also to improve understanding of specific problems within of local communities, as well as provide an explanation of the specific problems the corporation may be facing if it intends to solve the environmental problems. By establishing such a dialogue, in accordance with what Alcan has achieved at the restored areas adjacent to the Winston Jones Highway in Mandeville, important steps are taken toward an improved corporate environmental attitude as well as towards realising corporate objectives of becoming a caring company. Previously affected people have moved back, and cultivation of cash crops, particularly fruit trees, is growing. Two large orchid sanctuaries have been opened on previously mined-out areas, and this has been achieved in close collaboration with the Jamaican authorities and researchers from the University of the West Indies. This specific initiative created a direct reference for the work leading to the Bauxite Community Development Plan proposed by the Jamaican authorities (Perkins 1998). A conclusion to be drawn is that transnational influence did not seem to play a significant role in this specific case. Nevertheless, there are indications that transnational corporate efforts are more heavily influencing environmental practices of affiliated TNC units. A relevant question to be asked is whether these efforts and experiences can also be found in a larger country such as India, with a more diversified national economy that is relatively less dependent on bauxite as a source of economic growth and enhancement of national welfare and development?

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\textsuperscript{222} Alpart Pipeline, August 1990, page 5.
\textsuperscript{223} And this had neither been carried out as per the end of 1998.
6 CROSS BORDER ENVIRONMENTAL MANAGEMENT AMONG TNCS OPERATING IN INDIA - WHAT IS ACTUALLY HAPPENING?

Compared to Jamaica, India’s national economy is significantly more diversified, and the sources of national revenues including exports, are more dispersed. While Jamaican export revenues from the bauxite/alumina industry represent approximately 50 percent of total trade, there are currently no significant Indian exports of either bauxite or alumina at all. The motivation among aluminium TNCs for investing in Jamaica was merely access to raw materials. In India, the same TNCs are motivated also by significantly larger market opportunities. Until the mid-1990s, however, foreign control within the aluminium industry was not permitted, and still none of the Indian bauxite/alumina plants are operated by TNCs.\(^{224}\) Due to recent economic reforms, however, TNCs are allowed to acquire majority positions in an increasing number of Indian industrial and manufacturing sectors. Through the proposed Utkal project, Norsk Hydro is responding to these reforms, but efforts are not limited to the bauxite-aluminium industry. It recently increased its ownership in the petrochemical company Hydro S&S to 51 percent, reflecting a general trend among TNCs to increase their equity shares to majority positions. Consequently, opportunities are increasingly being created for strengthened transnational corporate control and co-ordination of affiliate manufacturing units in India. However, while TNCs are significant contributors to Jamaica’s GDP, this is not the case in India. In 1997 inward FDI stocks represented 3.3% of total GDP. The equivalent Jamaican share is 33.1 percent. Nevertheless, the Indian FDI share has increased from merely 0.4 percent in 1990 (UNCTAD 1999a). In addition, an increasing number of new green-field operations have been set up. Consequently, and despite the limited macro-economic significance, the implications can be significant both at or adjacent to the particular TNC controlled manufacturing project. In accordance with the research questions, I will illustrate to what extent and how these efforts to strengthen transnational corporate control are influencing local environmental procedures and practices at manufacturing units in India.

6.1 Environmental regulation in India

The Indian Constitution, Article 51-g states: “it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures”. The Indian constitution enjoins the “States to take measures to protect and improve the environment and to safeguard the forests and wildlife in the country”. It also makes it a duty to have ecological compassion for the living creatures” (Thakur 1997). The National Conservation Strategy and Policy Statement on

\(^{224}\) The proposed Utkal project, planned to come on stream in 2002, will probably be controlled by Norsk Hydro and Alcan. However, as Alcan recently sold its equity share in Indal to an Indian competitor, Hindalco, it is also aiming at acquiring an influential position in Utkal. As per August 2000, Norsk Hydro had made no plans to reduce its 45 percent equity share in Utkal.
Environment and Development sets the overall framework for environmental legislation in India and was issued by the Ministry of Environment and Forests in June 1992.225

The division of powers between central and state governments with respect to environmental regulation, however, is not entirely clear. In general, central government is the standard setting authority and centre for research and development. The state governments are the implementing agencies. However, as confirmed by the study of Kuik et. al (1997), specific differences are discernible with respect to the different Pollution Control Acts. In addition, the government of individual states may, according to their political mandates, delegate more or less power to environmental regulatory bodies such as the State Pollution Control Board (Thakur 1997).

As highlighted in textbox 6.1, the Environment Protection Act of 1986 is a piece of ‘umbrella’ legislation that seeks to plug loopholes in earlier legislation relating to the environment. Several sets of rules relating to various aspects of management of hazardous chemicals, wastes, micro organisms etc. have been included under this Act.

Textbox 6.1 Some relevant environmental regulations:

- Water (Prevention and Control of Pollution) Act of 1974
- Water (Prevention and Control of Pollution) Cess Act of 1977
- Air (Prevention and Control of Pollution) Act of 1981
- The Environment (Protection) Act of 1986
- The Hazardous Waste Management and Handling Rules of 1989
- The Public Liability Insurance Act of 1991
- The Environmental Impact Assessment Notification of 1994

Central government has the power under this Act to set quality standards for air, water and soil for specified areas and for specified purposes. Maximum allowable concentrations of various environmental pollutants, as well as procedures and safeguards for the handling of hazardous substances and related restrictions, restrictions regarding the location of industry and the procedures and safeguards for the prevention of industrial accidents that may cause environmental pollution, are legislated for under this Act. However, if a particular state pollution control board (SPCB) so desires, it may set more, but not less, stringent standards with respect to a specific category of industry within its jurisdiction. Under this Act (CII 1996), industries that require consent under the Water Act, Air Act or both, are required to submit an environmental audit report to the SPCB concerned by 30 September of each year.

The Water Prevention and Control of Pollution Act of 1974, called the ‘Water Act’, is implemented through resolutions passed by state governments. The main provisions of this Act aim at prevention and control of water pollution as well as restoration of water quality. The central and the state governments appoint central and state pollution control boards respectively. These are entrusted with the task of implementing this Act. The Central Pollution Control Board (CPCB) formulates standards, establishes and accredits testing laboratories that test water samples, provides training, organises awareness-building campaigns, and compiles statistics. The SPCBs are entrusted with the actual task of planning and executing programs to prevent pollution, and inspect factories etc., to ensure

that they comply with the Act. The SPCBs also stipulate specific conditions relating to temperature, volume, composition, rate and point of discharge of emissions and effluents. State governments also have some flexibility in fixing standards, though they are generally urged to follow the Minimum National Emission Standards (MINAS) set by the CPCB. The CPCB advises the government, coordinates activities, provides technical assistance to the SPCBs, and resolves disputes between them. As mentioned, the CPCB is the standard setting authority, a centre for research and development and an arbitrator between the states, while the SPCBs are the implementing agencies. But, as state governments do have the opportunity to set emission standards beyond the MINAS, there is room for manoeuvring for players concerned with strengthening pollution control at state or even local level, where particular industrial units are located.

The Water Cess Act of 1977, authorises the collection of cess/tax on water consumed by certain categories of industries specified in the schedule appended to the official notification of the Act. Local authorities may also specify the categories of such industries. The CPCB and the SPCBs are supposed to use the monies collected to prevent and control water pollution. The purpose and amount of water consumed by the industries determine the cess rate.

The Air Pollution and Control Act of 1981, is similarly administered through the CPCB and SPCBs. The objective of this Act is to prevent, control and reduce air pollution, including noise pollution, and to establish state boards for this. Unlike the Water Act, however, it is applicable to the whole of India and states do not generally set their own standards, except in consultation with the CPCB. The division of labour between the CPCB and the SPCBs is very similar, with the SPCBs acting as the implementers.

Firms handling specific categories of hazardous wastes (18 categories have been identified so far) are required, in accordance with the Hazardous Waste Management and Handling Rules of 1989, to obtain authorisation from the SPCBs. According to the formal requirement, this demands the preparation of a safety report for the handling of such wastes, to be issued by the industry concerned. New industries are required to prepare such reports within five years of coming into operation. It is also required that workers on-site are provided with information, training and the necessary equipment to ensure safety. Contingency plans in case of accidents have also to be prepared and notified to the local authorities.

Under all the major environmental Acts, state governments have some flexibility to set standards, within the framework of the guidelines provided by the CPCB. There are some instances where the state and central governments have had differences of opinion regarding specific FDI projects. The decision in such cases lies ultimately with the central government, but the state governments may on occasion not permit the location of a particular plant on its territory on environmental grounds (Thakur 1997). Hence the hierarchies clearly set out by the various Acts between the Central and State governments may actually be very difficult to implement in practice.

Until January 1994, obtaining environmental clearance from the Central Ministry was an administrative requirement intended only for mega projects undertaken by the government or public sector enterprises. However, the new procedure referred to as the Environmental Impact Assessment (EIA) Notification of 1994, makes an EIA obligatory for 29 different

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226 For further information, see particularly the Handbook of Environmental Regulations, Government of India (1994).
industrial activities (Government of India 1994). The proposed Utkal bauxite/alumina project promoted by Norsk Hydro has been requested to undertake a comprehensive environmental impact assessment. This EIA notification also includes details concerning procedures for obtaining environmental clearance, as well as for public involvement and the setting of time schedules for decision-making.

Applications for environmental clearance have to be accompanied by a project report that includes an EIA/Environmental Management Plan, prepared in accordance with the guidelines issued by the Ministry of Environment and Forests. These guidelines are periodically revised, subject to the availability of additional information or policy changes. In the case of site-specific projects such as mining, a two-stage clearance is required, whereby site clearance has to be obtained prior to environmental clearance. Over and above this, the GOI lists certain areas as ecologically sensitive/fragile areas, and all development projects located within this area need to obtain environmental clearance from central government. A decision is normally taken within ninety days of application (CII 1996). The Environmental Clearance Certificate also specifies the size or capacity of operation. Environmental clearance procedures, as shown in textbox 6.2, include industries not listed in Schedule I of the EIA Notification.

Textbox 6.2 Environmental clearance procedures for investments

The standards set and implemented in one state depend on the governance capacity of the state. The ‘dirty industry’ migration hypothesis suggests that states with a poorer record regarding implementation of environmental standards would attract the highest levels of FDI. According to Jha (1999), this theory is however not vindicated by actual inflows of FDI to the various states. The states that are best administered, and therefore have the best track records of implementing environmental legislation, as in the case of Maharashtra (referred to in chapter three), attract the highest levels of FDI.

However, as elaborated both by Kuik (1997) and Thakur (1997), the challenge of enforcing environmental regulations remains. Some provisions of environmental laws have either not been implemented or have been interpreted liberally so as to defeat the very purpose of the legislation. For example, while the statutes of the Water, Air and Environment Pollution Act tackle quite broad based environmental problems and suggest punitive actions for offenders, they are implemented by the SPCBs that, in general, have poor track records of implementation. One reason is the fact that is that members of the State Control Boards...
have sometimes been political appointees, and may not have the necessary environmental expertise or resources (Jha 1999). However, Kjellberg, Banik & Prasad (2000) suggested that a limited degree of implementation is directly related to the political priorities set by the particular state government, thereby not enabling the SPCB to comply with the tasks officially delegated to it in accordance with current environmental regulations.

There are several examples of the inefficiency of these boards. One important example often quoted by the media is the case of the Madhya Pradesh state government and the limited regulatory strength of its SPCB with respect to Union Carbide and other agrochemical manufacturers. Furthermore, SPCBs may be slow to respond to external NGO initiatives. Section 15 (d) of the Environment Protection Act of 1986 allows for community action against industries responsible for polluting the environment. However, 60 days notice is required to be given to the SPCB, presumably to enable it to initiate action on its own (Thakur 1997). As presented subsequently, local communities and NGOs are increasingly challenging political priorities perceived to be environmentally disastrous. However, in most instances, community initiatives are lacking, despite negative environmental impacts. Also according to the Act, to convict a polluting industry, air and water samples have to be collected by a SPCB, which later has been known to have been delayed indefinitely (Lal & Jha 1999). Notwithstanding the constraints on the implementation of various acts, 415 projects were appraised for environmental clearance using the prescribed EIA methodology in 1996. Of these, only 170 were able to obtain environmental clearance. Of the remainder, 18 industrial projects were exempted from environmental clearance and the rest of the projects were rejected.

The largest number of environmental offenders are to be found in states where the levels of FDI and industrial activity are the highest. Looking at the status of court cases filed under both the Air and the Water Control Act as of 31 October 1997, it is interesting to note that almost as many cases were lost by the CPCB as were won. This finding can be interpreted in two ways: a) when reprimanded, firms were in practice able to meet environmental requirements, and b) the firms were able to buy their way out of the legal tangles. Whichever interpretation is chosen, it bears witness to the difficulties of implementing and enforcing environmental laws.

While disaggregated data on the relative environmental performance of domestic and foreign firms is not available, informal talks with officials at the CPCB suggest that foreign firms may be included in the list of environmental offenders. According to officials at the CPCB, the capacity of firms to meet environmental requirements is crucially dependent on the technologies they use. The newer the technology, the lower the level of pollution. However, rather strong attitudes prevail even among top environmental bureaucrats. According to various CPCB representatives, few TNCs promoting FDI projects are transferring the best available technologies to India. Nor is there any evidence, the CPCB argues, to prove that foreign firms necessarily use better technologies than local ones. At the same time, there are examples of TNCs using worse and less appropriate technologies than local firms. Explicit reference was made to Union Carbide and DuPont’s proposed Nylon 6.6.

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228 Which was also triggered by the Bhopal tragedy in 1984.
229 According to information from CPCB.
231 Out of a total of 6,624 cases filed by the CPCB and SPCBs under the Water and Air Acts, 2,947 cases have been decided and the rest are pending in various parts of the country. See Ministry of Environment and Forests, Government of India, Annual Report, 1997-98.
project in Goa. The general public, even top level bureaucrats and political appointees seem to have a clear ‘picture’ of how TNCs are behaving in India. They hold them to be at least not better than local industries. TNCs are not at all behaving proactively with respect to national environmental regulations, what representatives of the CPCB refer to as “functioning in accordance with the overall objective of protecting the environment”. Despite the convincing argument of the CPCB, regulations are often not properly implemented in certain states, and even among those being implemented, the regulatory capacity to force violators into compliance is limited. Another challenge is related to the political will of applying environmental regulations, as illustrated by the case of Goa.

6.1.1 Indian environmental politics and civil protest - the case of Goa

The most publicised environmental disaster involving TNCs is the case of Union Carbide and the Bhopal disaster. Another highly publicised case involved the US based chemical giant DuPont. Through a proposed joint venture with the Indian Thapar group, in the mid-1980s, DuPont applied for permission to build a manufacturing factory for nylon 6,6, a synthetic cord used in tyres. For this purpose they proposed to build their plant in a remote village in the state of Goa on the western coast of India. With an investment of USD200 million, it was to become the world’s largest producer of nylon 6,6.

However, local villagers and several NGOs opposed this project, and an expert committee was appointed to look into the safety aspects of the project. This committee was not acknowledged by DuPont, who rejected it on several grounds. In addition to environmental claims, several other claims regarding the economic benefits of the project were also made. It was claimed that the employment generated by the plant would not be comparable to that from several small units with the same capacity, and benefits offered by the government in terms of land at near zero cost and infrastructure (i.e. roads), were considered excessive and disproportionate to the economic benefits generated by the project (Jha 1999).

Environmental groups and communities located near the project voiced protests against this plant as early as 1988. In response to rising public outcry, Goa’s Legislative Assembly created a House Committee to examine the nylon 6.6 project. The Committee held a series of public hearings. In late 1990, after having interviewed DuPont employees as well as many people and organisations in Goa, the Committee recommended both on environmental and social grounds that the project be stopped. The Goan State Government, however, refused to abide by the Committee’s findings. Nevertheless, the findings provided by the hearings of the House Committee of the Legislative Assembly, helped galvanise public opinion. In addition, more formal protests were made. Three governing councils of villages in the vicinity of where the plant was to be located, passed resolutions against the project. During the next two years, several campaigns were held. Despite protests, DuPont started constructing of the plant in September 1994, referring to the support granted both by local and central authorities. During late 1994 and early 1995, there were large rallies at the actual construction site by citizens threatening to tear down the boundary wall and equipment. There was a wide scale boycott of people involved in the project, with shops and hotels

233 According to Member Secretary of CPCB, Dilip Biswas, stated in an interview, on 4 November 1997.
234 As elaborated subsequently, the growth in public interest litigation related to public regulatory failures, is very much reflecting the lack of regulatory capacity and perhaps even political will.
235 This section draws heavily on various Indian journals and newspapers such as Down to Earth, Business India and the Indian Express.
236 Referred to in the introductory chapter.
refusing to serve them. Several anti-nylon protestors were arrested, and, in February 1995, one activist died during a campaign.\textsuperscript{237} 

This marked a turning point in DuPont’s attitude. In June 1995, DuPont announced that it would terminate construction and move its proposed plant to another Indian state, Tamil Nadu. Still, as per spring 2000, the 6.6 nylon plant had not yet been inaugurated in Tamil Nadu as proposed by DuPont in 1995. The decision of DuPont to move its plant from Goa to Tamil Nadu could be indicative of two factors: a) the environmental absorptive capacity of Tamil Nadu may be higher than that of Goa, and, b) economic considerations in Tamil Nadu were given priority over environmental considerations. It is difficult to answer this question, but an important factor also relates to the relatively larger tourist potential in Goa. What we know for a fact is that the terminating of the Goa project occurred despite the political priorities of the state government of Goa. One clear difference seems to be that no similar civil protest was mobilised in Tamil Nadu. Although the project has not yet been implemented, making direct comparison difficult, the political priorities of the governments of Goa and Tamil Nadu, can be quite similar. External pressure from NGOs could differ, but an important factor is missing - the actual considerations of the investor in charge.

In accordance with the previous theoretical reasoning, it can be argued that a TNC like DuPont can provide financial, technological, organisational and human resources for investment in India. In addition, as a direct consequence of the controversies in Goa, companies like DuPont or Union Carbide are likely to be more careful with respect to the environment than comparable local firms that have not been exposed to equal scrutiny. In addition, the access to distribution and marketing networks, as well as export intensity, can generate additional assets that, directly or indirectly, can be related to environmental improvements. The asset particularly focussed upon in this thesis, is the potential leverage from being transnational. Apparently, environmental NGOs do not subscribe to this kind of reasoning, at least not the argument that transnational co-ordination can create anything but a negative local outcome. The same protests were voiced in connection with the US based TNC Enron and the proposed Dabhol thermal power plant to be constructed in Maharashtra (HRW 1999). Allegedly, TNCs locating value-added activities to India are doing so at the expense of the environment.

While governments may be reluctant to enforce cumbersome and onerous environmental legislation on TNCs, the protests against DuPont’s plans in Goa confirmed that NGOs are acting as ‘civil regulators’ at a domestic level. In an environment where government efforts are mostly directed at attracting TNCs, public interest litigation and NGOs have directed their efforts towards ensuring that TNCs comply to high environmental standards. While it is to be expected that NGOs would be more active in ‘pollution havens’ such as Bihar, a state with weak administrative and governance structures, surprisingly, they have also surfaced in large numbers in states such as Maharashtra and Tamil Nadu, where governance structures are, relatively speaking, stronger (Lal & Jha 1999). The attitude towards TNCs in the Indian populace appears to have become more positive during the 1990s, although there is a divide between rural and urban Indians. While urban Indians favour TNCs, rural Indians remain hostile to their presence.\textsuperscript{238} 

Lal and Jha (1999) point to the fact that many protest and activist NGOs emerged largely in response to imminent threats to local environments that would otherwise have remained

\textsuperscript{237} For further details, see Greer and Singh, TNCs and India, 1996. 
\textsuperscript{238} India Today, 19 September 1999.
ignored by policy and regulation. Most were passive and rarely violent. Many of these issue-based protest NGOs were formed with external assistance, and external leadership and management input were sought. Some protest and activist organisations have joined established networks or formed alliances and addressed problems collectively (e.g. the National Alliance of People’s Movement). Other NGOs were individualistic in addressing issues of their particular interest. Some NGOs are small, others large. Some focus solely on policy issues, others target projects. Some are region specific, others are cause or issue specific. Some address broader interdisciplinary issues such as human rights, health and land reforms, which may include the environment, while others focus specifically on natural environment. Many depend on corporate sponsorship, some on private charity and a rare few on government funding. Several organisations are single person-based institutions with a short life span, which cease to exist after addressing a specific issue. Many of those that persist broaden their focus beyond the original issue, and many establish or join alliances and networks.

In the 1980s, two remarkable developments in the Indian legal system provided a strong impetus to judicial activism in India. As previously presented, a broadening of existing environmental laws took place in the country, and judicial activity through public interest litigation began in earnest in India. These two developments gave more scope for citizens and public interest groups to prosecute an Indian or foreign corporation that violated environmental norms. Until the enactment of the Environment Protection Act of 1986, the government could only prosecute under Indian environment laws. Public interest groups or citizens had no statutory right against a polluter who discharged an effluent beyond the permissible limit. However, under the Environment Protection Act of 1986, Section 19, a citizen can prosecute any company, provided a 60-day notice of her/his intention to prosecute is given.239 There has also been an expansion of citizens’ participatory rights in public interest litigation (PIL). Traditionally, only an individual who had her or his rights violated could seek remedy under PIL. This meant that a person wishing to prosecute had to show that he/she had suffered some special injury over and above other members of the public. Thus, cases of air or water pollution were difficult to redress. Now, however, citizens can challenge environmentally harmful actions even though they may not suffer any greater harm than others. The closure of limestone quarries in the Dehradun district of Uttar Pradesh, as well as polluting tanneries along the Ganges are important landmarks in the history of India’s public interest litigation.240

The Bhopal tragedy gave environmental enforcement agencies a major cause for concern and highlighted the lacunae that existed. This led to a boost in NGO activity. A question is whether this focus remained on TNCs similar to Union Carbide. The specific focus on this TNC was later problematic, as the company decided to close all its Indian operations. Nevertheless, during the last part of the 1980s and particularly during the 1990s, various forms of NGO protests increased significantly. Commonly used protest mechanisms such as dharna (sit-in demonstrations), morchas (processions) and padyatras (marches and processions) are effective in increasing public awareness and exposing agencies and

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239 Other provisions allowing citizens to participate in the enforcement of pollution laws are now found in Section 43 of the Air Act, amended in 1987, and in Section 49 of the Water Act, amended in 1988. Both these amendments require the Pollution Control Board to disclose internal reports to citizens seeking to prosecute a polluter.

institutions to community interest. They were all used in the Goa case of Nylon 6,6.\textsuperscript{241} Violent forms of protests, used by protest NGOs in developed countries, are largely absent in India.

To make protest more effective, green groups often form alliances both nationally and transnationally, to protest about different aspects of a project, thereby drawing upon each other’s experience and methods of addressing the same issue. International protest NGOs and radical donors have also been playing an increasingly important role in helping local NGOs with resources, and most importantly by giving them publicity at an international level. For example, Greenpeace and the Multinational Resource Centre, a Washington based information centre, work in close collaboration with Toxic Links and other NGOs in India to monitor, investigate and protest against industrial activities. This is also the case for Norwatch, supporting local NGOs in the Koraput district of Orissa protesting against the Utkal bauxite/alumina project in which Norsk Hydro plays a leading role.

Not all NGOs, however, condemn the activities of TNCs. Contrary to the environmental advocates, some argue that the protection levels with respect to pollution control and natural resource conservation are still excessively high. Thus, India is unable to reap the full benefits, including environmental benefits of FDI. They therefore advocate further liberalisation as an effective mechanism for enforcing standards, including environmental ones on both national companies and TNCs (Sengupta 1996). To shed more light on this controversy, we need a more thorough understanding of what is actually taking place in India.

6.2 The environmental management of TNCs operating in India

Murti (1997) documented that environmental issues are increasingly included on the Indian corporate agenda. However, too much focus has been set either on compliance with regulatory requirements regardless of cost, or on technological and mechanical solutions regardless of how these are handled. The way in which these measures should be managed efficiently, both economically and environmentally, has not been dealt with to an equal degree (Murti 1996). One remedy would be to strengthen the focus on environmental management. Actual environmental practice is not always in accordance with the rather stringent regulatory requirements, and the outcome is further environmental degradation and pollution (Parikh 1997). The importance of focusing more explicitly on environmental management is also verified by Kuik et al. (1997), comparing environmental policy approaches and practices in India and the Netherlands.

Focusing on environmental management, it is important to distinguish between the various technology solutions available. While many agencies approach these problems from a natural scientific and engineering based angle, proposing a variety of ‘hard-ware’, physical technology options in terms of pollution control equipment,\textsuperscript{242} it has increasingly been acknowledged that environmental protective measures in terms of ‘software’ and managerial solutions are equally important, assuming that the ‘hardware’ technology is in place (World Bank 1988). These issues will be discussed later, but, first of all, I need to present some features of the TNCs included in this study by discussing the role of cross border environmental management in India.

\textsuperscript{241} For further details, see Lal & Jha, 1999.
\textsuperscript{242} As illustrated by the traditional work of UNEP, UNIDO or the World Bank.
6.2.1 Characteristics of the TNCs studied

In order to obtain a better understanding of cross border environmental management and impacts on TNC affiliates in India, the study draws on two types of information, namely, responses to a questionnaire (see appendix) and detailed case studies beyond those already referred to. Through benchmarking of a total of 53 TNCs and affiliated Indian units, information has been collected and used extensively for reference throughout this chapter. In addition, the findings included in this dissertation draw upon specific case studies of a total of 19 of those 53 benchmarked TNCs. Despite the inclusion of Alcan in the initial design, applicable to the study in Jamaica, the Indian design has been aimed at analysing the environmental practices of European TNCs. As a result, 60% of the respondents are from Europe. 27% of the benchmarked TNCs are headquartered in the US. The rest are distributed between Japan (4%) and the rest of Asia (9%).

The research design focuses on chemical manufacturers, as this sector generally represents significant polluters. Potential environmental problems will be illustrated later. However, as illustrated, the sample includes 47% chemical and pharmaceutical TNCs. In addition, 13% are firms involved in metals and machinery production, and 13% are involved in the electronics industry. All the TNCs studied are facing significant environmental challenges at affiliated Indian units.

Figure 6.1 Distribution of TNC activities

In terms of size, the majority (53%) of the TNCs studied are large firms with more than 500 employees. Only 18% of the benchmarked TNCs have less than 250 employees.
Indian authorities have historically imposed strict regulatory requirements on TNC ownership and foreign control in general. Nevertheless, only 12 percent of the benchmarked TNCs currently hold minority equity shares in affiliated Indian units. This is directly linked to the radical changes in economic policies referred to in chapter three. The TNCs responded quickly, not only by increasing FDI inflows to India, but also by increasing ownership shares in existing projects. Currently, half the TNCs have a slight majority share, between 50-60 percent. Still, however, only 22 percent have equity shares of between 60 and 99 percent, and only 16 percent have wholly owned subsidiaries.

Quite surprisingly, the findings show that none of the sampled firms located activities in India primarily to gain access to raw materials, and only 10 percent of TNCs reported that the primary investment motive was to use India as an export platform, despite that export oriented investments have risen sharply in recent years. The dominant motive driving the benchmarked TNCs to locate FDI projects in India is the perceived commercial opportunities in potential and actual Indian markets.
As many as 25 percent of the benchmarked TNCs own Indian factories that are more than 25 years old, and approximately 60 percent of the factories were established prior to 1991. As documented by Jha (1999), a new economic policy was introduced in 1991, triggering increased inflows of FDI. This is also reflected in the sample, as 25 percent of the TNCs studied established Indian affiliates between 1991 and 1995.

Two-thirds of the projects are greenfield projects, especially where the foreign investor is a minority shareholder.
The survey focuses on FDI projects in Delhi and particularly Maharashtra, as these states remain the major recipients of TNC transfers via new or existing FDI projects. Between August 1991 and January 1997, a total of 458 approvals, with a value representing 17.1 percent of total approved FDI, were located in Delhi. The second largest recipient, measured in the share of FDI value, is Maharashtra with 12.5 percent. However, the total number of FDI projects is significantly higher than in Delhi, reflecting the relatively smaller size of each project or factory. The state of Maharashtra is, in fact, the largest receiver of manufacturing FDI projects in India. A significant number of chemical FDI projects are also located in Gujarat, but these are normally co-ordinated from national HQs in Mumbai, the capital of Maharashtra. Most of these TNCs still operate older or newer chemical plants in the state of Maharashtra, plants that have also been included in this study. However, the types of environmental hazards potentially relevant at the affiliated TNC units are also included in the Indian study, as well as possible solutions. This is necessary to discuss as the Indian case studies differ significantly from the more narrow approach of bauxite/alumina in the TNC cases studied in Jamaica.

6.2.2 Which environmental hazards are relevant, and what are the solutions?243

The sample studied varies in terms of potential pollution intensity, but a significant majority of the TNCs are involved in manufacturing or the handling of hazardous chemical compounds, including inorganic chlorine/alkali, acids and inorganic pigments which represent significant environmental hazards if released untreated from the plants. With regard to organic chemicals, the variety is greater, influencing the choice of appropriate pollution control measures. While petrochemicals are produced in large quantities, fine chemicals and pharmaceuticals are produced in smaller batches. Consequently, the feasible technological options vary. Regardless of actual production, all TNCs have, nonetheless, constructed particular end-of-pipe treatment of industrial effluents. Some of the TNCs have also established treatment plants that allow reuse through the re-cycling of processing water.

243 A general references is made to the Environmental Guidelines, published by the World Bank (1988).
Biological, chemical or physical treatments of industrial wastewater are treatment methods used among the sample of TNCs studied. Only a few have provided technologies facilitating re-cycling of processing water.

Large quantities of water are used by almost all TNCs included in my sample. Water is applied in processing, cooling and washing processes. During processing, water often becomes contaminated with chemicals or by-products. Pollutants that may present a hazard if released into waterways and underground aquifers include toxic pollutants, carcinogenic compounds, suspended solids, and substances with high biochemical oxygen demand (BOD) and chemical oxygen demand (COD). Consequently, groundwater and surface water resources can be negatively impacted by rainwater from tank farms, product discharge and processing areas, pipe tracks, flushing and cleaning water and accidental release of raw materials, intermediate and finished chemical and other hazardous products.

Depending on the process used, air pollutants can include particulate matter and a great number of gaseous compounds, including sulphur oxides, carbon oxides and nitrogen oxides from boiler fuels and process furnaces, ammonia, nitrogen compounds and chlorinated compounds. These emissions emanate from several sources including process equipment, storage facilities, pumps, valves, vents and leaking seals. Solid wastes generated by the sample firms include residues from raw materials, waste polymers, sludge from boiler feed, tank cleaning or pollution control equipment, as well as ash from coal boiler operations. In addition, waste material may be contaminated with chemical substances from the processes.

6.2.3 Environmental protective measures taken at affiliated TNC plants

Chemical manufacturing is primarily associated with hazardous liquid emission, but, as illustrated by the Bhopal tragedy, there are also significant hazards relating to atmospheric emissions. Effluent controls installed by the TNCs sampled include gas scrubbing, membrane separation, cyclones, electrostatic precipitators, bag-house filters, catalytic reduction or oxidation, incineration and absorption systems. Equally, the TNCs studied have introduced measures to control wastewater effluents. These measures include tanks that neutralise potential hazards. Furthermore, efforts are made to mitigate the hazards through evaporation, aeration, stripping, flotation, filtration, oil separation, carbon absorption, ion exchange, reverse osmosis, biological treatment and land application for processing wastewater. As in the case of atmospheric emission, the TNCs studied were not avoiding the technical installations necessary to mitigate hazardous wastewater effluents. However, this does not indicate that installations are made properly and/or that they function in accordance with formal procedures.

Despite installation of proper and well-designed pollution control equipment, it is not always operated in a consistent manner. During some of the plant visits, striking discrepancies were observed between efforts to minimise occupational hazards and hazardous emissions, even when proper equipment was available. At a lubricants plant involving a petrochemical TNC from the US, all members of the project team were equipped with proper goggles and helmets. Labourers working at construction sites close to hazardous areas inside the plant did not wear equivalent safety equipment. This was explained as follows: “we have provided equipment, but they do not want to use it”.

Protective measures are being taken, but what is the implication for environmental management? Procedures are institutionalised to train in-house personnel to comprehend and manage the installed pollution control technologies. This includes air and water quality
monitoring requirements, instructions for operators to prevent malodorous emissions, and directives to notify proper authorities in the event of accidental release of pollutants. A designated Environmental (health and safety) Officer is often in charge of environmental emission controls, and formal operating procedures are established. At the lubricants plant referred to, required safety measures were not followed in accordance with a publicised policy statement that had even achieved ISO 9000 certification. Consequently, observed environmental procedures might be executed in quite a different way to that expected.

At the majority of plants visited, however, a commitment was observed to tackle these questions more holistically and in accordance with published environmental policy statements, whenever these were documented. A variety of monitoring and measuring exercises were continuously or periodically undertaken to control environmental performance. In one example, involving another US chemical TNC, inorganic hazardous wastewater was treated organically and later pumped into a water tank containing fish before being discharged into adjacent waterways. Through the fish tank, the quality of treated water and the treatment process was tested in a quite visible and comprehensible way. The SPCB has also cited this treatment facility as an example of environmental excellence.

**Modifications to processing technologies**

Although only one of the TNCs studied had imported state-of-the-art environmental control equipment, various state-of-the-art procedures were observed as processing technologies were modified. In other cases, imports are also made to complement locally supplied equipment, for instance to combat more effectively the challenge of hazardous waste management. However, within the sample, there were only two cases of incineration plants being installed. One of these incinerators was built in the 1970s, but later retrofitted and up-graded with more modern technology. Currently, incinerators are capable of burning wastes at 800° to 1200° Celsius. According to the Plant Environmental Manager of this German TNC, all organic chemical substances are eliminated.

Beyond the elimination of hazardous organic chemical compounds, energy generated in the incinerator is recycled and used in adjacent manufacturing processes. In other cases, processing water was recycled and reused after treatment. This happened as a direct outcome of initial efforts to strengthen environmental control, creating additional benefits such as modified processing technologies. However, there are few examples of production technologies being replaced entirely to increase environmental improvements. As exemplified by waste management and water recycling, manufacturing systems and pollution control equipment are, rather, retrofitted and modernised. Consequently, incremental, rather than radical, technological shifts are promoted at TNC entities in India. But, as illustrated subsequently in the particularly case of ICI India, there are exceptions that involve radical change. Environmental hazards are reduced and even eliminated, while economic and production benefits are achieved. As a consequence of environmental initiatives, some TNCs have increased production volumes, while others have achieved lower operating costs. In another case, the representative of a German TNC stated that more than 20 percent savings in raw materials consumption and 50 percent reduction in water consumption were the direct results of modifying processing technologies. However, the need for end-of-pipe treatment is not eliminated. This is the general situation among the TNCs benchmarked in this study. Consequently, traditional pollution control of industrial effluents continues to be a major
concern for all those TNCs involved in pollution-intensive, hazardous manufacturing, and environmental management measures remain of significant importance.

**Environmental management measures**

TNCs are increasingly publicising policy statements that indicate a commitment to promote environmental protection and natural resource conservation. Annual reports also indicate that specific environmental measures are being taken and fully meeting with requirements of regulatory authorities and expectations of the public. This is at least the case for home country operations. When it comes to India, an increasing number of TNCs have developed local environmental policies, specifically designed for Indian operations. Of a total of 53 TNCs surveyed, as many as 78 percent responded positively to the question of whether a local environmental policy had been development. Nevertheless, 12 TNCs had not developed a policy statement equivalent to those referred to in textbox 6.3.

Textbox 6.3 Environmental policy statements

| Company x | manufacturer of synthetic resins, construction chemicals, sealants, pigmented products, coatings and electrical insulation materials is wholly committed to environmental protection at “identified production facilities” |
| Company y | ...caters to the need of the Indian Petroleum Industry for speciality and performance chemicals at globally competitive price, quality and customer service standard in an eco-friendly manner. |
| Company z | aim to be the largest integrated chemical and pharmaceutical company in the world. To achieve this, the company believes that commitment to conserving natural resources, operating facilities safely and minimising the environmental impact while conducting its activities are essential. |

The findings indicate quite clearly that there is still some work to be done as regards public statements of corporate commitments to environmental protection. According to the Managing Director (MD) of one of the TNCs studied: “we have been complying with the same policy objectives for many years, but it was done in an informal manner”. In 1996, during negotiations to prepare for a sale from a German to a US TNC, a process of formalising environmental procedures was triggered. During 1997, explicit efforts were made to document both the environmental policy and objectives to achieve better and more predictable environmental compliance. Interestingly, the MD did not refer to these efforts as instrumental in improving local environmental performance, but rather as facilitating benchmarking and control by the new US owner.

Environmental policy statements are necessary, but often insufficient, to comply with environmental commitments to minimise company caused environmental problems. More specific management procedures must be developed, and specific responsibilities must be given to named officers. The findings of this study confirm that almost all TNCs who have environmental policies, also have designated officers in charge. A total of 40 TNCs have a designated officer for environment, health and safety (EH&S) issues, indicating that some form of institutionalisation has taken place. These efforts have also been manifested in more specific environmental objectives, as illustrated in textbox 6.4:
Several TNC representatives interviewed insisted that Indian TNC units must avoid any violation of Indian environmental regulatory requirements, and accordingly seek remedies to achieve such compliance. But, at the same time, few specific and more detailed guidelines and procedures were presented. As illustrated by the case of ICI Paints, to be presented subsequently, this paints factory remains the only one out of 17 affiliated plants owned by ICI that is certified in accordance with the ISO 14000 series on environmental management. Within the benchmarked sample, only 10 of a total of 53 TNCs had achieved environmental management system certification in accordance with the ISO 14000 series. According to statements, 20 of the TNCs studied consider doing so, but available documentation is still limited.

For three of the TNCs, more detailed information on the nature of environmental management systems was gained. As illustrated in textbox 6.5, a total of 19 issue areas have been developed to promote strengthened environmental control. These guidelines reflect a pattern of co-ordination which can be labelled an ‘environmental management system’, consisting of policy, standards, procedures, control, communication and reporting systems ensuring that actual practice is promoted in accordance with policy and standards.

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244 ICI, Bayer and Norsk Hydro.
The 19 issue areas identified in textbox 6.5 are drawn on studies of merely three of the TNCs studied in India. This does not necessarily mean that other TNCs in the Indian sample have no standards institutionalised as part of a more specific EMS. Despite that 38 out of 53 TNCs have systems where corporate HQs perform environmental auditing of Indian affiliated units on a regular basis, only 20 out of 53 TNCs have procedures requiring HQ environmental clearance prior to local acquisitions.

There is apparently significant variation when it comes to procedures and practices for environmental management systems. 71 percent of the TNCs benchmarked have formalised environmental reporting systems, but only 48 percent of the local affiliated units are pursuing environmental targets set by corporate HQs. If we extend the perspective beyond formal equity interests, the degree of institutionalised environmental control is even weaker. According to the benchmark, 40 percent of the TNCs place minimum environmental requirements on suppliers or subcontractors, but only 33 percent provide technical assistance.

6.2.4 Degree of formalised cross border environmental control from HQ

Referring to the issue areas presented in textbox 6.5, there are significant differences in actual profile and explicit consciousness among the different TNCs. While some TNCs provide clear and specific information on issues of concern, others are less explicit. Among those that have implemented quite advanced systems, the design was often developed at corporate HQ. In practical terms, this means that an understanding of local environmental
management procedures is not possible without a more proper understanding of the forms and content of the relationship between corporate HQ and other affiliated units. This relationship is here termed ‘cross border environmental management’.

According to the benchmark, as many as 38 (72.4 percent) of the Indian operations had environmental policies formulated by TNC HQ. In some TNCs more carefully studied, no attempts were made to make these commitments more specific to Indian conditions. Statements originally designed for US. or European operations were transferred to local operations even in situations where the characteristics of local operations differed from home country operations. Apparently, transnational environmental control from HQ is being strengthened, at least formally.

Questioning the degree of formalised transnational environmental control from HQ, the following factors were found to be of importance: the character of environmental policies, environmental standards and environmental guidelines. These were particularly influential at the design and planning stage. Concerning current manufacturing practices, the degree of environmental enforcement and the use of particular management tools were found to be instrumental in influencing the operations of TNC entities in India. To elaborate further on cross border environmental management, this section is organised for this purpose. Finally, this section asks whether cross border environmental management can be more than a mere control mechanism, and whether it can function as an incentive and motivating factor for further improvement at local affiliated plants.

Environmental policies, environmental standards, environmental guidelines

“We (HQ) are setting the targets, you are supposed to follow them!”

Environmental protection is a new item on the Indian corporate agenda, and we did not find any affiliated unit with an environmental policy dating back further than 1991. While all companies, in one way or another, refer to environmental issues, an obvious correlation with, and even replication of, corporate statements originally developed at corporate HQ was observed. This is illustrated in textbox 6.6.

Textbox 6.6  Local environmental policies often copied from HQ statements

<table>
<thead>
<tr>
<th>Local environmental policy of a TNC operating in India:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The company’s objective is at all times, to conduct its operations safely, protecting the health of employees and all persons who may be affected and with due regard to the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The TNC's environmental policy, issued at HQ:</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ‘TNC’ will ensure that all activities world-wide are conducted safely, the health of its employees, its customers and the public will be protected; environmental performance will meet contemporary requirements and that its operations are run in a manner acceptable to the local communities.</td>
</tr>
</tbody>
</table>

This is not a coincidence. First of all, such statements will always be rather general. Secondly, in several of the companies, the development of environmental policy statements by affiliated units was part of the global environmental strategy of corporate HQs in Europe as well as the US. Some of the companies have an explicit focus on environmental issues.

245 Stated by the Chief Environmental Officer of one of the TNCs benchmarked during a training seminar for the TNC’s environmental managers at the Indian units in June 1996. This TNC refers to ICI, which will be presented in more detail later.
Others relate environmental concerns to energy issues, while the majority combined environmental issues with concerns for health and safety/occupational hazards.

According to specific guidelines developed by one of the sampled TNCs, all units were to have arrangements for proper management and disposal of wastes and maintenance of records of all solid, liquid and gaseous wastes. This is illustrated in textbox 6.7.

Textbox 6.7 Waste management standards

The general principle for all waste streams from a particular plant is that these streams should be identified, characterised and qualified. Furthermore, it is a principle that the waste streams should be disposed of in accordance with specific technical guidelines, including particular concepts for effluent treatment. Finally, it is stated as a principle that the impact of waste disposal operations on the environment should be kept to a practicable minimum, by use of waste minimisation and by appropriate choice of disposal techniques, contractor disposal routes and sites. As I will subsequently comment upon, it is interesting to observe that the perception of these guidelines as mandatory was only limited to in-house, plant specific waste management procedures. External contractors’ procedures were less stringent and not subject to the same control.

To comply with these requirements, more specific, but only recommended, guidelines have been developed. If the unit complies with the standards by other means, this is acceptable. But in the case of local deviations below mandatory corporate standards, the guidelines become compulsory. Information obtained from local TNC staff indicated quite strongly that these guidelines, in practical terms, were considered and applied as mandatory requirements set by corporate HQ. As one local TNC representative told us: “we were told to comply with these corporate environmental emission standards”. Targets were apparently set at corporate HQ.

Another mandatory TNC standard is related to EIA. This plant specific environmental assessment takes into account, but is not limited to, solid, liquid and gaseous wastes produced. As illustrated in textbox 6.8, measures for their disposal as specified in the waste management guidelines previously referred to, are also included.

Textbox 6.8 Environmental Impact Assessment –(EIA)

Each location shall prepare and maintain an up-to-date assessment of the environmental impact of the following:

- Solid, liquid, and gaseous wastes produced during normal operations and the measures used for their disposal
- Any unplanned releases of materials or energy, spill or leaks
- Any soil or groundwater contamination
- Noise levels
- Traffic movements
- Visual effects

As with the waste management guidelines, the assessment is limited to those activities where the TNC has formal equity interests.

Furthermore, it also takes into account any land contamination issues and/or unplanned releases of materials or energy. In general, the guidelines make it mandatory for all affiliated manufacturing operations to assess any environmental impacts caused by their activity.
Having established a better understanding of proposed procedures suggested by corporate HQ on how to seek improvement in management of hazardous wastes and overall assessment of any environmental impact, the next dimension of the cross border management system is to establish control and co-ordination to ensure that the mandatory standards are followed by all affiliated units. This is achieved by environmental reporting, more formal environmental auditing, and allocation of necessary resources not currently available at the affiliated TNC unit in question.

**Environmental enforcement - using what kind of management tools?**

Among the TNCs studied, the explicit enforcement of environmental performance varies, but a large majority of the benchmarked TNCs have institutionalised procedures for environmental management control of current Indian activities by corporate HQs. However, the cross border efforts vary depending on the issues in question. It was found that TNC HQs were less concerned with environmental assessments prior to acquisition than for current activities. Furthermore, more TNCs demand formalised environmental reports than environmental standards, and even fewer set specific targets for environmental improvement.

With respect to the latter, it appears to be a general challenge among many of the TNCs to implement a formalised and transparent environmental management system in which policies, standards and guidelines are implemented and explicitly enforced. There are exceptions, and some of the TNCs include environmental parameters, both in the reporting from, and auditing of, affiliated Indian TNC units.

According to specific TNC standards developed by a UK based TNC, formal auditing procedures are defined and implemented to ensure that environmental management systems adopted locally actually meet the specific environmental standards of HQ. Deficiencies identified during audit are formally recorded, their implications assessed and corrective actions prioritised and implemented. As illustrated in textbox 6.9, specific guidelines for the audit of the management system have been developed.

**Textbox 6.9 Guidelines for environmental auditing**

The auditing guidelines define the requirements of the audit process to be executed. Documentation of actual performance is verified, and each affiliated unit subsequently writes an assurance letter on how to eliminate deficiencies and provide conformance to corporate environmental standards.

Environmental audit normally refers to three basic types of audit: operational, specialist and management audit. The operational audit is a systematic check to establish whether all activities are carried out in accordance with the current local management system. This audit can also be termed a ‘systems compliance audit’, and this is by far the most common form of auditing, done by certified experts from other affiliated TNC units within India. The specialist audit is a particular, periodic, in-depth examination of the adequacy of particular aspects of the management system and its implementation against environmental standards and the so-called ‘recognised best practice’. This could for instance be an in-dept audit of the effluent treatment system. The management audit, however, is rather an overall assessment of the effectiveness of management implementation of environmental as well as energy, health and safety standards. In contrast to the operational and specialist audit, our findings indicate that management audits are conducted by audit teams sent by corporate HQ.

When discussing auditing procedures, an explicit term of reference is ‘recognised best practice’. Asking relevant TNC managers, it is difficult to get a more specific definition of what this means. Some were merely referring to national standards. In that case, environmental
auditing only ensures that local units comply with local regulatory requirements. Others referred to international standards and codes of practice, including group or industry guidelines. Among the TNCs benchmarked, 22 TNCs referred to international environmental standards, including Responsible Care, International Standards for Drug Manufacturers, German Standards, BS 7750 and ISO 14000.

The problem here is that these codes are often less specific when it comes to actual performance requirements. Others again referred to professional knowledge. When confronted with the policy that Indian affiliated units should follow in accordance with international standards, almost all referred to standards developed by corporate HQ. But environmental auditing procedures, defined as mandatory for some of the TNCs, often refer to local regulatory requirements rather than international standards. Despite global corporate commitments, this implies that it is often the regulations of the host country that constitute the terms of reference for TNCs’ auditing procedures.

This observation not only relates to the significant variety in how audits are actually function. There is also variation in the perception of the usefulness of these audits. In one particularly case, located in the metropolitan area of Delhi, the environmental officer in charge of a US based TNC never obtained a copy of the operational audit. This happened despite existing problems. There was no feedback and no recommendations for improvement. The only outcome was continued measurement of environmental performance that had to be improved. Knowing that the same TNC unit had been struggling with the retrofitting of pollution control equipment, local managers were somewhat surprised. Apparently, environmental control is not always accompanied by appropriate environmental communication.

Another observation is the complexity of control and co-ordination among TNCs with a variety of production lines or business groups. In fact, in another case, the TNC had two completely different environmental auditing procedures, depending on whether the Indian activities where organised under regional or global business units. The Indian operations organised regionally were subject to audits co-ordinated by local corporate HQ, located in New Delhi, while the regional office in Singapore audited those operations organised under global business groups. Asking the Corporate Environmental Management how this functioned in practical terms, he admitted that, as a Corporate Environmental Manager of India, he was informed rather than involved in activities controlled by the global business divisions. His primary orientation was the regional activities not integrated in transnational global networks. A dual track approach such as this can obviously create variation in local environmental performance, but environmental auditing procedures in this, as other TNCs studied, normally do effect local activities, particularly as local managers are reminded of the status of local performance compared to prevailing specific corporate standards and is given an opportunity to compare the performance of his unit with other units in the corporate network. This may be perceived as more than environmental control.

Cross border environmental management - more than control?

Control procedures in terms of auditing procedures function not only as a one-way process, particularly as it involves reporting procedures and subsequent feedback. An internal environmental dialogue can be documented. Normally, this leads to more concrete improvement plans. Thus, control and enforcement provide various forms of support for seeking actual solutions to the challenges identified and the needs documented in the audits.
Beyond traditional access to technological, managerial and human resources, I observed an increasing use of the Internet, both to facilitate access to information and to promote enforcement of specific agreements. Through Internet based communication systems and, in particular electronic mail, several problems were solved in an almost ‘on-line’ dialogue with corporate HQ and official representatives at other affiliated units. In one case for instance, involving a US based pharmaceutical TNC, the modified pollution control equipment enforced by environmental auditing, was not functioning as planned. A similar, but more successful, retrofitting had been achieved at US HQ, and extensive exchange of experience and suggestions were made directly via e-mail. The constituting factor was traditional environmental control initiated in accordance with the cross border environmental management system, but the outcome become more than mere control.

Environmental auditing has resulted in specific improvement plans, but sometimes the enforcement of these plans has proven difficult, if not impossible, to pursue in the short term. Furthermore, even had it been possible, it could have become rather expensive and time consuming. In another case involving a US TNC, the corporate HQ had developed a specific computer based reporting system which functioned both as a general monthly reporting scheme and as a reminder to those who had not done what had been agreed upon after the previous external audit. Deadlines are agreed upon and the local manager in charge reports actual progress through an online reporting system with a predefined format of performance indicators. As long as things proceed according to plan, no further action is taken by corporate HQ - at least not until the next auditing. The ‘online’ control did, however, secure better and more continuous information about the status of current improvements in accordance with deficiencies verified in the last environmental audit. Interestingly, the use of online reporting created a more integrated, standardised management system. At the same time though, local managers were trusted with more reporting responsibility. Corporate HQ remained in control, but the responsibility was delegated. Perhaps we glimpse a process of local adaptation merging with global co-ordination - what we could term ‘glocalisation’. The practical implication for TNCs operating in India is that global standards would increasingly become embedded in local procedures.

The Internet is increasingly used on a cross border scale, and concrete improvements are disseminated among affiliated units to a greater extent. In several of these cases, there is a long traditional of publicising the best performers, with respect to financial results such as turnover, profits and economic growth. As in the US cases referred to, we found several examples of TNCs using the Internet to benchmark the relative environmental performance of individual plants, to average corporate environmental performance as well as publicise the best performer within the business groups of the TNC in question. In a US-based pharmaceutical company, this was accomplished by measuring environmental indicators such as energy consumption, and various liquid and atmospheric discharges. Over a specific time period, these indicators were compared and improvements made by individual units reported. Those with the most significant improvements, relatively speaking, were publicised as ‘best’, despite the fact that other affiliated TNC plants in India as elsewhere, might have had lower emissions in absolute terms.

Affiliated units are increasingly functioning as independent profit centres, and all access to resources are made available only on payment. Thus, despite being part of the same TNC, various affiliated units are competing for limited resources. Some of the respondents reported that dissemination of information on relative environmental performance among affiliated units could be a means to create better goodwill within the TNC network, and, thus, indirectly
be a means to gain easier, perhaps cheaper and/or better, access to the resources controlled, or at least co-ordinated, by corporate HQ.

6.2.5 Environmental relations beyond company boundaries

In OECD countries, industry representatives and business groups often point to the beneficial impacts on the environmental of TNC activity in developing countries (Schmidheiny 1992). Furthermore, as illustrated by initiatives taken by, amongst others, the WBCSD to promote stakeholder dialogue and corporate social responsibility, TNCs are being urged to promote extensive dialogue with concerned external parties. This generally relates to the second tier of my research question: the policy linkages between FDI and the environment. Despite rhetorical statements by not only the four TNCs investigated here, but also many of the benchmarked TNCs in general, not much evidence of such dialog with societal players and other non-state players has been found. Benchmarking gave a clear indication that very few of the TNCs studied had taken extensive initiatives beyond formal equity interests. Although several specific projects such as funding of local schools, roads, parks and neighbourhood organisations were found, more long-lasting relations with external stakeholders seemed rare. This is particularly the case for collaborative agreements with NGOs. When it comes to suppliers, more long-lasting commercial relationships have been established through various forms of supply chain quality management. In some cases, this has gradually extended into environmental management issues.

Among the benchmarked TNCs, only 10 firms confirmed any extensive dialogue with local state pollution control boards. At the same time, 23 percent of the TNCs characterised their relationship with local environmental authorities as problematic. No documentation was obtained enabling verification of whether these 12 TNCs actually had extensive dialogue, but it may be assumed that extensive dialogue is connected with a problematic relationship. The reason for this can be related to the regulatory character of local environmental authorities, as these are normally involved in problem-solving rather than self-regulatory based corporate solutions. At the same time, as many as 77 percent of benchmarked TNCs described their relationship with the local environmental authorities as good or very good. This does not, however, signify that dialogue is extensive. Quite the contrary, seen in one of the cases involving a German chemical TNC to be presented later, previous environmental problems did trigger extensive dialogue. Recently, these problems were solved. The relationship with local environmental authorities was good, but there was no further dialogue on environmental issues. In another case, criticism from local environmental NGOs strengthened ties between the state pollution board and the TNC in question. Still, the dialogue with external non-state agents outside the value chain was limited.

Only 9 of the TNCs benchmarked stated that they co-operate actively with local NGOs. Even among these 9, collaboration was often limited to financial support of local welfare projects, safety measures and technical supplies to a local fire brigade and general information to adjacent communities on environmental awareness. Very few had established active dialogue with local or national environmental NGOs. TNCs appear to be particularly wary of Indian NGOs and regulators, and just want to keep a low profile. Apparently a muted, withdrawn attitude is preferable where TNCs are concentrating on keeping their corporate back yards clean and beyond the scrutiny of external stakeholders.
Environmental control of activities beyond TNCs’ equity interests?

As confirmed by the specific guidelines on waste management and environmental impact assessment, most of the information gathered refers to plant specific activities. However, examples of TNCs extending environmental control to external parties were found. According to more specific environmental standards developed by Norwegian, Danish and German chemical TNCs included in this study, affiliated units are asked to review the environmental performance of suppliers and contractors. No specific environmental impact assessment is required, but arrangements are proposed to ensure that competent contractors are selected, monitored and equipped with necessary resources to comply with TNC standards. In another case involving a UK TNC, this was achieved by providing the contractors with sufficient information to ensure that the health and safety of their employees were not at risk at TNC facilities. Little focus is explicitly placed on external activities in general. Consequently, with regard to contractors operating outside the premises of the TNC, environmental control appears to be insignificant.

Environmental control of external conditions is somewhat better covered for suppliers providing raw materials, equipment and services. Only 38 percent, however, confirmed making any efforts to screen the production processes of suppliers or sub-contractors. According to specified guidelines developed by a UK based TNC, these externally oriented activities are monitored to ensure that the environmental requirements stated in the mandatory standards are met. However, in only a very few cases did TNCs make the effort to actually monitor suppliers, particularly those operating outside the premises of the TNC in question. More frequently, questionnaires were used to ask suppliers whether they complied with certain standards set by the TNC. This was done by 15 of the benchmarked TNCs, but often these questionnaires focussed merely on quality considerations. Environmental health and safety statements were, in general, often unclear. It was difficult to tell whether screening actually did include such concerns. Based on more detailed case studies, however, indications are found that health and safety concerns are explicitly promoted. Particularly in cases where supplier activities create a direct risks for the TNC’s own employees and/or products, there was a stronger focus on these matters. No similar concern was identified for external environmental issues.

Nevertheless, certain initiatives were taken, but actual environmental verification of processing conditions was carried out on a self-regulatory basis, as illustrated by comparing the general sample to the pharmaceutical TNCs studied. While only 15 percent of the sample firms screened suppliers for EH&S, as many as half the pharmaceutical companies were engaged in such screening. This can probably be explained by the relatively higher perceived risk among pharmaceuticals in sourcing environmentally hazardous raw materials.

A related issue is the outsourcing of polluting activities to subcontractors. This is a challenging issue, as TNCs are seldom prepared to discuss such questions. Despite the fact that the TNCs studied in general did assume full environmental responsibility for current operations at plants where they had equity interests, there is little doubt that there are vast opportunities for outsourcing activities that do not easily fit into the strengthened environmental strategy set by corporate HQ.

As previously mentioned, many TNCs are involved in various forms of collaboration with local communities, normally adjacent to particular plants. Few have established any close collaboration with environmental NGOs, and it seems that TNCs are somewhat reluctant to become too involved, even with an industrial association such as Thane Belapur Industrial Association (TBIA) for plants located along the Thane-Belapur road, on the outskirts of the
Bombay metropolitan area. The majority of companies taking an active lead in TBIA are Indian, not necessarily local, but very few TNCs are represented. Our findings indicate that TNCs, if involved at all, prefer rather to focus on establishing dialogue with regulatory authorities through nation-based, all Indian industrial associations like the India ICMA.

The guidelines on product stewardship, developed by a UK based TNC, studied more closely illustrate the interconnectedness of various environmental issues both internally and externally. As illustrated in textbox 6.10, the product stewardship function not only focuses on TNC products and down-stream activities in general. According to management guidelines, TNC environmental considerations are also to be integrated into purchasing policies. However, we found no examples that this is actually the case. In the guidelines on suppliers and contractors, it is also stressed that contract manufacturers and contract distributors should be selected based on conformity to the TNC’s environmental, health and safety requirements. The actual environmental management procedures resemble to a large extent those initiated for suppliers, and, again, we found few specific details on how selection is actually made. When asking local managers of the UK based TNC mentioned earlier, the normal answer went as follows: “this is currently being prepared”.

Textbox 6.10  Product stewardship

A product stewardship is defined as a demonstrable process by which a business can identify and manage its environmental conduct arising in development, manufacture, distribution, marketing and the use and ultimate disposal of its products in a safe, healthy and environmentally sound way that will ensure conformity with local requirements and company policy.

According to the proposed guidelines, management should demonstrate that environmental issues relating to the actual product rank amongst the highest priorities and maintain commitment to continuous improvement. Furthermore, the business products should be designed, developed and modified to meet both customers needs and to minimise environmental impacts. A third principle relates to information on the potential adverse environmental effects of products and their uses. Risks from reasonably foreseeable use and misuse of products should be evaluated and periodically updated. In addition, appropriate systems to manage risks throughout the product life-cycle should be developed and implemented, and all proposed changes likely to affect the environmental assessment of the product should be reviewed.

Despite several publicised commitments to product stewardship and life-cycle management, the general observation is that these efforts are normally limited to those areas where the affiliated unit has formal equity interests. In addition, the all-encompassing statements become somewhat blurred when product stewardship guidelines ask for compliance with all local environmental legislation. The philosophy behind product stewardship is to act proactively, both in local markets and in the development of stricter environmental standards. This implies that TNCs are defining themselves as environmental players, trying to influence both market behaviour and, indirectly, regulatory authorities. At a generic level, it is difficult to see that this is the case for affiliated TNCs currently operating in India.

The majority of TNCs studied operate on an individual basis, and few are actively involved in local industrial organisations. We did, however, find some cases where TNCs were sharing internal environmental managerial procedures with the ICMA in connection with work on the Responsible Care Programme (RCP) and environmental health and safety in general. These initiatives focused on the following concerns: First of all, the ICMA asked all the involved firms to make a formal commitment to follow the principles set out in the environmental programme originally launched by the CMA in 1985. Secondly, the ICMA
defined a series of codes of conduct and guidance notes, as well as checklists to assist member companies to implement the commitment. Furthermore, certain indicators were designed to benchmark internal improvements and communication with external stakeholders. Perhaps the most significant contribution was the establishment of a forum in which members could share views and exchange experience on implementation of the commitment to responsible care. Finally, efforts were made to establish a systematic procedure to verify the implementation of measurable elements of the Responsible Care Programme. However, no efforts were made to propose external, third party verification.  

Perhaps it is no coincidence that those TNCs documenting advanced EMS procedures locally were the ones trying to impose equivalent environmental standards among ICMA members. According to the Corporate Environmental Manager of the German TNC, chairing the Responsible Care Programme group of the western region of ICMA, the initiative was taken “to improve general awareness, both in environmental questions within the chemical sector and on how to integrate these concerns with commercial strategies.” Apparently, TNCs are trying to capitalise on environmental achievements through enhancing competitiveness.

The Centre for Science and Environment (CSE), an environmental NGO based in New Delhi, recently launched the Green Rating Project. This initiative addresses industrial pollution problems by measuring the environmental performance of individual companies through the collection and analysis of industrial data. By publicising these data, CSE believes that an improved general understanding of actual environmental performance of particular firms can be achieved. Attempts are made to study the environmental performance of the pulp, paper and automobile industries, in which TNCs are increasingly involved. The CSE initiative must be treated as an exceptional effort made by NGOs. Still, the general NGO attitude is that TNCs are using India as an industrial waste dump. Rather than establishing documentation of actual environmental performance, NGOs are prepared to limit these presumably hazardous activities, as in the Goa case, by encouraging public protests or filing cases through the courts, initiating so-called ‘judicial activism’, a concept which will be discussed later.

The TNCs studied in this project acknowledge that the dialogue with environmental NGOs is limited, and that general dialogue with civil society is related more to community groups and other stakeholders living in the vicinity of the plant. Issues of concern are less related to environmental issues and rather related to financial support of primary education and vocational training, fire-safety measures and health information. The only examples found of actual dialogue were related in social functions of the local community, or adjacent communities being invited to the plant facilities. Even on these plant specific occasions, the dialogue did not occur on equal terms. The TNC was in charge, both with regard to designing and managing the social activities, and, in practice, the TNC focus remained quite plant specific!

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246 The information on ICMA’s work on Responsible Care was gained through participatory observation at two meetings hosted by the Eastern, Calcutta based region of ICMA. In addition, various interviews have been conducted with representatives of member firms of the ICMA, not only in the eastern region, but also in the western Maharashtra region.
6.3 A general evaluation of the state of cross border environmental control

We found a clear tendency among TNCs to compare, and even benchmark, their performance against local firms. Thus, indirectly, the performance and procedures of local comparable firms can be used as a benchmark to our sample. In this context, it is interesting to observe that only three of the total sample of 53 TNCs stated that their environmental performance was equivalent to other comparable Indian firms. All the others claimed to have local performance above the industry average standards in India, or more similar to parent country/OECD standards. Knowing that average OECD standards are higher than those in Indian, this signifies that almost all TNCs benchmarked considered their own operations to perform above the industry average environmental standards in India. Apparently, TNC managers consider it socially unacceptable to be depicted as only following Indian standards. Thus, the TNCs themselves, despite the tragic Bhopal disaster, with three exceptions, consider their local operations to be better than comparable local manufacturing units. The question that we have tried to elaborate on in this section is what this implies in terms of the actual state of local environmental management of affiliated TNC units in India.

It is a fact that the TNC network represents a channel for the transfer of products and environmentally sound technologies that are not easily available through arms-length transactions. This refers both to transfers of hardware pollution control equipment as well as environmental management systems, although the quality and quantity vary. An increasing number of TNCs operating in India are publishing environmental policy statements. Still, very few can document institutionalised environmental management systems which include a more systematic approach to strengthening environmental protection through formalised performance standards, guidelines and local procedures which are reported and audited within transparent governance structures.

TNC representatives do believe that technologies and equipment employed by TNC affiliates are more modern and more recently constructed than that of comparable local firms. As studies of local firms have not been conducted, it is difficult to verify these statements. However, several external sources from the NGO community, regulatory bodies and some representatives from industrial associations, indicate that there seems to be a tendency for TNC plants to be better maintained and more efficient in terms of waste control management, although this is not necessarily due to transnational ties. Local performance improvements can be locally driven, particularly as many of the interviewees showed a strong commitment to environmental protection. Based on the findings in this section, the following conclusions can be drawn:

- Despite the existence of techniques to eliminate hazardous discharges, managerial systems to avoid such discharges are not always in place
- Local environmental management systems of TNCs vary
- There seem to be rather extensive environmental ties between HQs and affiliates, as signified by the widespread use of cross border environmental management procedures.
- There seem to be variations both in the scope and content of cross border ties
- In terms of control beyond equity interests, the impacts are still quite insignificant.

Project specific linkages at the micro level of individual plants affiliated to TNCs are significant. However, policy related linkages beyond the plant and towards external stakeholders are limited.
6.4 Some specific cases

The most striking examples of increasing environmental awareness among TNCs is the attention to environmental services such as the provision of solar power, waste management consultancies and water cleaning projects. TNCs have also been active in testing and certification, including certification for environmental management. TNCs are becoming active in generating alternative and renewable energy sources. TNCs, such as Amoco (now merged with BP) and Enron, are in the process of creating a large solar photovoltaic power project. Another California based company called Optimum Power International is in the process of generating wind power in the breezy high altitudes of the state of Kerala. Agreements to supply electricity from these units to state governments at economical and fixed prices are also being negotiated.

The Indo German Board of trade has also established several testing agencies in India to test for toxic chemicals (such as pentachlorophenol) in products such as leather and textiles. These testing agencies were either set up by TNCs or funded by some of them. Jha (1999) refers to initiatives taken by some TNCs to manufacture environmentally friendly substitutes to Azo dyes, and for providing testing facilities for them. Most of these substitutes and testing facilities can, however, only be utilized by large firms as they are too expensive for small and medium sized enterprises, which constitute about 70% of the textile industry in India. In response to the ban on the use of Azo dyes in Germany, several large firms, including TNCs, carried out detailed analysis of the chemical components of the dyes used in order to evaluate their eco-friendliness, and to understand the extent to which they were required to find substitutes. Once this was established, they could convince the dyestuff manufacturers, also dominated by TNCs, to switch to environmentally friendly substitutes. In fact, within a year, TNCs and other large Indian firms had switched to environmentally friendly alternative dyestuffs.

In both the leather and textile sectors, some TNCs have not only set up Common Effluent Treatment (CET) plants, they have also provided consultancy services to local companies wanting to set up CETs. Again, these services are beyond the economic capacity of SMEs, which dominate production in both sectors. In the leather sector, however, environmental infrastructure is better established locally than in the textiles sector. While testing for environment friendliness of products is done both by TNCs and government sponsored agencies, the waiting time for the latter is often much longer than that of the former, perhaps because of the much higher prices charged by TNCs.

TNCs have had a much more decisive influence in setting voluntary standards than mandatory environmental standards. Examples of TNCs acting in collaboration with national authorities can particularly be observed in dyestuffs and refrigeration in India. Both these industries are dominated by TNCs such as BASF, Bayer and ICI. In the dyestuff sector, there are no statutory eco-standards. However, the European manufacturers of dyes and organic pigments have voluntarily formed the Ecological and Technological Toxicological Association of Dyes and Organic Pigments Manufacturers (ETAD). They have recommended certain standards for handling, packaging and labelling dyestuffs. Although ETAD is a voluntary organisation and does not have the authority to enforce compliance, it is compulsory for all

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247 Enron is the TNC referred to previously, accused by Human Rights Watch (1999) of violating fundamental human rights in connection with the Dabhol energy project in Maharashtra.
248 For further details, see the Economic Times, 15/4 1995, page 12.
249 For further details, see chapter eight in Jha, Markandya & Vossenaar, 1999.
ETAD members to adhere to ETAD’s guidelines and standards. It is nevertheless believed that TNC affiliates of ETAD have been active in getting governments to ban a number of benzedine-based dyestuffs that are known to be carcinogenic. In India, it is believed that the members of ETAD have cooperated actively with the Bureau of Indian Standards to obtain this ban (Bharucha 1997).

While large companies have been able to form joint ventures and access superior eco-friendly technologies and management systems, smaller firms are unable to do so. Even if the collaborating company is a relatively small TNC, they seek larger and better-established Indian companies as a partner. Thus, the dissemination of better technology and environmentally friendly products in these sectors has been limited to the large-scale segment of producers (Jha 1999). TNCs have been particularly active in helping firms set up EMS in order to comply with the ISO 14001 group of standards. Four (service) TNCs have virtually dominated the market for certifying that firms comply with ISO 14001, including Det Norske Veritas (DNV). They also provide training and have organised various seminars to promote the adoption of these standards by firms. TNCs have also required their suppliers, sub-contractors and vendors to adhere to ISO 14001 standards or equivalent environmental management standards. A lot is apparently happening, so let us elaborate in more detail by focusing on one particularly TNC and efforts made within the Indian paints industry.

6.4.1 Imperial Chemical Industries and ICI India - the case of paints

In 1933, ICI India was set up as a foreign merchant company, primarily to take advantage of the imperial trade preferences within the British Empire. Transportation costs, however, remained high and, in 1939, ICI set up its first chemical plant in India. Despite strong regulatory measures on foreign investments, further expansion and diversification were achieved, and, by 1980, ICI was one of the major industrial pillars of Indian chemical manufacturing. However, India succeeded in its industrialisation strategy, competition gradually became stiffer, and, by 1990, ICI India had severe financial problems. Contrary to many Indian chemical manufacturers that reacted to the economic liberalisation with expansion, ICI India decided primarily to divest and consolidate many manufacturing activities. However, from 1993/94 to 1994/95, ICI India, in terms of net sales, dropped from 26th to 89th position among India’s corporate giants.250 This has later been reversed. In 1995, ICI India was further downsized, due to the demerger of agrochemical divisions into ICI-Zeneca India Ltd.251

As per 1 June 1995, ICI India Ltd. consisted of 7 divisions252. Of these operations, 5 were part of ICI international businesses: Paints, Explosives, Materials and Chemicals & Polymer,253 while the Pharmaceutical and Rubber Chemical Divisions are regional businesses more directly controlled by ICI India. In 1994-95, ICI India’s profits increased by

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250 Business India special edition, April 1996.
251 Initiated at corporate HQ in 1993, ICI plc decided to demerge the pharmaceutical and agrochemical businesses. A new company, Zeneca plc., was created. In India nothing happened until 1 June 1995, when the agrochemical business was transferred to the newly established Zeneca-ICI India Ltd. The pharmaceutical activities of ICI India, in contrast to global strategy, remain part of ICI India’s portfolio.
252 Currently, ICI India is involved in the manufacturing of paints, explosives, materials (PU and acrylics), catalysts, surfactants, pharmaceuticals and rubber chemicals. Manufacturing of fibres and fertilisers has been discontinued, and, as a direct consequence of the demerger of the old ICI into ICI and Zeneca in 1993, the agro-chemical activities have been transferred to the newly established Zeneca-ICI India Ltd., in which Zeneca owns 51% and ICI India 49%. Agrochemicals represented approximately 20% of gross turnover, but 80% of profits.
253 Catalysts and Surfactants are two divisions, but only one business unit; Chemicals and Polymer.
280 percent to 332 million rupees (USD9.2 million) on sales of 5784 million (USD165.3 million)\textsuperscript{254}. ICI India is currently 50.1 percent owned by ICI plc. According to the CEO of ICI plc, Mr. Miller-Smith, plans were made in 1996 to raise ICI India's turnover ten-fold during the next decade. This will be achieved by investments close to GBP 200 million. In addition to expansion in manufacturing capacity, a new research centre was recently inaugurated. The centre will be a sourcing point for technology worldwide. Already, 35% of the research done by ICI India is for ICI's international businesses, and its share will increase.\textsuperscript{255}

The paints business is identified as one of 4 growth areas for investment in India\textsuperscript{256}. As shown in table 6.1, by the autumn of 1995, the Indian market structure consisted mainly of domestic firms. The only foreign agent was ICI. Subsequently, other paints majors such as Akzo Nobel, Sherwin Williams and Kansai have signed a memorandum of understanding with the SIA and local authorities, but actual FDI projects have not yet materialised. Thus, this analysis reflects a market situation significantly impacted by new economic reforms, but still heavily influenced by domestic entrepreneurs, to a large extent protected by strong import barriers. Although ICI is headquartered in the UK, many perceived it as one of India's industrial pillars. A subsequent attempt to gain control over its major competitor, Asian Paints, changed this perception. The government later stopped this hostile takeover. However, triggered by new opportunities due to the new economic market reforms, the Indian public received a clear signal of potential change, both to market structure and ownership structures within India's paints industry. At the time of my field-work during 1995-1996, however, this had not yet taken place.

Table 6.1  The Indian paints industry (ownership control in parentheses)

<table>
<thead>
<tr>
<th>Market shares in %:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian Paints (Indian)</td>
</tr>
<tr>
<td>Goodlass Nerolac (Indian)</td>
</tr>
<tr>
<td>Berger Paints (Indian)</td>
</tr>
<tr>
<td>ICI (UK)</td>
</tr>
<tr>
<td>Jensen &amp; Nicholson (Indian)</td>
</tr>
<tr>
<td>Rajdoot Paints (Indian)</td>
</tr>
<tr>
<td>Bombay Paints (Indian)</td>
</tr>
<tr>
<td>Garware/Dewe Paints (Indian)</td>
</tr>
<tr>
<td>Others (including informal sector)</td>
</tr>
</tbody>
</table>

Referring to Kansai, Sherwin Williams, Akzo Nobel and ICI, an oligopolistic manufacturing structure prevails within India's paints industry as well as globally. A few firms account for the bulk of production. With reference to the initial introduction of ICI, they are becoming fewer. Recently, similar tendencies have emerged in India among Indian entrepreneurs such as Berger Paints, who acquired Rajdot Paints to become larger than both ICI and Jensen and

\textsuperscript{254} Business India 25 March - 7 April 1996, page 97.
\textsuperscript{255} Information obtained from an article in Business India, 25 March – 7 April 1996.
\textsuperscript{256} The other three identified as future growth areas for investment are polyurethane, acrylic and trioxides.
Nicholson. Still, the market is mostly controlled by Asian Paints, currently having an approximately 40 percent market share.\textsuperscript{257}

To promote domestic/infant manufacturing paint capacity, particularly during the 1970s, tariff-based protectionist measures were imposed. The result is the market structure presented in table 6.1, consisting mainly of national firms. Due to the current economic liberalisation policy, these protectionist measures are gradually being reduced. During the 1970s, ICI was asked to divest its majority control of ICI India in accordance with the FERA regulations of a maximum foreign equity share of 40 percent. For several reasons, however, the firm managed to retain its foreign control of 51 percent. Table 6.2 illustrates the major differences when comparing India's paints industry to the global paints industry, as represented by the majors, including ICI. Thus, this is also a comparison of how ICI struggles internally with global co-ordination and local adaptation.

Table 6.2 Differences between India's paints industry Global paints industry

<table>
<thead>
<tr>
<th>Customers:</th>
<th>India</th>
<th>Global</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decorative:Industry</td>
<td>Largely decorative (85%)</td>
<td>Equally distributed</td>
</tr>
<tr>
<td>Products:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solvent: Water</td>
<td>Solvent based</td>
<td>Water based</td>
</tr>
</tbody>
</table>

Worldwide, paint manufacturers are highly specialised. However, the Indian industry is much more oriented towards the decorative, household market in contrast to the industrial segment. The international paint business has a relatively equal product mix between domestic decorative and industrial products. Currently, the total demand for decorative paint in India is expected to grow at 1.5 times GDP growth rates, partly due to a high industrial growth rate. Urban housing creates a larger demand for decorative paints. However, the demand is even higher in the industrial segments with double-digit growth, particularly due to increased demand for automotive coatings. As presented in table 6.2, another difference between the international and Indian paints industry, relates to the product range. While the international paint industry, including ICI, is mainly focused on water-based products, the domestically owned industry still mainly manufactures more environmentally hazardous solvent based products\textsuperscript{258} - even for the decorative segment.\textsuperscript{259}

Of ICI's total 1996 turnover of GBP 10520 million, ICI Paints generated 23.2\% (GBP 2437 million), of which 24\% was located in the Asian/Pacific region.\textsuperscript{260} ICI Paints is one of the world's most international paints businesses, with manufacturing units in 26 countries. India's paints industry is still focused primarily on solvent-based paint, and the Indian Paints Association confirms that environmental issues are not on the main agenda within the current growth scenario.\textsuperscript{261} Within this industry, on 4 March 1997, ICI inaugurated a 20 million-litre paints plant, increasing its Indian production capacity to 50 million litres a year. The factory is located in Thane, just outside Mumbai (Bombay) in the western Indian state of

\textsuperscript{257} According to Business India, 30 November to 13 December 1998, page 76-77.
\textsuperscript{258} Manufacturing of solvent based paint signifies handling of heavy chemicals such as lead and chrome, zinc in zinc oxide and zinc phosphate, mercury in phenyl mercury oleate, copper in cuprous oxide and tin in tributyl tin oxide.
\textsuperscript{259} Information on differences between Indian and international paints industry is obtained partly from Indian Paints Association, from various issues of Chemical Weekly (India) and from information provided by corporate representatives.
\textsuperscript{260} 29\% in Europe and 47\% in Americas. Source: ICI's Annual report 1996.
\textsuperscript{261} Stated by M.Chaudhuri, Secretary of the Indian Paints Association, 15 April 1996.
Cross border environmental management among TNCs operating in India - what is actually happening?

Maharashtra, and cost GBP7.5 million to establish. A new waterborne paint production technology was implemented, enabling ICI to set up a production facility with zero liquid effluent. The Director of Maharashtra Pollution Control Board, Member Secretary C.S. Sangitrao, confirmed that the ICI project is a state-of-the art project, with standards far beyond the ones set by India regulatory regimes. According to C.S. Sangitrao, hazardous liquid emissions were still a major hazard at paints factories in India.

Furthermore, on 14 January 1997, ICI announced the construction of a new, 20 million litres a year, paints factory, near Chandigarh in Northern India. Construction of the GBP12 million facility was completed in spring 1999. When announcing the investment decision, ICI Paints’ CEO, Peter Kirby, said: “I am particularly pleased to join with my colleagues in ICI India to make this formal announcement of a further investment in India, which strongly demonstrates our confidence in that country, as the construction of the last factory has just been completed. The new factory will of course be built and operated to the highest global standards in terms of quality, computer process control, safety, health and environmental processes.” The most recent decisions illustrate the development of ICI Paints’ strategy in the Asia-Pacific region. Between 1996 and 1998 ICI opened a GBP15 million joint venture coatings plant in Guangzhou in southern China, commissioned a GBP15 million plant at Nilai, near Kuala Lumpur, Malaysia, built a new decorative waterborne factory in Bangkok, Thailand, at a cost of GBP10 million, established Asia research laboratories for decorative and refinishing paints in Malaysia, completed a new GBP16 million manufacturing plant in Indonesia, started building a new GBP25 million plant in Shanghai scheduled for completion in 1997, and completed acquisitions in Vietnam, the Philippines and New Zealand.

According to ICI’s Project Manager, S.M. Basu, the Thane project reflects the new business strategy of ICI India. Embedded in this strategy is a need to avoid any harm to anyone at the time of manufacture or during use. The Plant Manager at the new paints factory in Thane, Mr. S. Tripathi, further argues the need to promote manufacturing excellence. The manufacturing system will be closed and the water used to clean paint-making equipment is vacuum stripped and the water separated from solids. Water can be recycled and solids can either be sold as low-grade paint, or reused. The concept is similar to the one commissioned in Nilai, Malaysia. Interestingly, the technology implemented in Malaysia and India has not yet been implemented at corporate HQ in the UK.

As part of the new environmental strategy, ICI India is also considering introducing the ‘Aquabase’ paint for the vehicle refinishing industry, offering customers the option to reduce volatile organic compound (VOC) emission by more than 70 percent. With the predicted market growth rates, manufacturers like ICI are positioning themselves to gain larger market share. Even among ICI competitors such as Asian Paints, several projects are in the pipeline.

262 During an interview on 22 April 1996.
264 As per 1998.
265 Information obtained during an interview at the project site, 25 April 1996.
266 This is an internal ICI concept focusing on continuous improvement. Mr. Tripathi also repeatedly referred to the need for managing, monitoring and improving the production process.
267 I find this very interesting, and as part of my doctoral dissertation, I will elaborate on the technological standards on ICI's greenfield paints projects in Asia compared to current UK standards implemented at HQ. A tentative hypothesis could be that age rather than location could be decisive in determining environmental standards of technologies.
268 Due to overall growth, refinishing of vehicles is expected to grow significantly during the coming decades. Currently no environmentally sound paint and coating exist, but Aquabase can ensure significant improvements. Information obtained during a meeting with the Vice President of ICI Paints India, Dr. P.S. Bhargava, on 26 March 1996.
The significant difference, however, is related to how they perceive environmental protection and environmental management. While ICI and ICI India are trying to convert environmental protection into an economic asset, my preliminary findings indicate that local competitors, such as Asian Paints, still continue to approach environmental issues as merely a cost liability.\(^{269}\)

This argument is very much in line with the discussion presented in figure 4.1 regarding four major options for promoting environmental strategies by focusing on product versus process strategies oriented toward minimising environmental damage or maximising economic advantage. Chemical manufacturing activity has traditionally caused significant environmental damage, and an overall objective of ICI’s environmental strategy is to minimise environmental damage at production sites. Initially, end-of-pipe solutions were sought, but, as in strategy option 1) Clean Technology,\(^{270}\) manufacturing processes have increasingly been modified or even replaced to minimise environmental damage. Recently, more environmentally sound products, such as Aquabase, have also been developed, compatible with strategy option 3) Green Consumerism. By eliminating liquid emissions, the project at Thane is, as far as I can understand, in line with strategy option 1. Interestingly, the ICI reasoning, particularly from ICI India, does not stop with the objective of minimising environmental damage. Repeatedly and explicitly relating to recent financial problems, representatives of ICI India underlined that the overall objectives were improving resource efficiency, minimising costs and seeking enhanced economic gains. This, consequently, is more in line with the strategy option 2) Cradle to grave management. An equivalent reasoning can be related to the development of Aquabase as a means of maximising economic gains, strategy option 4) Resource efficiency.

The Thane project differs from traditional paints factories in India. Only approximately one-tenth of the average workforce is required, and few of them are blue-collar workers. The manufacturing control system is totally computerised, with remote control of closed feeding procedures at vessels and pipelines. Environmental damage is thereby eliminated, but economic gains are also sought, either by modifying product or process technologies. The Thane project appears to illustrate a combination of strategy options 1 & 2. Currently, there are no plans to manufacture Aquabase at the new Thane plant, but plans have been made to sell the ICI product in India. ICI India’s Vice President, Mr Bahree, admits that it is challenging to realise corporate objectives of promoting product stewardship. ICI has at its disposal product technologies that have not been introduced in the Indian market. Could this be interpreted as a ‘reversed causality’ - that the decision not to launch Aquabase is an indication of weak perceived green consumerism? An interesting question is whether such a green demand structure is a necessary prerequisite to capitalise the economic gains of environmentally sound product technologies such as Aquabase. With the current demand structures, it is, therefore, challenging to fulfil strategy option 4. It has to be embedded in strategy option 3. Corporate efforts to minimise environmental damage are embedded in efforts to maximise economic gains. This is not in line with the reasoning of product stewardship and the promotion of environmental excellence.

What I have tried to illustrate is the interwoven relationship between efforts to minimise environmental damage and maximise economic gains. The traditional approach to environmental management of minimising environmental damage is increasingly

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\(^{269}\) When asking representatives from Asian Paints about environmental issues, I was told that this not a central issue.

\(^{270}\) For further details, see figure 5.2 in chapter 5.
complemented by more dynamic initiatives to strengthen corporate competitiveness. This is achieved by modifying both processes and product technologies. However, the case of Aquabase illustrates that efforts to minimise environmental damage to a large extent depend on existing consumption structures. There are structural limitations, and Steger’s (1993) approach is relevant, particularly when analysing (lack of) green marketing efforts. However, having analysed the dissemination of process technologies, I argue that a more evolutionary approach is required, focusing specifically on the opportunities arising within the observed structural limitations caused essentially by current demand structures. I will continue this reasoning later, but first let me elaborate further on the causality influencing the findings on corporate environmental management among the sample of 53 TNCs. In particular, we need to discuss whether the findings from Jamaica - that transnational ties have not had a significant influence on specific local environmental efforts at affiliated TNC plants - is also the situation in India.

6.5 What is influencing the environmental management performance of TNC affiliates? The actual role of cross border environmental management

Despite the TNC induced Bhopal tragedy of 1984, it took TNCs many years to initiate processes to strengthen local environmental management. Significant efforts were made prior to the UNCED Conference in 1992, but these attempts appears to be rather rhetorical, as little actually happened in Jamaica and India. Even today, many of the TNCs sampled have not made environmental protection and natural resource conservation an integral part of their environmental management practices. The most common answer from these TNC laggards concerning the state of cross border environmental management is: “we are in the process of making improvements, but responsibility for actual compliance remains with the local management in India”! Although huge variations are documented, improvements are made, even at the systemic level, to strengthen environmental management through procedures and practices. TNC practices vary between rudimentary and highly advanced practices. The question to be asked is: what brings about these variations in corporate practice?

A domestic market orientation that drove almost all the TNCs studied to establish Indian affiliated units, does not necessarily explain whether these TNC units operate more isolated from global competition and the general demands of the world market. Within the same market, there are other players, and particularly domestic customers, who do not ask for any concern at all regarding environmental issues. This may have major implications both for actual environmental procedures and performance, but also for the overall behaviour of the affiliated TNC unit. A particular Danish FDI project, presented in textbox 6.11, illustrates this quite clearly:
Textbox 6.11  A recent Danish FDI case in India - motivation and current characteristics

A Danish FDI case:
In 1998, in collaboration with a local industrial group, a Danish large-scale producer of brake linings with a paid-up capital of approximately USD12 million set up a brand new brake linings factory on the outskirts of Delhi. As European and other car manufacturers were moving into India, this company decided to follow current customers. When planning for local manufacturing of Opel’s Astra, it was initially decided by Opel India to use asbestos as a mineral fibre in brake linings. This is still allowed by Indian legislation, but Opel has made a global commitment to phase out all use of asbestos. Opel Europe did not approve the decision, despite the fact that almost all the competitors of Opel India are still using asbestos supplied by local component manufacturers of brake linings. The Danish company studied supplied Opel Europe with asbestos free brake linings, and it wanted to extend supplies to Opel’s Astra manufacturing in India.

Products are designed in accordance with Danish standards. Machinery and product technology is transferred from the Danish factory located in Odense, but the operational responsibility lies with the Vice President in charge of local management. The affiliated units complied with all local regulatory requirements and the ‘license to operate’ was granted without problems. However, significant dust emissions occurred when the plant operations started. The Vice President acknowledged that these emissions would not have been allowed at the Danish plant in Odense. During our visit to the factory, operations were running well and dust emissions were under control. A commitment appeared to exist to produce optimal products. However, six months after inauguration, at the time of our visit, no efforts had yet been made, by either local management or the parent company, to institutionalise a more systemic approach to environmental management. At the same time, rather stringent quality audits were institutionalised. Product quality was highlighted, including quality of suppliers’ materials. Efforts have recently been made to improve local supplies, but it is challenging as few suppliers have a satisfactory grade of mineral fibres. Among those capable of providing supplies, all samples were sent to Denmark for testing at the parent company’s Danish laboratories. Testing was also performed with respect to the company’s own products, the brake linings. This reflects the policy stated and published by the parent company in Denmark:

It is the (company name’s) Quality Policy to develop, manufacture and market products that meet customers’ expectations and needs. Through focus on cost control, the company will be able to offer its products at competitive prices, both in the domestic as well as international markets. Consistency in product quality will be achieved through implementation of quality systems conforming to ISO 9002 and active participation by all employees.

Significant resources were used to comply with this commitment, but when it came to processing concerns and environmental issues at the Indian plant, we could not find similar commitment. Beyond those aspects influenced by the quality product policy and the decision not to use asbestos, we could not find any corporate environmental standards formally transferred and institutionalised. What is explicitly stated is the necessity to comply with local statutory standards.

This does not necessarily imply that environmental performance at the Indian subsidiary is worse than at the equivalent Danish factory. It only indicates that there are less corporate efforts initiated locally in India than globally to secure environmental quality and to avoid negative external impacts, compared to local efforts to satisfy quality commitments of the TNC in general as well as customers.

Local adaptation seems to be the chosen approach in the Danish FDI example. Nevertheless, transnational efforts to strengthen control and co-ordination are taking place. The objective of this section is to discuss the causes influencing the character of actual environmental management systems. The overall question is whether environmental performance is driven merely by local factors, or whether we can identify other motivating factors, as proposed in the overall research question. The reason for approaching TNCs in this way is the observed challenge of combining need for adaptation to local factors while pursuing a chosen degree of global integration. To identify determinants, the challenges will be discussed in more detail. I will start with local forces, pressures and incentives in the Indian context. Then, focus will be shifted to the pressures and incentives of the market, including global markets and industry specific factors. Finally, this section will focus on the pressures and incentives in the corporate network.
6.5.1 Pressures and incentives in the Indian context

Almost all affiliated TNC units were initially located due to perceived market opportunities in India. Thus, India was an incentive in itself. Consequently, it is appropriate to start this section on the reasons behind current environmental management procedures and practices of TNC affiliated units in India, by focusing on pressures and incentives in the host country. This is achieved initially by focusing on institutional factors. In this section, the role of environmental regulations and weak regulatory requirements in general are discussed. Reference is also made to traditional industrial policies. The section related to the host country context also focuses on political and ideological factors.

Institutional factors

There are several relevant institutional factors that potentially influence corporate environmental management of TNC affiliates. I have chosen to focus particularly on: a) weak enforcement of the rather extensive and demanding environmental regulations mentioned earlier, and, b) the role of weak patent protection and, c) traditional industrial policies.

a. Weak enforcement of environmental regulations

Surveys of environmental management conclude that environmental management is driven by regulatory pressure (UNCTAD 1993a). India has institutionalised formal environment control on an extensive scale. The formal environmental legislation is as advanced and demanding as the average European environmental legislation (Kuik et. al 1997). However, in several states of India, examples can be found of these formal normative requirements not being converted into actual enforcement and regulatory strength (Murti 1997). This is illustrated by legal, and particularly judicial activism, recently forcing state pollution boards to strengthen environmental control (Lal & Jha 1999). Particular polluting units are identified and, with explicit reference to court rulings, units not complying with regulatory requirements are asked to find appropriate remedies within specified time limits. Due to judicial activism, Indian environmental policies have, de facto, been strengthened.

While environmental litigation is pending in court, environmental authorities are receiving an increasing number of new application for environmental licenses, both to establish individual plants and operate them. However, administrative resources allocated to strengthen normative environmental governance remain limited. As pollution-intensive industrial growth is further stimulated, the actual regulatory capacity to handle current environmental challenges is becoming inadequate. The outcome may be weak enforcement of environmental regulatory requirements. This is the political situation within which TNCs are operating affiliated units in India, however, according to the TNCs surveyed, only 25 percent of the benchmarked TNCs stated that current or future regulatory pressure was the main motivating factor for strengthened environmental management in India.

Among those referring to regulatory pressure, the reasons stated by a majority of the respondents are either future strengthening of regulations in India to become comparable to European environmental standards, or current regulatory requirements in the TNCs’ home countries. While local regulatory requirements are instrumental, very few firms state that the recent strengthening of environmental regulations in India is the most significant motivating factor for local environmental management. It should be added that in two of these cases, the TNCs have experienced relatively stricter environmental control and enforcement in their
home countries, forcing the firms to retrofit older European and US facilities to comply with stricter regulatory control. Thus, in these cases, what is driving local environmental management to improvement is not merely related to local regulatory factors.

When green-field projects are established in India, the same TNCs want to avoid another time consuming and expensive retrofitting of processing technologies. As explicitly stated by the Corporate Environmental Manager of one of the German TNCs studied: “it is easier, more convenient and cheaper in the long run, to make environmental investment at an initial green-field stage, rather than retrofitting processing equipment at a later stage”. The manager knew what he was talking about, as the same TNC had recently conducted an expensive modernisation programme, including retrofitting processing equipment at several comparable units in Germany.

However, this case refers to a green-field project, and our findings document that the large majority of TNCs are still operating older processing plants. More than 60 percent of the benchmarked TNCs control Indians plants that were established prior to 1990, and 24 percent were even set up before 1971. For these units, the impact of relatively weaker regulatory strength compared to European standards may be an even stronger.

b. Weak patent protection

Beyond the general institutional context of environmental regulation, some of the companies explicitly referred to weak patent protection as a reason for not installing pollution control measures equivalent to those used in their home countries. Pharmaceutical companies in particular stated this. For the record, it is important to keep in mind that these companies, according to local pollution control boards, did not represent a problem in terms of violating local environmental regulations. Actually, one of the TNCs had both extensive dialogue with local pollution control board and good relations with environmental authorities in general. Weak patent protection was nevertheless stated as a problem for transferring the latest environmental technologies.

There might be certain health hazards related to patented drugs and certain formulations, but environmental hazards only occur in connection with the production of bulk drugs, prior to actual formulation. As far as I could document, these TNCs do not possess patents on processing systems. They do control several worldwide patents for particular drugs, but weak patent protection was mentioned as a factor limiting TNCs environmental initiatives with respect to pollution control. Thus, in terms of pollution control, weak patent protection cannot be used as an excuse not to transfer state-of-the art pollution control technology and processing equipment. In the case of product related environmental hazards, as is the case for other chemical products, it is easier to understand this argument.

c. Traditional industrial policies

Another institutional factor influencing the current character of environmental management is traditional industrial policies. An argument raised by almost all the informants representing relatively older establishments, pointed to the fact that historical restrictions, in terms of limited installed capacity, costs and limited opportunities for technology imports, as well as traditional restrictions on integrating Indian affiliated units into the global strategy of the TNC, have had a further adverse influence on the environmental management procedures and actual practices at affiliated Indian units.
As previously referred to, traditional industrial policies did in fact place significant limitations on the design and operation of affiliated plants in India. Installed production capacity was often smaller than that applied for, and many Indian operations controlled by TNCs had characteristics both in design and general logistics that deviated from corporate standards applied in Europe or the US at the time of establishment. Import restrictions and requirements for local content have further limited TNCs’ preference for global standardisation.

As retrofitting current operations is both time and money consuming, knowing that local regulatory requirements are not as demanding as equivalent requirements abroad provides no real local incentive to encourage TNCs to respond to the opportunities set out in accordance with the new economic policy launched in 1991. Currently, there are few institutional barriers against increased imports of environmental technologies. For certain industries, such imports are even exempted from customs and tax duties, but history apparently counts, despite changes in economic policy.

**Political and ideological factors**

The Bhopal tragedy created a particularly difficult situation for TNCs operating in environmentally sensitive areas, such as chemical manufacturing. Increasingly, environmental problems created by industrial activity appeared on the political agenda. At the same time, economic nationalism created a generally hostile attitude to foreign controlled activities, and the chemical disaster caused by Union Carbide fitted a general view that foreign economic agents were not wanted, in part because they created environmental havoc. Today, despite economic liberalisation, informants indicate quite clearly that TNCs are relatively more scrutinised than comparable local firms, regardless of actual environmental performance.

The case of DuPont’s proposed Nylon 6.6 project in Goa is a relevant example. Nevertheless, few cases of judicial activism have actually involved TNCs (Lal & Jha 1999). However, the same TNCs are well aware that the general public continues to be reminded of the lessons learnt from the Bhopal tragedy, and they keep a particular eye on potential ‘culprits’. Beyond the expected strengthening of the normative regulative framework, and formal enforcement procedures in particular, informal political control through public vigilance and judicial activism will continue to remind TNCs to keep an eye on any issue which might evoke anger in the general public.

Being continuously scrutinised creates a challenging situation. As explained by several corporate informants, the only solution is to keep their houses clean and tidy. Knowing present attitudes, it is a challenge in itself to approach society and generate increased goodwill, not only in markets but also among non-potential consumers. A number of the TNCs have launched quite extensive PR campaigns in Europe, telling the general public and particularly customers, about the environmental friendliness of their products and the company in general. Interestingly, similar campaigns have not been launched among those studied in my sample - at least not on the same scale. TNCs generally keep a low environmental profile. As stated by one informant: “high exposure normally equals more criticism, even if it is not fair”. To search for answers to the lack of equivalent PR campaigns in India, we need to look behind political and ideological factors and rather focus on the pressures and incentives of the market.
6.5.2 Pressures and incentives of the market

Some of the sample TNCs can document worldwide commercial success in launching green products. However, the same products have not yet been launched on the Indian market. The official reason is that these 'greener products' are too expensive, as the minimum retail price TNCs have to charge is only suitable for a very limited, upper tier, market segment. The same companies therefore concentrate on the more rapidly growing middle tier of households market segment, which demands cheaper and more ordinary quality products. Products with a green premium are therefore withheld - at least from the household market.

Among those directing their efforts to industrial market segments such as automobile manufacturers, more interesting changes can be observed. These customers are becoming increasingly more environmentally conscious in their sourcing policies. Textbox 6.11 gave an interesting illustration, but the question is whether this is market driven or rather the result of the specific corporate policies of the industrial customers. This will be answered later, but, first, distinguishing particularly between households and industrial consumer segments, the importance of local market pressure and whether customers are domestic or foreign will be discussed.

Local market pressures

TNCs do not openly acknowledge it, but green consumerism is still very weak in India, particularly in the household market segment. Thus, when trying to understand the factors influencing the local market, it is important to distinguish between industrial and household customers. When confronted with a price premium for more environmentally friendly products, our informants referred to market surveys indicating that very few households are actually prepared to pay such an environmental premium. In the case of paints, for instance, this is further emphasised by the fact that very few middle-class Indians actually paint their houses themselves. This in striking contrast to the European household market, where health and environmental concerns are driven by a personal desire to avoid exposures to hazardous substances. Indians buying paint are not personally exposed to the same hazards. Indians, as Europeans, appear to be less concerned with the health of others, and focus more on price. As the potential for exposures is nil, customers are often not willing to pay a premium for environmental protection. This implies that TNCs actually providing final goods to households must, to remain competitive in local markets, internalise any environmental cost generating investments into current corporate margins. The actual outcome observed, as exemplified by the case of the UK based TNC, explains why these greener, but more expensive, products are still not launched in the local market.

A similar situation might exist within the industrial market segment. However, industrial consumer preferences are changing. In contrast to the household segment, examples were found of TNCs supplying local (car) manufacturers, customers as illustrated in textbox 6.12, who are setting specific environmental standards on both intermediate and final products supplied. This is actually equivalent to the environmental supply chain management approach taken by some of the TNCs studied - the requirement for their own up-stream suppliers to comply with environmental standards.

Down-stream product stewardship programmes remain weak. This is partly caused by poor environmental awareness/willingness among customers, but also due to the limited level of local environmental concern in the demand structures. It is a paradox that while
TNCs are proclaiming a commitment to sustainable development, very few of them have actually initiated any efforts to promote change among consumers of their products. Among my sample of TNCs, there are several examples of efforts initiated in their home countries with respect to local customers, to inform about potential hazards or misuse, waste handling schemes etc. Again, the case of the UK based paints manufacturer is striking - no equivalent initiatives were identified.

The local market as such does not appear to be a driving force in promoting strengthened environmental management among TNCs. Quite the contrary, the evidence presented indicates that local market structures rather seem to represent a barrier to strengthened local environmental management by TNCs.

**Global market pressures**

Several of the TNCs studied manufacture dyestuffs, and these are even exported back to Europe. As local manufacturers, TNCs have traditionally focussed on the production of azo dyes, rather than more environmentally sound organic dyes. Recently, however, Indian exporters of dyestuffs, and particularly textiles, have experienced that European countries have begun setting import criteria that include environmental standards. For instance, Indian exporters have been met with ‘eco-protectionism’ in Germany, in the case of textiles with azo-dyes (Jha 1999). Despite the fact that all the TNCs involved were initially motivated to set up their Indian FDI due to local market opportunities, current export performance back to their home countries is driving some affiliated Indian units to comply, for example with German regulatory requirements.

The case of the import ban on azo dyes to Germany is an extreme case, as very few products actually manufactured by the TNCs included in this study are subject to such trade restrictions. The global pressure that appears to be more significant is European prohibition on certain hazardous substances in European facilities. There are examples of companies using chemical inputs that would not be allowed in equivalent European facilities. However, the study did not provide evidence that this opportunity to pollute has been an influencing factor in locating TNC units to India. Actually, as such hazardous activities are subject to rather stringent environmental control regimes in India, no evidence was found that TNCs shifted pollution-intensive production to India merely to avoid pollution control.

Findings show quite clearly that the pressure to standardise environmental procedures is a consequence of intra-firm trade. In one case, plants previously relocated from Germany manufactured intermediate products. However, the products were re-exported to Europe, and this intra-firm linkage appeared to be quite instrumental in setting certain minimum standards, for both environmental and quality procedures. Indian production is designed to fit into a global logistics system, and, consequently, Indian TNC units cannot compromise on the standards that increasingly include environmental issues.

### 6.5.3 Industry specific factors and initiatives at branch level

Apart from the company specific factors, which we will return to in a subsequent section, industry specific factors, and particularly increased environmental awareness within the chemical industry and certain global market segments, may also influence affiliated TNC units. In this connection, it seems appropriate to mention sector specific initiatives such as the RCP. However, surprisingly few references were found to RCP when asking about the
drivers behind improved environmental performance. Thus, there seems to be a reversed causality, sector based environmental management initiatives like RCP are functioning rather as a dynamic factor within the Indian chemical industry because certain TNCs within the RCP have a hegemonic role in bringing the sector towards increased environmental awareness. A few TNCs, rather than the sector associations, are actually putting environmental, health and safety measures on the industrial agenda. Thus, industry specific institutional drivers seem to be weak, at least in an Indian context.

Furthermore, due to increased local competition triggered by economic reforms, institutional pressures are enforcing local market demands to promote strategies of local adaptation - functioning more as a barrier than as an incentive to increased environmental management among affiliated TNCs units operating in India. However, there is one increasingly potent industry factor, and that is standardisation. The ISO 14000 series of environmental management standards in particular are increasingly applied as a benchmark for corporate improvement. Normally, the number of firms certified in accordance with the ISO 14000 standard is assumed to be a reflection of environmental consciousness within a particular market. In India, where markets are not particularly green, however, a number of companies are driving other firms to increase their awareness of ISO 14000 and environmental management in general. According to the benchmarking, more than half the TNCs are either in the process of seeking ISO 14000 certification, or have already applied. However, only very few companies have actually achieved certification, and these initiatives can be counterbalanced by local market pressures.

**Pressures and incentives of the transnational corporate network**

Responding to our question of what the major motivating factor has been for recent strengthening of local environmental management, as many as 44 percent of the 53 TNCs answered that this was related to policies from corporate HQ. If we should draw only one conclusion from this study, it has to be that TNCs operating in India are increasingly integrating affiliated units into global environmental governance systems, what has been termed ‘cross border environmental management’. At the same time, however, processes are driving local units to adjust to local conditions. The dual forces of global standards and local adjustments are simultaneously influencing affiliated TNC units operating in India.

Interestingly, findings show that even among affiliated units lacking a local, independent, written environmental policy statement, several standards prevail, both in terms of atmospheric pollution, liquid discharges and general issues relating to environmental management. This is, for instance, the case for effluent treatment or the handling, storage and disposal of hazardous chemical substances not sent to effluent treatment plants. The case of ICI provides a good illustration that the drivers behind environmental management at certain affiliated units in India are standards set by TNC HQ. But is it representative, and what are the driving forces that influence such corporate initiatives?

a. **The culture of stringent controls in certain industries – ‘the Bhopal syndrome’**

With explicit reference to the Bhopal disaster, our sample of TNCs, unlike larger domestic rivals, tends to be more vulnerable to demands and pressures originating not only from India, but also through networks of corporate affiliations and transnational political campaigns, for instance co-ordinated by environmental NGOs. In particularly, corporate HQ and external
stakeholders located in the home country of the TNC in question create pressures to conform to certain expected performance standards.

Union Carbide decided to close down all its Indian activities, and the manufacturing plants producing batteries are now owned and operated by local Indian entrepreneurs. A significant factor influencing Union Carbides decision was ‘the Bhopal syndrome’: the company became heavily scrutinised, particularly by local environmental NGOs. However, others remain, despite ‘the Bhopal syndrome’. However, the syndrome has triggered a strengthening of controls in certain industries. The case of Norsk Hydro is quite illustrative. This conglomerate is involved in petrochemical manufacturing, and, for many years, the TNC had a 33 percent equity share in three Southern India plants manufacturing polypropylene and related products. However, in 1997, the Norwegian equivalent of Multinational Monitor, the Norwegian voluntary organisation “Future in our hands”, documented through its newsletter “Norwatch”, that this particular TNC did not operate its Indian activities in accordance with stated environmental, health and safety standards, and far below standards implemented at comparable European units. This happened at a time when the same company had also been scrutinised for other Indian activities related to a proposed bauxite/alumina project on the East coast. The outcome was that the Norwegian company, through its regional subsidiary in Singapore, increased its equity share to 51 percent, replaced the local managing director, and took various initiatives that both strengthened local environmental performance and transnational corporate control. A formalised environmental reporting system was established, and more regular environmental auditing procedures were initiated. According to the TNC, this was already in the pipeline when the Norwegian watchdog publicised their findings. However, the actual outcome is a significant strengthening of equity interests in India, and a more stringent corporate culture of control triggered, at least partly, by what is termed ‘the Bhopal syndrome’.

b. The role of environmental incentive schemes in TNCs’ home countries

Several of the affiliated units in India lack the freedom to focus merely on local conditions. Particularly within the chemical industry, corporate HQs are becoming increasingly committed to avoid any future environmental risks. To do so, all equity interests are subject to similar control procedures - such as the environmental auditing scheme previously referred to. Information provided indicates quite clearly, however, that corporate HQs are aware of the challenging commercial situation created by subjecting affiliated units to relatively stricter environmental control. Environmental strategies vary, but several of the TNCs studied did provide access to resources necessary to facilitate internal corporate environmental compliance. This is the case for, among others, the Norwegian TNC previously mentioned. In addition, extensive benchmarking was used on a global scale, in which affiliated Indian units were compared to equivalent corporate activities in other countries. Clear indications were found that these schemes, co-ordinated by HQ, functioned to a large extent as a motivating factor to comply with TNC internal standards, despite commercial challenges to remain competitive in India.

c. Pressures and incentives not specifically related to the environment

One of the more surprising findings relates to pressures and incentives not specially related to the environment. Among those TNCs having formalised environmental management systems in place, almost all had already made equivalent efforts in terms of
quality management. This could be rather formal, inspired by industry standards such as BS 5550 or ISO 9000, or more *ad hoc*. The culture of quality did, on certain occasions trickle down into environmental awareness. On the other hand, there are still several examples of companies with a relatively high level of quality consciousness, which do not show any equivalent responsibility when it comes to environmental issues and occupational hazards. Indications were found that the culture of quality was driven primarily through product orientation, as this impacted rather directly on market performance and customer satisfaction. The same customers did not express equivalent concern for environmental issues, and the TNCs consequently avoided the issue. A striking example was found at a US TNC manufacturing pollution control equipment. At this factory, established in the beginning of the 1990s, permissible external emission levels were set, in full agreement with local pollution control boards, but internal occupational standards, particularly relating to coating procedures, were not equally advanced. Knowing that this TNC created a competitive advantage by promoting a cleaner environment, this kind of environmental double standard is striking.

Another factor influencing environmental management procedures is ownership control vis-à-vis Indian partners. Even though almost all TNCs included are majority controlled foreign entities, 12 percent have a minority equity share. Among these seven TNCs, there are indications that environmental procedures are not integrated on a cross border scale to the same extent as those of TNCs with majority interests. One example is a Swiss-German joint venture in which all environmental responsibility was formally delegated to local management. The owners set quite specific standards for manufacturing practice. The quality control of products was stringent, including formalised reporting procedures to corporate HQs in Switzerland and Germany. In terms of formalised environmental reporting or on-site environmental auditing however, there were no requirements from the owners. Interestingly, the same pharmaceutical company had, nevertheless, set up a state-of-the-art effluent treatment plant that used organic treatment.

In another case, the US owner explicitly delegated environmental responsibility to local partners on formal grounds, and no requirements were set on cross border environmental management procedures. Contrary to the Swiss-German owned case, local management did not perceive any environmental challenges, and local environmental practice was potentially hazardous, with on-site leakage and improper treatment of industrial effluents. In both cases, however, neither formalised environmental reporting nor on-site environmental auditing were undertaken by the equity holding TNCs. This might be directly related to lack of majority control. Environmental management is, to a large extent, associated with risk avoidance management, but, apparently, these references indicate that such avoidance management only appear to take place among affiliated units subject to majority control and formally controlled by the TNC in question.

Among those Indian TNCs becoming increasingly subject to environmental control from corporate HQ, initiatives seems to materialise among those with a general corporate culture of global co-ordination. We might distinguish between the engineering based cultures of global standardisation and the marketing based culture of local adaptation. Among TNCs with a prevalent engineering based culture, there was a greater propensity to promote standardised environmental control and co-ordination as part of the general corporate governance system. In the cases of marketing based culture, standards were rather developed in accordance with local specifications. The different characteristics of two UK based TNCs illustrate this argument quite clearly. Both TNCs had been operating in India.
since the interwar period, and both started their operations by selling chemical products manufactured in the UK. Both set up local manufacturing plants in the 1950s. However, local manufacturing differences emerged in various areas, particularly as a consequence of the radicalised Indian industrial policy of the 1970s. While one of the TNCs continued to produce a product range quite similar to that produced in the UK, the other modified its product range to satisfy particular Indian preferences. This company also changed names as well as the brands of some of its household products.

Although differences may be explained by external market factors, the internal culture created significant differences, which can also be related to environmental management. As stated by the environmental management of the TNC with a prevalent marketing based culture: “the Indian customers are setting the environmental standards”. The UK based Environmental Manager of the engineering based TNC, on the contrary, stated to Indian environmental managers: “we are setting the targets, you are supposed to follow them”. Examples may vary, but there are also similarities such as size and volume. This leads to a final argument not directly related to environmental issues. In general, it can be concluded that the size of a company, in combination with the resources that the TNC has at its disposal, appear to be quite instrumental in supporting and, in particular, enforcing cross border environmental management procedures.

6.5.4 Drivers and barriers influencing TNCs environmental practices in India – the role of transnational corporate control

To summarise, this study has documented a variety of driving forces that influence TNCs’ environmental procedures and practices in India. However, the relative importance varies between those focusing on external factors such as fear of accidents, consumer pressure, pressure from NGOs, current and future regulation and internal, more corporate specific factors, such as local management and policy and practices at corporate HQ. Figure 6.7 illustrates that as many as 50 percent of the TNCs studied considered the policy, procedures and standards set by parent firm to be the most important influencing factor regarding local environmental practices in India. As the second most influential factor, the sample expressed that current and future environmental regulation influence with a factor of 23 percent. 13 percent of current environmental management procedures are stated as driven by local management. Despite the reference to Norsk Hydro, environmental NGOs influence a mere 6 percent, and this is equivalent to the role of consumers. Only one TNC stated that local environmental management is driven by fear of accidents.
If these considerations are related to barriers impeding the strengthening of TNCs environmental management in India, the major factor is considered to be economic and financial constraints. According to representatives of the benchmarked TNCs, there are insufficient resources available locally to strengthen environmental performance. While several of the TNCs consider current and future regulations to actually influence local performance with a weight of 23 percent, 11 percent argue quite the contrary, that weak environmental regulations function as a barrier. In addition, lack of environmental enforcement is considered to impede the strengthening of environmental procedures with an importance of 17 percent. Thus, to convert regulatory requirements from being a barrier into motivating TNCs to strengthen local environment performances, it is important that a strengthening of future regulatory requirements is actually enforced.271

Another interesting finding relates to the fact that problems with local joint venture partners are considered to be a significant barrier to improved environmental performance. It was ranked with a value of 11 percent. However, as the majority of cases include Indian affiliated units with majority control, this argument should not be generalised, but rather directly related to the 12 percent with minority shares. In addition, the sample generated findings indicating that factors such as culture, qualification of local staff, and lack of environmental infrastructure were not considered to be very significant barriers to improving environmental performance of TNC activity in India.

Porter (1985) described two main strategies for gaining competitive advantage - cost leadership and differentiation. Little (1991) claimed that both these strategies can be applied to the environment to gain competitive advantage. Based on various interviews with TNC representatives in general and ICI officials in particular, efforts made to improve environmental performance can be understood as part of an overall strategy to enhance competitiveness.

My findings further verify that representatives of ICI India use a number of arguments to justify the pro-active environmental strategies chosen, but that the overall rationale still
appears to be increased market opportunity. Let me illustrate this by focusing on the environmental argument relating to the previously mentioned paints plant at Thane. From various representatives of ICI India, I have obtained the following statements - all related to potential environmental benefits:

**Textbox 6.12 The TNC affiliated unit’s environmental argument**

<table>
<thead>
<tr>
<th>The rationale behind the Thane project: the arguments of ICI India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved material efficiency reduces costs and causes improved product quality</td>
</tr>
<tr>
<td>Reduced risk will improve relations with external stakeholders</td>
</tr>
<tr>
<td>Compliance with ICI standards will assure compliance with future local environmental regulations</td>
</tr>
</tbody>
</table>

Analysing statements from officials at corporate HQ in England however, a more explicit focus is set on environmental issues. Let me similarly illustrate this reasoning with the following statements to explain the rationale behind the Thane project:

**Textbox 6.13 The HQ’s environmental argument**

<table>
<thead>
<tr>
<th>The rationale behind the Thane project: the arguments of corporate ICI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimise adverse environmental effects of all activities</td>
</tr>
<tr>
<td>Uniform environmental standards regardless of location</td>
</tr>
<tr>
<td>In transferring technology, ensure that the environment is adequately protected</td>
</tr>
</tbody>
</table>

We can detect a difference between the statements of representatives of ICI India, responsible for local operations, and the statements of representatives from the HQ of ICI. ICI India has recently experienced financial problems, primarily due to poor marketing. Increased revenues from the paints market is crucial. Accordingly, the reasoning can be related to strategy option 4: Resource efficiency. Those responsible at corporate HQ express a more value-oriented approach. Being more detached, both from manufacturing and marketing activities, the overall visions can more easily be emphasised. Consequently, arguments are focusing on the need to minimise environmental damage, identified as strategy option 1: Clean technology, and 2: Cradle to grave presented in figure 4.1.

The reason for contrasting these rather stylised arguments is to illustrate that environmental strategies must be related to conflicting imperatives of responsiveness and integration. The economic reasoning given by TNC officials in India, appears to be a result of the company’s communication strategy of presenting pro-active environmental management strategies as 100 percent compatible with enhanced corporate competitiveness. The case of ICI India, having recently experienced financial losses and reduced market shares - due basically to a lack of local responsiveness - illustrates the need to justify any changes in

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272 It was difficult to obtain reliable data on the reasons behind the economic problems in 1990. However, in the case of Paints, it was mentioned, at least indirectly, by several ICI officials with whom I communicated, that the previous manager in charge (a UK national) did not understand the Indian paints industry. At the same time, strong initiatives were taken by ICI Paints to strengthen international co-ordination and integration of strategic decisions, including environmental strategies.
corporate strategy as part of its competitive policy. In such a situation, it is easier to understand that more value-based and less tangible arguments are substituted by market rhetoric. At the same time, an overall corporate environmental strategy is pursued. Marketing campaigns do not say whether increased competitiveness is actually going to occur and how it will be achieved, particularly whether it is to be achieved ‘with or without the environment’. I will argue that the implemented environmental strategy of ICI India is wrapped in commercially comprehensible arguments such as: ‘it’s lean to be green’ - thus embedding environmental efforts into overall initiatives to promote corporate competitiveness. However, overall environmental objectives are still set - such as those included in Challenge 2000. To understand what is achieved by these efforts, we need to understand the modes of control applied by ICI, and thus dig deeper into corporate strategic implementation.

ICI’s greenfield project at Thane is operated in accordance with specified standards set by ICI. In 1990, ICI set various targets that can be regarded as a preamble to the Challenge 2000 strategy. The first objective was as follows: “ICI requires all its new plants to be built to standards that will meet the regulations it can reasonably anticipate in the most environmentally demanding country in which it operates that process.”273 The environmental strategy of ICI states rather explicitly that all new plants are designed and operated to comply with ICI’s global environmental management system. A kind of ethnocentric strategy can be identified. It is not stated that performance as such should be identical - a kind of responsive dimension is included by using the term ‘reasonably’ in the stated ICI objective. However, the strategy seems to require the promotion of structural uniformity. The question is whether this mode of control promotes an optimal fit, or congruity, between the identified strategy expressed by the Challenge 2000 commitments formulated in 1995, and actual implementation within India’s paints industry. The case of the paint factory will be dealt with at a later stage, but we can illustrate the challenges of combining ethnocentric and polycentric strategies, by focusing on ICI’s operations within India’s paints industry.

ICI Paints is one of the world’s largest suppliers of paint, but is still a minor in India. At the same time, ICI Paints in India is part of a larger network that promotes structural uniformity. As confirmed by the Vice President of Paints, Dr. Bhargava, product and process innovations developed in the US, UK or Australia are transferred to India. As an example, he mentioned the substitution of chrome, mercury and lead with organic pigments. Asking him whether the (more expensive) organic substitutes would cause price increases, Dr. Bhargava stressed the simple fact that environmental standards were currently more important than profits. He referred directly to the Brundtland Commission, stating that ICI “thinks globally, but acts locally”. With the resources ICI represents, Dr. Bhargava argued further, it must, like other large corporations, assume a particular responsibility. ICI India cannot compromise on internal standards and strategies developed at corporate HQ. “Corporate HQ are setting the targets, you are supposed to deliver them”.274 Part of ICI’s environmental responsibility is to reduce what Dr. Bhargava called the ‘knowledge gap’. Differences are still large between Europe and India, and ICI should contribute to the promotion of economic activity on a more long-term and sustainable basis. Commenting upon the argument that ICI’s decision to promote a state-of-the art project at Thane is economically irrational, he again referred to the long-term responsibility to the Indian community. In addition, he invited me to follow the process, and stated: “Within five years among the Indian middle class, India will experience a

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274 Statement by Dr. Whiston, chief of SSHE, ICI HQ at a lecture in Calcutta, 11 February 1996.
radical change in people’s attitude towards using more environmentally friendly paints. By making necessary process and product innovations at this stage, ICI will be better equipped to meet this future change in consumer priorities.”

It is still too early to verify the economic impacts of the environmental strategic choices made at ICI India’s new paints factory in Thane. What we do observe, however, is that environmental choices have been made more or less at the same time as a significant downsizing of the company. Several traditional businesses, including the most profitable but ‘dirty’, agrochemical businesses, have been sold as a consequence of strategic decisions at corporate HQ. The remaining operations, however, have been consolidated and are growing. With the new factory, paint production capacity will be doubled, and corporate HQ have expressed confidence in ICI Paints’ activity. So far, it appears that the integrated strategy is working, but external structures are still creating barriers to ICI’s environmental objectives. The product stewardship programme is not really functioning, and the launching of Aquabase has been postponed. Signals from corporate HQ state rather explicitly that ICI India should strengthen environmental efforts and meet the targets set as part of promoting environmental improvements through structural uniformity.

The study documented that policy linkages in the sense of extended dialogue with external stakeholders did not occur with respect to NGOs. The remaining question is whether these efforts, partly triggered by strengthened cross border environmental management and transnational corporate control, nevertheless influence environmental politics in India.

6.6 Impacts on environmental politics and practices in India - a consequence of cross border environmental management conducted by TNCs?

Despite being industrial pillars of India’s chemical industry, TNCs are treated rather as aliens. This was perfectly demonstrated recently when one of the TNCs in question wanted to acquire less than 10% of the shares in a competing company, actually the market leader. The local owners of this company, controlling almost 50% of the shares, rejected the acquisition attempt as a hostile take-over. The Minister of Industry labelled the TNC’s efforts as incompatible with India’s industrial policy, stating that India ought to readdress current economic reforms in order to impede the entrance of new multinationals. TNCs are easily scrutinised, and it is definitely a challenge to broaden their scope without being criticised. This ought to be taken into account when discussing policy linkages between FDI and the environment.

Paradoxically, when the 1970s Indian government of Indira Gandhi heavily promoted joint ventures between TNCs and domestic entrepreneurs, the financial community did not respond to this political initiative. However, in the wake of economic liberalisation, the same investors are now more eager to put their risk capital into TNC controlled units, and affiliated TNC units are increasingly becoming targets for Indian financial investors. The financial community of India, however, is, as elsewhere, managing its portfolio on an extreme short-

275 All statements made by Dr. Bhargava, obtained during a meeting on 22 March 1996.
276 According to India’s Company Act, the current board of the selling company must approve acquisitions of more than 10%. In this case, only 9.1% was considered for sale, but, nevertheless, the board thought it could veto the sale proposed by a previous owner and Managing Director of the domestic firm.
277 The TNC in question had been operating manufacturing units in India, in the sector in question, since before India gained independence in 1947!
278 This can be confirmed by studying reports provided by the journal Business India.
term basis. Green consumerism is lacking in traditional goods markets, but is even more absent within the financial services market. In another case, a TNC wished to get local funding to install recycling technology. Even with a payback period of less than a year, the particular project was not even considered by the local bank. The risk was perceived as too high.279

The solution for the TNCs I have studied is foreign funds or reinvestment of profits. TNCs have access to the necessary resources, and environmental projects are occurring. The Director/Member Secretary of the CPCB, Mr. Biswas, could not refer to any voluntary initiatives undertaken by TNCs, either individually or collectively, through relevant industrial associations. He referred to corporate statements, particularly through the branch organisation, ICMA, but as he stated: “I am not really impressed with what I have seen”.280 He appears to perceive TNCs rather as an obstacle to India’s efforts to promote improved environmental management. This opinion was shared with Dr. Sengupta, Head of CPCB’s Pollution Control Implementation Division II on basic industries.281 However, Mr. Verma, Additional Director and Head of Pollution Control Implementation Division I on petrochemical and chemical industries, was less categorical. Actually in charge of environmental control of the sector where the TNCs in question are operating, he did not object to my observation, but stressed that these findings were not necessarily representative.282 I cannot disagree with this statement. Although he did accept the increasing challenge of fulfilling the objectives of India’s environmental policy, my revelations did not cause particular enthusiasm. Environmental management is easily politicised, and statements made by the top management of CPCB confirm that the traditionally antagonistic attitude towards TNCs still prevails. Accordingly, it was stated that “these TNCs are dumping hazardous waste in India, and adjusting to lower local standards.283 Resources are exploited and few impacts can be observed in terms of improved environmental performance of TNCs”.284

However, focusing on those agencies actually in charge of enforcing current regulatory requirements, the SPCBs, I found different attitudes. The Member Secretary of Maharashtra SPCB, Mr. Sangitrao, did acknowledge both the lack of resources at the disposal of the SPCB to enforce regulations and voluntary initiatives beyond minimum regulations initiated by TNCs.285 Somewhat more reluctantly, the West Bengal SPCB expressed similar opinions. Obviously, public servants at state level know better what is actually happening within their particular industrial zones. Despite traditional ignorance at the federal level, SPCB representatives in charge seem to understand the emerging dynamics. At the same time, the federal government has recently taken some pro-active steps to pre-empt judicial and community pressures.

In December 1991, the CPCB identified 1551 large and medium sized industries as being highly polluting. Of these 1551, 111 were closed, 1220 installed the required pollution control equipment, while 220 failed to comply and were met with further legal actions. Of these, only

279 This ought to be qualified, particularly with the increased inflows of multilateral funding through ODAs, etc. Increasingly, local financial institutions are co-funding such schemes, and environmental policies and practices are strengthened. Perhaps we see the emergence of new policy communities, as represented by Asian Development Bank funded projects as the proposed loan and technical assistance granted to the state of Gujarat to strengthen its resource management program.
280 Statement obtained in a meeting at CPCB on 3 November 1997.
281 Statement obtained during a meeting on 10 April 1996.
282 Statement obtained during a meeting on 3 November 1997.
283 As stated by Dr. Sengupta, op.cit.
284 As stated by Member Secretary Dilip Biswas, op cit.
285 Statement obtained during a meeting in on 15 April 1996.
23 were firms with technical or manufacturing collaboration with TNCs. None of these failed to comply. Of the 1551 units, 164 were identified in Maharashtra, which largely comprised public sector companies dealing in power, sugar and distilleries. The private sector companies were largely chemical and pharmaceutical units and paper and pulp companies. Of these, seven were TNCs or associated with TNCs through technical or manufacturing collaboration, but none of them were closed. This indicates that, while the majority of the offenders are domestically owned, TNCs do get involved in pollution-intensive activities. But does the public scrutinize them similarly? Recently, under the auspices of the newly constituted National River Conservation Authority (NRCA), industries that were polluting rivers and other water bodies were identified. 2901 public and private industries were identified in eleven states, of which 841 units installed adequate treatment facilities, 34 preferred to close down the units, and the others deferred installing environmental facilities. The study undertaken by Lal & Jha (1999) included 42 TNCs or their affiliates included, but no further information is granted regarding how many of these deferred installing requested pollution control equipment. Growing social and regulatory pressures have made industries seek new partners to collaboratively deal with the environmental challenges facing them. According to Lal & Jha (1999), firms operating in India have responded by means of three different mechanisms: 1) through sharing and developing common facilities with other industries, 2) by initiating the formation of industrial associations, and 3) by fostering relations with NGOs, to help improve their environmental performance and image.

The first strategy is strongly supported by the TNCs included in this survey. TNCs have not only proposed the establishment of environmental groups and responsible care within the ICMA, some of them have even played an instrumental role in consolidating and strengthening the focus on corporate environmental management. Despite the fact that many Indian firms have strengthened collaboration with NGOs, this is seemingly not to the case for the TNCs studied.

Industrial areas in Maharashtra have developed symbiotic relationships with agencies and NGOs. Industrial associations have begun to take collective action at the behest of industries, and become representatives of industry in various forums. Thane Belapur Industrial Association is one of the most developed associations. Surprisingly few initiatives have been made by the TNCs located within this industrial belt, despite the same TNCs having been active within ICMA on a regional and national level.

Lal & Jha (1999) confirmed, however, that partnerships between NGOs and domestic firms on environmental grounds are rare. Few NGOs have come forward with strategies for on-site remediation, waste management and recycling. An interesting exception is efforts made within the Pimpri-Chinchwad area in the Pune district of Maharashtra. This is a heavy industry area, primarily housing domestic automobile firms and several small scale supply industries around these giants. The wastes from the industries, and townships around them, were beginning to grow rapidly. In the absence of a well-defined waste disposal method, the Pimpri-Chinchwad Municipal Corporation (PCMC), along with three local NGOs and the community, has designed a waste disposal strategy. This experiment has provided an opportunity for environmental education of PCMC and the NGOs. One academic institution in Pune had started a project, Garbage Recycling and Segregation Programme (GRASP), in 1991, wherein local rag pickers were involved in collecting garbage door-to-door from the townships, industrial areas and settlements. On average, they annually collected 200-250 tonnes of wastes that they recycle using vermiculture. The university provided the rag-pickers with a savings co-operative, educational incentives to reduce child labour, and health...
facilities. Industries have also taken a lead in helping this initiative by reducing their waste for recycling and also sponsoring many activities of the PCMC. Despite thorough field-work focusing on a total of 53 TNC located in various parts of India, no other similar initiatives were found involving TNCs. What of the local regulatory bodies, the SPCBs?

SPCBs lack resources. Judicial activism is forcing them into ever more reactive behaviour, allocating available resources to comply with the rulings from the Supreme Court. Voluntary initiatives from TNCs, with global access to appropriate resources, become tempting means to achieve the objective of improved environmental control. I have not been able to document any formal collaboration on environmental policymaking with respect to the TNCs studied. However, several examples are found and have been verified by political authorities, where TNC representatives have briefed SPCB representatives on technological innovations. In one case, a zero-liquid effluent concept, recently transferred and implemented within India’s chemical industry, was subject to a full day’s visit from the local SPCB. Despite the animosity that prevails among environmental NGOs and negative attitude stated by representatives of the CPCB, the study did at least document that informal exchanges of experience are taking place between representatives of SPCBs and TNCs.

This also occurred in another case, located by the Thane-Belapur highway, as a direct consequence of corporate environmental initiatives. Despite requirements for safe handling of hazardous chemicals and heavy metals, no proper incinerator existed in this heavily industrialised area. The TNC in question was asked by the HQ to fulfil corporate priorities, not only to improve the safe handling of hazardous components, but also to improve energy efficiency. The incinerator was built, and representatives of the local pollution control board expressed an interest in learning more about the experience. According to the Member Secretary of this SPCB, a particular objective was to seek out opportunities for other firms to gain access to the incinerating capacity. For some time, local authorities had tried to set up a public incinerator, but failed due to lack of funding, as well as appropriate processing technologies. According to the Member Secretary, an alternative option would have been to buy similar environmental services from this TNC. A price was agreed upon, however, not surprisingly, of the adjacent firms with no incinerator but which generated hazardous wastes, very few responded. A remaining question regarding the rationale behind policy networks is why this TNC did not act more proactively in tandem with the SPCB to motivate other firms to treat hazardous waste in a more environmentally sound and sustainable way. At least a collaborative deal was triggered between local regulatory authorities and the TNC as a direct consequence of environmental initiatives at the affiliated TNC plant.

In another case, the SPCB was invited to a TNC affiliated plant to learn more about future plans, and recent environmental improvements related to discharges of caustic soda. Prior to the visit, repeated complaints had been raised from local NGOs and community councils that this TNC plant, located in the outskirts of Calcutta, West Bengal, was responsible for hazardous liquid discharges into the Hoogly River. Not only did representatives of the WBPCB find the plans and subsequent implementation acceptable, the representative even confirmed that some of the complaints were based on false assumptions. Apparently, as these cases confirm, there is some tendency for TNCs to become more involved with local regulatory authorities, at least on a person-to-person basis. Often, the factor triggering such dialogue is scrutiny from civil society.

286 Which is contrary to standard operational procedures of SPCB requesting a visit to control that a unit is operating in accordance with the license to operation, granted by public authorities.
The activities of environmental NGOs vis-à-vis TNCs were constituted in the wake of the Bhopal tragedy. While many of the TNCs studied have changed their local procedures and actual performance at plant sites, the NGO approach of criticising TNCs seems to remain rather consistent, even with respect to TNCs that have improved their operations. Criticism from a relatively large NGO, which triggered the TNC initiative of inviting the SPCB of West Bengal to visit, actually produced interesting outcomes. The representatives of the SPCB acknowledged that the TNC had made environmental improvements based on transfers of technology from other Indian affiliated units, as well as through transnational ties. The procedures for treating hazardous waste were relatively new and showed good results. The general manager of the affiliated TNC unit offered the local SPCB training, both to understand the processing and the particular pollution control equipment. Liquid hazardous emissions were eliminated, and the SPCB received more detailed and specific information.

When I confronted the environmental NGO with this information, they did not criticise the actions as such, but rather shifted focus to other inappropriate TNC activities and the enduring political ignorance of the pollution control board. What the NGO community cannot deny is the emerging interaction and dialogue between the traditional polluters and those supposed to control offenders pursuant to regulatory requirements. Whether this can be termed a ‘policy community’ is debatable, but a new network related to the realisation of environmental political objectives is becoming informally established, in which TNCs are becoming embedded as core, influential agents. This was acknowledged by the environmental NGO, but TNC influence is not necessarily used to justify environmental violation. Through actual environmental advocacy, TNCs are promoting triangular environmental diplomacy to strengthen environmental policies and performance. At least this is happening at some affiliated TNC plants.

Some SPCBs, regardless of the ignorance of the CPCB, are, at least informally, becoming part of policy networks of environmental management. This should imply that, on this very limited scale, environmental strategies of TNCs influence not only affiliated units of the TNC. Distributors, suppliers and other economic agents associated with the life-cycle of the products manufactured by TNCs are increasingly subject to environmental control by the individual TNC. Impacts are documented within the value-chain. Outside the value-chain, impacts are less. However, the examples referred to do at least indicate that the regulatory dynamics are shifting from formal governance, based on mandatory requirements, to informal networking based on voluntary initiatives increasingly influenced by cross border environmental management through various modes of transnational environmental control.

This is increasingly the case regardless of lax or, in practice, non-existent public policies. India’s environmental practices are positively influenced in as much as these initiatives complement those of regulatory agencies. The actual effects are direct exchange of information and the institionalisation of environmental communication between public formal agencies and private commercial agents. But is this really creating a long lasting environmental policy network? It has been difficult to get TNC managers to explicitly discuss whether these voluntary initiatives are influencing politics. They do acknowledge their position as entrepreneurs, and they would like to be perceived as good corporate citizens, defending their corporate goodwill. But TNC managers did not accept the argument that by sharing their resources of global reach with local industrial partners and local regulatory bodies, they would increasingly influence environmental policy-making. As several have stated: “we are not involved in politics”. A later summary will show that this notion is shared by those exposed to direct lobbying, and in a separate chapter on TNCs in Agenda 21.
TNCs and FDI are not necessarily incompatible with the growth-oriented, liberal developmental priorities of LDCs. That is not say, however, that they are always compatible. On the contrary, corporate commercial priorities can always create perverted outcomes that are quite incompatible with local development priorities. Nevertheless, as long as these agents are actually active, we need to develop an analytical framework for studying the political economy of environmental management, accepting the dynamics taking place within policy communities in which TNCs are becoming increasingly embedded as an influential agent for change. I have done this by proposing a model for triangular environmental diplomacy triggered by environmental advocacy by some TNCs. A crucial question is the actual outcome beyond the plant specific level.

6.6.1 Indian islands of environmental excellence in a sea of dirt?

Despite stringent environmental regulations, there is vast empirical evidence that the environment is becoming increasingly degraded. The Indian Government admits that the rapid increase in industrialisation and urbanisation has exerted pressures on the infrastructural facilities which are manifested in terms of increased incidence of air, water and noise pollution....special water treatment will be needed for thermal plants, distilleries, paper mills and hazardous chemical industries” It is estimated that the total costs of cleaning of the environment would amount to a total of USD9.7 billion per year, or 4.5 percent of the GDP in 1992. The equivalent figure for China has been estimated at 2.6 percent, and less than one percent for many OECD countries (Brandon & Homman 1995). According to this World Bank report, almost all surface water in rural and urban India is unfit for human consumption, and it is confirmed that an increasingly large proportion of environmental degradation is related to highly toxic industrial wastewaters and natural resource exploitation. My project gives clear indications that many of the TNCs operating in India are strengthening the environmental management of affiliated units. Economic and political matters remain important, but the study shows quite clearly that institutional factors, particularly those relating to intra-firm dynamic between corporate HQ and affiliated Indian units, turn out to be important in influencing local environmental performance. The role of cross border environmental management is confirmed at least as influencing project specific linkages between FDI and the environment.

I did find significant evidence of environmental management at TNC affiliated units in India. Efforts were initiated, but often with significant deviations from intentions and policy commitments stated at corporate HQ. Thus, institutional factors relating to intra-firm dynamics are significant, but local factors still count. Despite HQ policies, procedures and standards being considered the major factors influencing local environmental performance, local practice is not necessarily a replica of HQ practice. However, as documented by this study, there are significant variations among the sample of 53 TNCs.

287 In addition, a related question, not to be elaborated on further here, is whether these initiatives are compatible with India’s industrial policy. As a predictable outcome of these initiatives, the competitiveness of TNCs vis-à-vis local entrepreneurs could become strengthened and local market share increased. In the name of environmental protection - through globalisation strategies, new oligopolistic market structures are emerging locally, in accordance with the global reach of the TNC.
288 Stated in Economic Survey 1995-96, pages 165 and 184, respectively. Further examples can also be found in Murti (1996).
289 Environmental costs were measured in terms of health costs incurred because of growing pollution, and the cost of losses in production caused by natural resource degradation.
Cross border environmental management among TNCs operating in India - what is actually happening?

Environmental auditing - significant changes are taking place

As far as can be documented, one of the most significant changes taking place at affiliated TNC units in India is the strengthening of global environmental corporate control through various forms of environmental auditing procedures. As many as 74 percent of the sample stated that on-site environmental auditing was conducted by corporate HQ. Affiliated units have always been forced to report on financial and commercial affairs. During the 1970s and, particularly, the 1980s, increased focus was set on health and occupational hazards. However, until the 1990s, there were no systematic attempts by TNCs to verify and control environmental affairs and actual impact at affiliated TNC units. This was the sole responsibility of local management. It still remains a local responsibility, but local activities are increasingly scrutinised by various stakeholders, and TNCs are responding by strengthening environmental auditing procedures. Several TNC informants stated that increased internal controls have been instrumental in sustaining higher environmental standards.

More systematic reporting has been institutionalised and independent auditing teams visit Indian units on a more or less frequent basis. The study also documents that as many as 71 percent of the affiliated units have been asked to submit formal environmental reports to corporate HQ. These reports often complement the auditing procedures initiated by corporate HQ. Through managerial, specialist and operational auditing, affiliated TNC units are becoming subject to global TNC control. This is for instance the case for waste management.

Waste management

Despite the fact that most effluent treatment plants installed at TNCs’ units are designed and procured through local suppliers, cross border environmental management is increasingly setting very specific formal standards on how hazardous wastes are to be treated, if possibly recycled, or finally disposed of. However, this study indicates that a challenge remains for Indian TNC units to comply with corporate environmental standards. Both a US pharmaceutical firm and a German chemical firm illustrated that environmental benefits were not achieved, despite installing pollution control technology, because plant activities were not co-ordinated and managed properly. Consequently, and despite access to pollution control equipment, local environmental performance deviates from TNC specific standards included in their cross border environmental management schemes. In other cases, however, efficient measures have been initiated as a consequence of appropriate management procedures undertaken by local staff.

Efficient and appropriate measures are also documented among those TNCs lacking a systematic approach to environmental management. Furthermore, such measuring is documented among TNCs not formally promoting strengthened integration of local activities with global commitment. Cross border environmental management is becoming a significant factor in explaining local TNC behaviour, but the case of waste management indicates that responsible behaviour is found regardless of strict cross border environmental auditing procedures. However, at the same time, TNCs with a cross border environmental management system in place do generally facilitate and enable local management to improve waste management procedures, particularly at the plant site. At least according to the study findings, the fact is that higher formal environmental standards do become more transparent and, thus, enforceable for local TNC management. This takes place even beyond the factory walls, but no examples such as the PCMC case were identified in which
TNCs took a leading role. This was not even the case for the Thane Belapur Industrial Association.

Supply chain management

Environmental standards, at least formally, include external concerns. Nevertheless, cross border environmental management appears to be limited to plant specific and equity related activities. Despite the fact that as many as 38 percent of the benchmarked sample stated that suppliers and sub-contractors were subject to minimum environmental requirements, this was not necessarily related to off-plant activities. Actually, the study only provided one example of a TNC screening the manufacturing processes of suppliers. Normally, among those setting minimum requirements, what was requested was self-documentation with respect to various health, safety and environmental parameters. It was not documented that any suppliers had actually lost contracts to TNCs due to EH&S concerns, further indicating lax external environmental control.

At least formally, a significant number of TNCs are extending their focus to the up-stream activities of suppliers. Nevertheless, the concern is plant specific and little evidence was found of concern for external processing conditions at supplier plants. TNCs appear to limit environmental concern to factors that can influence internal TNC conditions, TNCs’ production environments and final TNC products. However, as this concern indirectly influences the actual manufacturing activity of suppliers, supply chain management also influences the environmental management of these TNC suppliers. The question is whether TNCs’ own products are subject to the same environmental screening in India, having a variety of consumer markets with significantly different environmental priorities.

Product stewardship

TNCs are setting specific minimum standards for suppliers and sub-contractors who directly influence plant specific activities of TNCs, but when it comes to down-stream activities and product stewardship, no documentation was provided. This was the case for several waste-handling contractors, and the TNC in question did not know what actually happened to its waste. Furthermore, environmental concerns are not easily conveyed if consumers’ preferences indicate otherwise. A general statement used by many TNC representatives, goes as follows: “we are in business to serve customers”. Many TNCs explicitly state that they want to be the preferred suppliers to certain customers. If the customers do not care for the environment, how can the supplier care?

However, an increasing number of TNCs are taking a pro-active stance towards affiliated units in India. At the same time, TNCs are taking reactive stances towards local market priorities and demand structures. The case of the Danish FDI brake linings project illustrates quite clearly the dynamics of supply chain management, as the Danish TNC was asked to supply more environmentally sound products. Again, it is concern for inputs used in the manufacturing of particularly products, such as cars, which is driving manufacturing to use alternative product technologies. The consumer again dictates the product specification to suppliers. Product stewardship, on the contrary, is not found to the same extent. Actually, the study documents a case where a UK based TNC had to withdraw an environmentally sound paint from the Indian market despite the fact that the same paint was a commercial success in the UK and in the US. In India, the TNC wanted to steward local consumers into a more
environmentally sound consumption pattern, but a price premium hampered these plans. Local consumers preferred cheaper, but more polluting products.

Even in a sector such as pharmaceutical products, no efforts to promote product stewardship included environmental concerns. Concerns for health and safety are obvious as these issues constitute the very existence of pharmaceutical products, but the project could not document any explicit effort to guide consumers into a more environmentally sound and sustainable consumption pattern. This in striking contrast to pharmaceutical firms’ and other TNCs’ commitment to promote what they term ‘sustainable development’.

The examples of waste management, supply chain management and product stewardship clearly indicate that local environmental performance of TNCs operating in India is focussed primarily on internal affairs, and those formally related to equity based, and, normally, majority controlled plant activities. This particular focus is further strengthened by various environmental auditing measures, either by asking local management to document efforts on special processes, particular operations or environmental management in general. At the same time, it is widely documented that efforts to strengthen industrial pollution and environmental management in India are inadequate. Financial, technological, organisational and human resources are lacking to fulfil necessary environmental tasks. Despite a rather demanding regulatory regime, with specific emission standards for acceptable liquid discharges and atmospheric pollutants, the limited staffing of SPCBs make actual enforcement quite impossible. Environmental enforcement is therefore weak, if not non-existent, and polluters are increasingly getting a free ride, as few are caught for violating environmental regulations. This study documents that intra-firm dynamics of environmental relevance are increasing. Cross border environmental management is asking Indian units to report local performance in a more formalised way. Environmental assessments are made prior to mergers and acquisitions, and self-reporting schemes are complemented by mandatory auditing procedures. The outcome can easily be perceived as a strengthening of environmental excellence in a country struggling with the most basic of environmental challenges. Should we thus perceive TNCs’ environmental efforts as creating islands of environmental excellence in a ‘sea’ that is becoming dirtier?

Legal activism has worked towards addressing environmental problems. Nevertheless, the roles of NGOs vary. Some NGOs, such as those repeatedly referring to the 1984 Bhopal tragedy as “the truth and nothing but the truth”, are addressing environmental and development issues from an emotional rather than an informed perspective. Hence, the emergence of NGOs or judicial activism per se is not a sure sign of environmental revival. It rather poses yet another challenge for enforcement agencies to monitor the development of a powerful and potential opportunity in the overall development of the state, through various modes of more cooperative environmental management schemes.

Apart from a few important exceptions, the Indian legal system has, on the whole, acted more effectively to mitigate pollution damage than to prevent future damage. Unfortunately, Indian courts have yet to recognise the value of the intangible services and benefits of ecosystems. They also need to act more to develop practical remedies. Legislation is by far the most effective instrument to shape corporate response to environmental challenges among Indian manufacturers, but not necessarily so in the case of TNC affiliates. Clear indications were found that global, more than local, markets were influencing the environmental management of TNCs operating in India. But market forces were significantly less influential than institutional factors such as political regulation and TNC environmental strategies. The role of individual firms is important, and firm-specific environmental standards
are increasingly setting environmental performance criteria for affiliated units. At the same time, it is documented that these standards remain limited to TNCs equity interests. Environmental impact on local economic agents is limited, if not insignificant, with the exception perhaps of those becoming directly involved in TNCs manufacturing activities, as in the case of on-site sub-contractors and suppliers of raw materials. To summarise:

Firstly, the study documents that TNCs are not necessarily using India as a dumping ground for obsolete and polluting technologies. In particularly, the FDI projects inaugurated in the wake of the new economic policies launched in 1991 confirm that state-of-the-art technologies, in terms of productivity, quality and environmental concerns, have been transferred to India. However, even more important is the fact that environmental management at older plants also is increasingly becoming subject to cross border environmental control. The number of TNC plants in India formally screened through environmental reporting or auditing procedures illustrates this increased control quite clearly. These dynamics must be kept in mind.

Secondly, it must further be kept mind that FDI inflows do not automatically create general improvement in the environmental performance of local industries. Significant impacts have been documented at TNCs units, but not equally so among local partners and suppliers, not to mention local consumers. TNCs can be criticised for not strengthening external efforts, but findings indicate that the same TNCs are rather sceptical to become involved with local NGOs. This probably relates to general public perception, influenced by the Bhopal disaster in 1984. TNCs ought to be treated fairly, by acknowledging the processes that are actually taking place. At the same time, however, these corporate entities, with their vast technological, financial, organisational and human resources, should be urged to extend their environmental concern to local industrial agents.

A third finding relates to the fact that as much as 50 percent of the motivating force behind strengthened environmental performance is due to HQs’ policies, procedures and standards. At the same time, 34 percent of the barriers relate to economic and financial constraints. Apparently, local TNC managers define environmental procedures as cost creating, but corporate specific internal institutional factors are nevertheless driving Indian TNCs into making improvements. Consequently, the actual catalysts for change and improvement at Indian plants seem to be found relatively more often at corporate HQ than at local plants. This must be related to a fourth observation:

Finally, however, it must be concluded that this development is not being fostered by TNCs as long as affiliated Indian units are treated as enclaves lacking more explicit and specific concern for local environmental challenges. To gain local acceptance, TNCs ought to take more direct contact with the comparable Indian firms that appear to be more directly involved with local community groups and environmental NGOs. As long as TNCs remain focused merely on their internal environmental procedures, the potential source of improved...
environmental excellence within India’s industrial sectors can rather be seen as hampering the promotion of more environmentally sound industrial development in India. Barriers are still hampering the realisation of corporate environmental objectives, but local initiatives are being taken. TNCs do have the resources to combat these challenges. However, conflicting forces are prevalent. Rather than perceiving TNCs as de facto environmental violators, efforts should be made by external stakeholders, particularly the environmental NGOs, to judge industrial units on a case-by-case basis, regardless of ownership or nationality. TNCs are not necessarily promoting better performance than comparable Indian firms, but it is documented that strengthened environmental management systems between corporate HQ and Indian affiliated units – cross border environmental management - can play an instrumental role in sustaining relatively high environmental standards. That said, this appears to be limited to affiliated TNC units, but trickle-down to manufacturing activity in general ought to be stimulated wherever appropriate. Some TNCs have strengthened dialogue with representatives of local regulatory agencies, in particular the SPCBs. Nevertheless, the reference remains the individual TNC plants, and little effort is made by these TNCs to improve the environmental performance of other domestic firms located within the same industrial districts.
7 TNCS AND ENVIRONMENTAL CONCERNS IN LDCS; MERE RHETORIC OR A CATALYST FOR ENVIRONMENTAL CHANGE AND ACHIEVEMENT OF PUBLIC ENVIRONMENTAL OBJECTIVES?

In accordance with the justifications made in chapter two, I have conducted a study that can be related to a much broader and general debate on “economic globalisation”. In this debate as in my own dissertation with a much more narrow approach, conclusions vary. Hirst & Thompson (1996) argue that the current highly internationalised economy is not unprecedented, and that it is actually less open and integrated than the trade regime that prevailed between 1870 and 1914. Besides, genuinely global TNCs appear to be relatively rare, as most companies continue to be based nationally. Furthermore, TNCs trade on the strength of a limited number of national locations of production and sales. In addition, as confirmed by UNCTAD (2000b), FDI flows continue to be highly concentrated among advanced industrialised countries. Most of the LDCs remain marginalized. Consequently, Hirst & Thompson (1996) argue that the world economy is far from being genuinely global, as trade, investment and financial flows are concentrated in the ‘Triad’ of Europe, Japan and North America. As referred to in chapter two, I am not disputing this arguments. Nevertheless, as theoretically elaborated in chapter three, the world is witnessing political tendencies of what Strange (1996) provocatively labelled “the retreat of the state”. By referring to what she perceived as the declining authority of the nation-states - the changing patterns of power, the limits of nation-states to promote competitive, value-added commercial activities - Strange (1996) argues for an extended perception of politics. She follows up the argument on a triangular diplomacy which she proposed together with John Stopford in 1991. The reasoning of Susan Strange has many flaws. However, in studies of industrial pollution control and natural resource management in FDI hosting LDCs, I have found the approach relevant and applicable in order to question the prevalence of a triangular environmental diplomacy. At least I have used it as a reference in verifying whether TNCs can achieve public policy goals in FDI locations where there prevails “a retreat of the state” at least when it comes to public environmental protection generated by industrial activities.

The argument of retreatment can be overstated. Gilpin (2000:212) argues that “the end of the Cold War and the triumph of a conservative anti-statist economic ideology associated with Margaret Thatcher and Ronald Reagan, have resulted in an onslaught against the interventionist state”. He continues “…However, this development was not made inevitable by inexorable economic forces [which is embedded in the reasoning presented by Strange]"[290], and a more economically and politically insecure world would lead to a resurgence of state power”. In this thesis I have not questioned whether the world as such is actually becoming more globalised. Further, I have not disputed a reasoning equivalent to that of Robert Gilpin, a scholar who for decades has presented thorough and valid approaches to political changes in the international affairs. What I have questioned, however, is the application of a narrow state-centric approach to changes within the current dynamics...

[290 My addition.]
of international political economy. This thesis has approached this debate by including an actor that increasingly is carrying forward the current modality of economic globalisation. Despite strengthened transnational corporate ties, distinguished scholars like Gilpin are neglecting the political relevance of transnational corporate activities in studies of international political economy as well as its relevance in implementation of public environmental policy goals.

Current TNC efforts in Jamaica and India are quite different from those initiated three decades ago. Inspired by the work of Mahatma Gandhi, Schumacher (1973) saw the relationship between environmental protection and economic growth as being largely incompatible. The work of Herman Daly (1977, 1996) exemplifies clearly the continuation of this reasoning. During the 1990s, however, a growing number of free-trade sceptics developed a more nuanced comprehension of the relationship between environmental protection and large-scale economic growth. The former executive director of Greenpeace, Paul Gilding, states: “You can’t deny business its roots. It has to have growth and profit to succeed against its competitors in society. If you want to make it do something different, then make it more profitable for business to do good things or less profitable to do bad things”.

A free-trade sceptic like Welford (1997) acknowledges that environmental protection and business development can be made mutually supportive. He also argues that by eliminating waste, reducing energy consumption, working closely with suppliers etc., environmental as well as financial objectives can be met locally in an “eco-efficient” manner. Globally, however, Welford (1997) states that the environmental outcome is bound to be detrimental. In this dissertation I have challenged such a reasoning.

In this dissertation I have argued that the approaches taken by Welford (1997) or Daly (1996) are insufficient if we want to understand current modalities of economic globalisation. Specifically I argue that these approaches are insufficient if we want to extend our understanding of certain dynamics related to economic globalisation and industrial environmental protection. Public concerns and the strengthening of public environmental policy have challenged the technological, economic and social conceptions of corporate behaviour. Public expectations are changing. Corporate environmental management and specific pollution control efforts are historically been understood as a direct function of political regulatory requirements. However, these previously reactive corporate “takers” of environmental regulations, have gradually proposed a pro-active “making” of environmental proposals. Voluntary environmental efforts are proposed by national firms as well as TNCs. My focus has been related to whether and to what extent this has been extended to affiliated units in LDCs. The empirical verification of such a question is demanding partly because few secondary references are available. As referred to in chapter four, most of the corporate environmental efforts documented are found within the OECD region. Here various pollution prevention schemes have motivated firms to move beyond regulatory compliance. Further ‘right-to-know’ movements have forced individual firms to accept increased dialogue, transparency, and even influence, from adjacent community councils and NGOs. In certain cases this has even been extended to LDCs.

Firms have been forced to comply with political regulation, and some of the most exposed and scrutinized TNCs have been forced to respond to what Bendell & Murphy (2000) call “civil regulations”. The documentation of actual impacts on TNCs’ environmental behaviour, however, is still weak. Through specific case studies I have sought to strengthen the

empirical understanding of what TNCs actually are doing. What this dissertation documents is that corporate environmental policy efforts have created a standardisation of corporate specifications that have been transnationalized and made applicable to affiliated units regardless of FDI location. I have questioned whether corporate dynamics embedded in particular cross border environmental management systems of TNCs actually produce a change in terms of environmental management at affiliated TNC units. The findings drawn from my sample of TNCs having made explicit environmental global commitments, indicate a significant impact. Drawn on studies of bauxite mining in Jamaica, with a brief additional reference to Brazil, the study does not only make positive findings. It also suggest that environmental improvement due to voluntary restoration of mined out bauxite fields can be understood as rather rational corporate decisions. There prevails a win-win situation between environmental protection and commercial promotion of particular TNC projects in LDCs like Jamaica and Brazil. The general findings from India are also promising. TNCs' environmental control and co-ordination embedded in particular systems of cross border environmental management make a difference. Consequently, the conventional wisdom of perceiving TNC as profit maximising firms that are relocating dirty industries to LDCs to avoid additional environmental costs, has further been disputed. Taken TNCs’ environmental commitments at face value, however, local needs are currently too large to merely focus on TNC activities as such. Thus, I also questioned whether TNCs have triggered what I term a triangular environmental diplomacy in LDCs.

TNCs are increasingly finding themselves answerable to a bewildering group of influential stakeholders. Not only are TNCs exploiting radical innovations in information and communication technologies, NGOs are also becoming transnational political actors and transnational ‘civil regulators’ of TNC practices. Less than twenty years ago, TNCs acted as if they were primarily responsible to their inner constituency of shareholders. The Bhopal tragedy changed this dramatically, and it did trigger a widespread “chemophobia” in public opinion (Gladwin 1987). TNC sceptics use the tragedy as an eternal ‘confirmation’ of what is actually happening (Korten 1995, Madeley 1999).

The Bhopal accident was, as far as I understand it, an exception rather than the rule. Nevertheless, and quite justifiably so, Union Carbide was subsequently faced with a variety of ‘new’ responsibilities to a myriad of stakeholders. The corporate community had to do something, and corporate environmental improvements were initiated at local, national as well as global levels. Through analyses of embedded case studies, the aim of this dissertation has been to seek further insight as to whether TNCs are fulfilling the perceived expectations raised by corporate commitments to become responsible corporate citizens. Still, there is much corporate lip-service. Corporate initiatives are often vaguely defined, and according to Kolk (2000), internal compliance with respect to specific voluntary environmental guidelines is low. Nevertheless, environmental initiatives are materialising as procedures and permanent programmes at affiliated TNC units in LDCs. The Norwegian TNC Norsk Hydro states:

We will develop and manage activities which make efficient use of energy and raw materials. We will work systematically to reduce emissions to air, water and ground. We will minimize waste and ensure safe

292 In a recent study Mohan (2001) concludes in a way compatible with my own findings from India. Public environmental enforcement is confirmed to be lax. At the same time TNCs score higher than Indian companies on parameters of installation of technology and monitoring and reporting procedures for pollution control and environmental management.
destruction or disposal of production waste where reuse or recycling are not practicable. We will emphasize care for the environment in our selection of suppliers.

This dissertation has taken these statements as those stated by Alcan, ICI and Bayer, as an invitation to question what are the actual environmental dynamics triggered at some TNC controlled FDI projects in Jamaica and India.

7.1 Discussing the research questions

As a source of transferring resources to LDCs, TNCs are becoming increasingly important. That said, the actual dispersion of these resources is very skewed. Many LDCs remain completely marginalized. Nevertheless, both Jamaica and India do receive resources through TNCs. This dissertation has focussed on one particular aspect of one mode of transferring resources through TNCs. The focus has been on Foreign Direct Investment (FDI) and the particular linkage with environmental protection. However, rather than conducting a study of the environmental impacts of FDI inflows as such, this dissertation has made a more specific analysis of whether, and to what extent, the documented environmental impacts are subject to transnational corporate control. Are TNCs, through cross border environmental management, contributing to increased environmental awareness and pollution control in LDCs? Despite the focus on corporate environmental management and transnational corporate environmental control and co-ordination, I argue that the findings have theoretical relevance for those concerned with international politics as well as national politics in general. FDI is promoted by an increasing number of LDC governments, and TNCs are responding. This is happening as traditional political intervention is replaced by economic reforms. LDC governments are promoting development strategies that increasingly are based on market based schemes. Commercial private economic agents, including national firms and TNCs, are allowed to operate more in accordance with commercial priorities. This is increasingly promoted without direct political interference even across national borders. Market efficiency is stimulated by new manifested political priorities in an increasing number of LDCs. This is done while environmental degradation increasingly is documented within the same countries. TNCs are responding to new economic opportunities. At the same time some TNCs are publicising environmental commitments. The specific environmental roles of certain TNCs having made global environmental commitments and that are operating in Jamaica and India, have been the concern of this dissertation.

Forthcoming rather naive expectations towards TNCs that they almost automatically pursue an environmentally sound strategy are expressed not only by host LDC governments, but by the United Nations or particular OECD countries like the Norwegian government. Despite the argument of Castleman (1985), these expectations often refer to the fact that few studies have managed to document that industrial flight is taking place. Despite the Bhopal tragedy, little evidence has been presented to confirm that TNCs are actually exploiting LDCs in terms of establishing pollution intensive units without taking environmental precautions. Still, the prevailing attitude among many environmental NGOs and the public in general, is

293 Norsk Hydro’s environmental principles related to production. This was presented and discussed in chapter four. For further details see: http://www.hydro.com/hits/osl02008.nsf/AllByld/6F710BC251D3E2924125683B00567468?
that TNCs continue to relocate pollution-intensive and hazardous plants to avoid stricter regulations and to take advantage of pollution havens in LDCs. This reasoning was instrumental when the OECD proposed Multilateral Agreement on Investment caused a public outcry, forcing OECD to ‘postpone’ the MAI proposal. Despite that only scattered evidence is available, myths seem to prevail. My dissertation has aimed at challenging prevailing negative myths while documenting the actual role of certain TNCs in promoting a more environmental sound development in Jamaica and India. This has been done by proposing two related research questions.

7.1.1 Methodological concerns related to the research questions

A major motivation for conducting this study was the simple fact that a more thorough understanding is needed regarding what is actually happening with respect to TNCs and environmental management in LDCs. The first question discussed was presented as follows: *To what extent is the environmental performance of TNC affiliated units in LDCs influenced by cross border environmental management of TNCs?* Beyond focusing on managerial linkages between FDI and environmental protection, an explicit attempt has been made to question the role of transnational corporate control through what I have termed ‘cross border environmental management’.

As underlined in the introductory chapter, the possible outcomes with respect to project specific linkages can be three-fold: First of all cross border environmental management can create a negative impact on environmental performance. This is very much engrained in the reasoning behind pollution havens, and how economic globalisation is causing what Korten (1995) termed a ‘race to the bottom’. A second outcome can be termed neutral. The influence of cross border environmental management is accordingly insignificant and it does not have any impact on environmental management at TNC affiliated units. The practical implication of such an outcome is that transnational environmental control is not making a difference to the environmental performance of affiliated TNC units. This reflects a mode of transnational control, or rather lack of such, in accordance with a strategy of local adaptation or differentiated fit, as referred to in chapter four (Ghosal & Nohria 1993). A third and final outcome is perceived to be positive, in the sense that cross border environmental management creates what Zarsky (1999) termed as a ‘pollution halo’ effect. The practical implication is that TNCs’ impact affiliated are influenced in such a way that local environmental protective efforts are strengthened. Consequently TNCs’ environmental practices in LDCs - influenced by a cross border environmental management system - can achieve public policy goals of strengthening industrial pollution control and natural resource conservation.

My research has not be oriented to the TNC universe in general, but rather focussed on those TNCs that have expressed a global concern for environmental protection. Through various forms of environmental reporting, Norsk Hydro, Bayer, ICI and Alcan have all made global environmental commitments, making these TNCs relevant objects of analysis. Criticism has been levelled that such an exercise that I have conducted merely can document corporate efforts of ‘green-wash’. The commitments referred to will never be actually transferred to LDCs (Greer & Bruno 1996). This is what I wanted to test out in a systematic and somewhat broader manner. Do these statements had any practical implications for TNCs manufacturing and mining units in LDCs like Jamaica and India.
Chapter 7

The choice of Jamaica was directly related to a need to follow up previous research (Ruud 1992). The choice of India was inspired by the rather unclear evidences of specific causality behind the Bhopal disaster. Everest (1985), found Union Carbide Ltd. to be fully responsible. Others, like Shrivastava (1987), presented a more balanced account as he suggested that Bhopal was a case of corporate misconduct. Union Carbide Ltd. was fully responsible, but rather than merely condemning an enterprise trying to strengthen local manufacturing procedures in a less developed country (LDC) like India, Shrivastava (1987) suggested that more studies into how and why the disaster actually took place ought to be conducted.

I have pursued answers to the proposed reseach question by assuming particular modalities for my objects of study. First of all, I assume that TNCs can learn and change. The Bhopal tragedy happened, but I have focussed on the evolutionary character of transnational environmental control throughout the 1990s. Beyond the particular focus on the four TNCs referred to above, and to the initial empirical findings from Jamaica, more thorough studies were undertaken in India. As elaborated on in chapter six, a detailed study of 19 TNCs’ operating manufacturing units, combined with a more general study of a total of 53 OECD based TNCs was conducted. Further, it is important to keep in mind that all the TNCs volunteered to participate in this study. Taking into account the total number of TNCs operating within hazardous industries in India, my sample is not necessarily representative. Still, the findings themselves are reliable and valid within the limits set by possibly weak representativity. Concerning Jamaica, the number of cases is smaller. Nevertheless, representative findings are made. I have even documented transnational environmental practices that significantly challenge the initial reasoning behind cross border environmental management. Most of the literature assumes a kind of a top-down model in which corporate HQ sets the standards and guidelines. My findings relating to Alcan’s environmental practices in Jamaica indicate, however, that cross border environmental management is much more of a dynamic two-way process. Environmental policies are formulated at corporate HQ, but these publicised commitments can, to a large extent, be based on experience and achievements drawn from LDC operations like those in Jamaica.

As in the case of Kaiser, several TNCs have been unwilling to convey details of their modes of transnational environmental control.294 On the homepage of Kaiser, no statements are made on these issues. This is in striking contrast both to Norsk Hydro and Alcan. Had the research been inspired by the reasoning of Korten (1995), who claimed that the prevailing tendency of economic globalisation is a negative linkage between FDI and the environment, creating a ‘race to the bottom’, the importance of studying cross border environmental management would still be relevant. However, the interest in understanding and documenting the internal corporate dynamics of TNCs and whether these are compatible with public policy goals, would be less. Perhaps it would have been more appropriate to regard these internal transnational corporate dynamics of control as efforts to strengthen ‘cross border environmental defection’? This dissertation cannot dismiss such efforts, as a representative sample of the TNC universe is not studied. However, I have studied a representative sample of some TNC recently having published global environmental commitments. Further, to make this study compatible with a crucial public policy goal, I have found it natural to focus on the potentially positive TNC contributions to enhancement of environmental protection in LDCs. The creates significant limits in generalizing the particular

294 I have referred to the activities of Alpart, in which Norsk Hydro has a minority share. Despite repeated requests, however, I did not succeed in establishing direct contact with the managing partner of Alpart, Kaiser Chemical and Aluminium Company. This forced me to shift the focus towards the activities of Alcan
findings of TNC conduct in LDCs, but still it will shed some new light into the ongoing debate on how to strengthen environmental protection in LDCs.

I have chosen to focus on voluntary environmental efforts initiated by TNCs. The study has been related to the dynamics of cross border environmental management, thus implying a normative bias towards potentially positive aspects. I have documented a variety of outcomes both in India and Jamaica. However, in contrast to most of the literature analysing these linkages, this thesis extends the study to external linkages and interaction with other agents beyond the plant site. This in itself is not striking, as an increasing number of studies apply a product-life-cycle approach to environmental management, analysing all relevant aspects of value-added activities. Studies of raw materials procedures, refining into intermediate products, processing of final products, as well as disposal and/or recycling have been analysed. However, as referred to in chapter four, very few of these studies that approach the issues from a ‘cradle to grave’ perspective, extend the geographical scope beyond OECD operations. This makes the approach of this thesis strikingly different from other studies related to corporate environmental management. Furthermore, internal corporate dynamics have been explicitly questioned, opening up the ‘black box’ that the majority of the economic analyses take for granted. Finally, the study has focused on the existence and character of external interaction with agents found outside the value chain of the products manufactured. The thesis questions to what extent TNCs can merely be perceived as economic agents. This is done with explicit theoretical reference to the arguments proposed by Wilks & Wright (1987) on policy networks, and whether TNCs are performing a role as ‘environmental diplomats’ influenced by a cross border environmental management system, institutionalised within transnational corporate networks. However, to elaborate on these concerns a second research question was proposed.

7.1.2 General empirical findings

Due to economic liberalisation, transnational players are increasingly being invited to participate more freely in local markets. This creates additional opportunities for those economic agents willing to extend their corporate environmental focus beyond the particular plant site. Pro-active environmental initiatives of corporate environmental advocacy can create what I term ‘triangular environmental diplomacy’ in FDI hosting LDCs. Consequently a second question was posed: To what extent is a strengthening of cross border environmental management procedures converting TNCs into behaving like ‘environmental diplomats’ in the local policy arena?

Any reader referring to studies of interaction between business and politics will ask the question: what about the national level? Most of the studies on policy networks related to international affairs, such as the work of Katzenstein (1978), or, for that matter, Wilks & Wright (1987), focus on business interactions at the national political decision-making levels. In particular, the studies refer to bargaining processes with national governments. I have conducted intensive interviews with representatives of the federal Indian, as well as the Jamaican, governments. Beyond initial assessments and environmental clearances, however, actual environmental interaction - between the TNC and public authorities - was delegated to county (Jamaica) or state (India) level. Despite the corporatist literature on national bargaining, I have not found any evidence of significant environmental bargaining between TNCs and national governments. It is in itself an interesting finding that ought to be reflected more thoroughly. However, for a study that aims at understand the actual
environmental behaviour of TNCs, these findings influenced the design of the thesis. Consequently, while remaining concerned with TNCs, I reoriented the empirical focus to local environmental public authorities that might become increasingly subject to transnational influence. Further, as I did not design the thesis to study bargaining processes prior to the establishment of FDI projects, it explain the local public policy approach. 295 It is towards this political level that the environmental performances found at particular plants can be related. Consequently, the study contains detailed case studies of manufacturing TNCs’ activities in Jamaica, (supplemented with references to bauxite mining in Brazil) and, most extensively, India.

Analysing the evolution of international business, Jones (1996:14) argues that “there remains no universally agreed theory of international business. Disagreement persist about the relative importance of ownership, location and internalisation factors... There is now a widespread recognition that insofar as economic theories address single issues, international business can only be understood by combining a number of theories. The problem is how to integrate these different theories in a consistent way.” Apparently, the strategic importance of environmental issues differs among firms and TNCs. Findings among the TNCs operating in Jamaica and India support this. This may be due to the priority of the environment when resources are allocated within and between departments and divisions within the home country, or throughout the transnationalised network. The particular focus was placed on transnational environmental control as institutionalised through various forms of cross border environmental management initiatives. Another reason relates to the enforcement of these cross border schemes.

Statements, principles or visions are made by an increasing number of TNCs operating worldwide. Cynicism, even apathy, towards environmental issues prevail. This indicates that the management loop of environmental control, as illustrated in figure 4.3 has not had the desired effect. I have previously documented that the propensity to allocate resources to environmental projects was significantly weakened among Norwegian TNCs as a consequence of detrimental market conditions at the beginning of the 1990s (Ruud 1992). This can still be the case when affiliated TNC units are operating manufacturing units that are focussed towards local markets in LDCs, and when the actual dynamics of cross border environmental management - as prescribed in figure 4.5 - are not functioning properly.

Throughout this thesis, I have focussed on the most prominent players in international business, TNCs. I did not find a clear-cut evidence that cross border environmental management procedures are functioning instrumentally in influencing TNC-affiliated units in Jamaica and India. Nevertheless, findings from both countries indicate quite clearly that TNCs environmental management systems do achieve outcomes that may be comprehended as compatible with public environmental policy goals. In the case of Jamaica, the dynamics rather seemed to be to the contrary, that local restoration initiatives in mined-out bauxite areas were used as a reference to strengthen global environmental guidelines. The future performance of the Utkal project is, as yet, unclear as the proposed project, in which Alcan and Norsk Hydro are partners, has been put on a hold. In this case eventually, specific restoration efforts may be strongly influenced by the Jamaican experiences. This is probably partly because all Alcan’s bauxite mining projects are integrated into the same transnational corporate network for environmental management, subject to Alcan’s cross

295 This also explains why Vernon’s obsolescing bargain hypothesis is not further applied.
border environmental management priorities and practices, but also because Norsk Hydro does have ambivalent environmental experiences related to its involvement at Alpart.

The studies on Jamaica confirm the relevance of transnational corporate influence. Cross border environmental management is instrumental in influencing local policies and practices. At the same time, this influence is not necessarily a one-way process. In India, a more extensive and thorough study was undertaken. Stronger indications were found that cross border environmental management procedures are increasingly playing an instrumental role in influencing local TNC units. In contrast to Jamaica, the findings further indicate that such influences are more of a one-way process. Parent companies based in OECD countries are setting the standards that affiliated Indian units are expected to follow. However, actual implementation varies. Even the manifestation of specific efforts occurs with significant deviation from the intentions and policy commitments stated by corporate HQ. The Indian studies confirm that cross border environmental management often functions as a one-way process. This does not imply, however, that such a process creates straightforward effects. Documenting variations and differences in TNC performances, explanations are still to a large extent related to external political or economic factors that are found outside the firm. As illustrated in the discussion here, I do not at all dismiss these approaches. On the contrary, I even point to the fact that both global and local political as well as economic factors play an instrumental role in influencing TNC performance. The discussion on the causality behind the documented environmental management practices in India ought to illustrate my analytical approach. However, when explaining deviations from original environmental standards, I have extended the focus to intra-firm dynamics and the particular modality of cross border environmental management. It is not sufficient to conclude that intra-firm factors are either relevant or irrelevant. The actual forms of cross border environmental management must be studied, and this is done throughout this dissertation.

Despite cross border environmental management having been found to be the major factor influencing local environmental performance of TNCs operating in India, this does not at all signify that local practices are a replica of HQ practices. Quite the contrary, Union Carbide confirmed this in 1984, and this is still the case. However, such a conclusion does not necessarily imply that a cross border environmental defection strategy prevails. What we can conclude is that the environmental impacts of TNC practices are less predictable. The implementation challenge is huge. This is the case wherever FDI projects are located, but a FDI location such as India makes it even more challenging. Consequently, it appears paradoxical that TNCs traditionally allocate more resources to strengthen environmental protective measures within OECD locations resembling home-country environments. However, the dissertation confirms that this is changing. Due to a strengthening of cross border environmental management efforts, protective measures at affiliated plants in India and Jamaica are improving, and they are also being more strongly monitored and controlled by the parent company. In a few cases I even found that such initiatives triggered corporate environmental initiatives beyond the factory walls.

In India, as many as 74 percent of the sample of 53 TNCs stated that on-site environmental auditing was conducted by corporate HQ. Several TNC informants stated that increased internal controls were instrumental in sustaining higher environmental standards. Through managerial, specialist and operational auditing, affiliated TNC units are becoming subject to global TNC control. This is, for instance, the case with regard to waste management. Nevertheless, environmental initiatives seem to be concentrated on plant-
specific and equity-related areas. Linkages between FDI and the environment are consequently limited to the FDI projects of individual TNC units.

TNCs are to some extent setting specific minimum standards for suppliers and subcontractors, directly influencing their plant-specific activities. However, when it comes to downstream activities and product stewardship, no significant documentation was provided, either in Jamaica or India. Many of the TNCs stated that they are striving to become the preferred suppliers to certain customers. However, as illustrated by the prevailing situation in India, if the customers do not care about the environment, how can the supplier manage to strike the balance between commercial and environmental objectives? The examples of waste management, supply-chain management and product stewardship all give quite clear indications that local environmental management of TNCs operating in India focuses primarily on internal corporate affairs at specific affiliated plants. Thus, efforts that are apparently oriented towards external players, primarily within the value-chain, are nevertheless concerned with TNCs’ own plant specific activities. Suppliers are increasingly becoming subject to environmental controls, but the reason relates to TNCs’ concern for their own employees rather than pollution control and environmental management at the suppliers’ plant sites. General confirmation is found in the character of environmental auditing and reporting measures. Despite concerns for sustainable development in general, actual requests relating to improved environmental management were limited to documentation of efforts with respect to in-house operations.

The debate on the environmental considerations of TNCs in LDCs and on the industrial flight to pollution havens, has to a large extent focused on locational choices for more polluting manufacturing activities. TNCs were according to the pollution haven hypothesis supposed to relocate dirty manufacturing to host countries with lax regulatory requirements, allowing lower environmental control costs. However, as argued by Knödgen (1979), the choice of location for a production unit on the global scale is by no means as simple as it is often made out to be. It is not just a matter of looking at differences in environmental control costs, nor only at other relevant costs such as labour. Nor is it sufficient to look at policy incentives offered by particular host countries. Despite the perceived reduction in geographical distance due to innovations in communication and information technologies, the relative geographical locations of parent company and foreign affiliates still seem to be of significance. Institutions matter - also TNCs. At the same time, as illustrated throughout this dissertation, despite my explicit focus on internal corporate affairs, these corporate players are influenced by external factors that significantly influence the actual outcome of the intra-firm dynamics of TNCs. Most of the voluntary initiatives taken by the corporate community prior to the UNCED Conference in 1992 must be understood as a corporate perception that regulatory controls would be proposed and maybe even enforced. The community thus reacted in a precautionary way. Environmental politics have traditionally shaped corporate environmental priorities, and this was also the case in 1992. What I have tried to convey is how the corporate community and individual TNCs have proposed and organised ‘counter-attacks’ on traditional environmental regulations. Rather than being influenced by these, firms are proposing voluntary environmental initiatives in an attempt to convince regulatory authorities and society at large that they are behaving in a responsible manner, regardless of location. The actual outcome varies, but it is documented that in India and Jamaica, local manufacturing and industrial practices are influenced by these voluntary initiatives. The causality is somewhat blurred, as confirmed by the case of Jamaica. Nevertheless, the dynamic is rather found within the TNC, and not as traditionally perceived, as a direct result.
of political directives. In India, local environmental practices are increasingly becoming part of transnational networks, as TNCs strengthen cross border environmental management procedures.

7.2 The theoretical relevance of the empirical findings

Being of an evolutionary character, transnational corporate networks are, by their very nature, in a continuous state of change. The precise manifestation may well vary from one part of a TNC to another. Some parts or divisions may grow rapidly, others may stagnate, and yet others may experience steep decline. Change itself may be the result of a planned strategy to adjust to changing internal and external circumstances, or a quick response to a sudden crisis or external shock. Whatever the origin, however, corporate change will have a specific impact on the character of global as well as local environmental activities. This occurs at the same time as society is also changing into becoming more transnationalised. This may challenge the transnational hegemony of TNCs, but throughout this dissertation, I have not found significant evidence that this really is taking place. The local protests in Jamaica are insignificant, and to a large extent local. In India, protests were mobilised against DuPont’s plans in Goa, but the initiative was Indian and few transnational ties were found. Still, the dynamics of transnational environmental control remain within the TNCs. I have tried to verify whether and to what extent the changes that occur within the TNC itself will also be projected and manifested as particular kinds of impacts on the local communities where affiliated units are located. Empirical findings confirm that certain interactions take place, but remain related to project specific issues and the TNC plant in question. Despite promoting more environmentally sound activities, the actual contribution to local sustainable development is still quite limited.

Throughout this thesis I have argued and subsequently documented that studies of the forces underlying corporate reorganisation and restructuring must be extended from merely analyses of external political and economic factors influencing the behaviour of firms into studies of intra-firm, transnational relations. The perception of the firm as a black box must be replaced by more eclectic and open-minded approaches that even use interdisciplinary theoretical orientations. At the same time, studies of corporate environmental management must be better related external political and economic factors. Rather than chosing between external or internal approaches, these two orientations must be included and analysed within the very same study of TNCs’ environmental procedures and practices. Particularly in a study on TNCs and environmental concerns in LDCs as the one conducted in this thesis, the theoretical argumentation made show that it may even be difficult to disentangle relevant internal and external factors. This is relevant at the local, national and global level of understanding the actual role of TNCs in environmental management related to LDCs like Jamaica and India.

Individual enterprises may at any time be facing adverse external conditions. Market demand can decline, competition in domestic and/or foreign markets can increase, and due to strengthened environmental regulations, the firms can be forced to incur increased (environmental control) costs. Furthermore, the availability of particular production inputs can be limited, something which became a reality for many agro-chemical manufacturers as a consequence of particular production and subsequent consumption bans for instance related to particular pesticides. In addition, TNCs can experience local popular resistance against particular activities, as well as pressure from particular host governments to modify their
activities and even - although increasingly less plausible - to cede control through nationalisation. However, changes in external conditions can also create new opportunities, as new markets and host locations are increasingly made available. Such changes are currently taking place through extensive efforts of economic liberalisation in almost all countries worldwide, particularly in LDCs.

Apart from external forces, there may be internal pressures stimulating reorganisation and rationalisation. Such forces may relate to the enterprise as a whole, to separate parts of the organisation, or even to particular individuals. For instance, sales may be too low in relation to the firm's target, production costs may be too high, or environmental performances deviating from policy and environmental standards. In a globally oriented corporation, the performance of individual plants in widely separated locations are increasingly monitored and compared with one another to assess their performance and efficiency. This is currently done among TNCs operating FDI projects in India and Jamaica. However, despite increased efforts to coordinate and control local operations through cross border environmental management systems, the local activities remains embedded in local conditions. Consequently internal corporate dynamics can create a dual, two-way process of internal versus external compliances.

Studies of corporate change, such as those conducted by Piasecki (1995), often find the key influencers of change to be top management. Based on a sweeping evaluation of an enterprise’s activities and investments, a new chief executive can undertake change to stamp his authority. Everett, Mack and Oresick (1993), in their analysis focusing on the ‘greening of the executive suite’, also made similar findings. However, managerial issues are in general neglected in studies of TNCs and environmental concerns in LDCs. Piasecki (1995) argued that top management commitment is important to trigger corporate change, but my findings from Jamaica and India indicate quite clearly that actual implementation is, to a very large extent, also a function of local managers’ interpretations and actual commitments and how these local procedures are integrated into cross border environmental management systems.

Whether corporate reorientations is the result of a consciously planned strategy for ‘rational’ change as argued in the Jamaican setting, or simply as a reaction to an internal or external crisis, the actual outcome may take several different forms. Dicken (1991:208 - 209) distinguished between local changes and locational shifts. Arguments are often raised about the global flexibility of TNCs, shifting production units from one country to another. Despite prevailing arguments concerning TNCs and environmental considerations in LDCs, only in rare cases do TNCs conduct a physical relocation of an entire plant (Leonard 1988, Low 1992, Zarsky 1999). Often, changes are rather made as a gradual process of incremental adjustment. However, even in this dissertation abrupt changes are documented, as obsolete technologies are replaced with new production methods. It is important to keep in mind, however, that these changes remain local rather than locational. This signifies that significant changes are taking place at particular plant sites - and this is done at a rapid rate - but very seldom are these changes promoted through closures and relocation plants to other investment locations. Problems appears to be solved locally, but the thesis verifies that local environmental solutions are increasingly influenced by cross border environmental management systems.

Evidence supporting the ‘pollution halo’ hypothesis has been produced by Eskeland and Harrison (1997). They found that foreign ownership was associated with cleaner and lower
levels of energy use in Mexico, Venezuela and Cote d'Ivoire.\textsuperscript{296} A subsequent study, conducted by Blackman and Wu (1998), also found significant support for the conclusion that foreign investment in electricity generation in China increased energy efficiency and reduced hazardous emissions. According to these investigations, relative environmental improvements can be directly linked to FDI inflows of new resources, enabling the use of modern and more efficient production technologies. To a large extent, my own studies confirm these findings, but I have argued and verified that in the TNC cases studied in Jamaica and India, the significant factor is not ownership \textit{per se}, but how these corporate assets are managed. What I found – that others have neglected – is the significant influence of transnational control and co-ordination institutionalised through cross border environmental management systems.

In both Jamaica and India, local external factors influence TNC performance. However, contrary to the history of environmental history of OECD countries, local environmental regulations do not have a significant influence on TNCs environmental procedures and practices. At the same time, traditional corporate managerial priorities at local plants are challenged by revised and reformulated corporate policies defined at corporate HQ.

7.3 An opportunity for multilateral reregulation or TNC environmental hegemony?

The lack of global, co-ordinated political regulatory answers to further economic globalisation can create a ‘prisoner’s dilemma’ for individual governments. The prospects presented by liberal advocates of a ‘race to the top’ can consequently be constrained. As states are increasingly liberalising economic policies by inviting TNCs to locate FDI project within their territory, the same states can be reluctant to take unilateral initiatives towards strengthened environmental regulations. This is the current case of Norway concerning in Green House Gas emissions. The reason is often related to costs and a perceived threat that strengthened environmental regulations can reduce the competitiveness of national firms or reduce the attractiveness of the nation as a location for FDI flows. Based on my findings, however, few of the TNCs refer to lax regulatory regimes as a factor influencing investment decision.

In the Jamaican cases, the aluminium industry is approaching any available bauxite occurrences. FDI inflows are made to get access to raw materials that enable the aluminium industry to satisfy consumers. The case of Reynolds, referred to in chapter five, shifting its mining activities to Australia, is used as an example of an aluminium company leaving the country due to cost considerations. However, there are no evidence at all that environmental costs triggered Reynolds to leave the Jamaican bauxite/alumina industry. In the Indian cases, the findings were more diverse, but still there is no clear indication that cost considerations related to environmental protective measures were valid in influencing FDI decisions. Actually, several of the TNCs highlighted lax environmental regulatory regimes as a problem rather than a benefit Local industries are gaining an additional leverage towards local consumers by not complying with green issues that the TNC affiliate was forced to follow in accordance with environmental priorities of its HQ. One example is the case of ICI paints making efforts of marketing the environmentally sounder “aquabase” among Indian household customers.

\textsuperscript{296} Using energy use per unit of output as a proxy for energy emission.
At a general level, the reality of the rationale that strengthened regulatory control creates reduced national attractiveness, is to a large extent related to the motivations influencing the locational decisions of TNCs. As almost all the TNCs studied do focus on domestic issues, the argument is of less importance. Consequently, host governments are not necessarily becoming less attractive for FDI projects despite strengthened environmental regulations. Still, it can be valid, as Jamaica, and particularly India, are used as platforms for more export-oriented activities. The setting of environmental standards, at least those that have a direct impact on international trade and investment, may thus become a collective action problem — not the least for the FDI hosting government. Due to environmental innovation and improvement by some TNCs, a ‘race to the bottom’ is avoided in their case, despite lack of regulatory control. Nevertheless, Zarsky (1999) argued that ‘a race to the top’ will not be the case as countries are ‘stuck in the mud’. This is not necessarily the case for TNCs. With empirical reference to several TNCs and their actual FDI activities in India and Jamaica, transnational environmental controls are strengthened. However, it still seems as if policy related linkages within FDI hosting countries are stuck in the mud. This requires a more profound debate, to answer whether the limited number of documented policy linkages are related to collective action problems. The findings verify that potential contributions from TNCs with vast financial, technological, organisational and, let us not forget, human resources, remain limited to a focus on particular corporate ‘backyards’, and merely related to affiliated TNC units. The rest of local industries, including several suppliers, are indeed stuck in the mud.

An increasing number of production units are becoming transnationalised. This is an inbuilt dimension of the current dynamics of economic globalisation. The outcome can be positive or negative, as the process in itself can be perceived in a positive or negative way. My empirical findings indicate that corporate resources are not necessarily applied in a way that will more easily facilitate environmentally sound industrial development beyond the plant site. The concerns for competitiveness and FDI attractiveness are apparently hampering regulatory efforts to strengthen environmental requirements vis-à-vis TNCs at a national level. The current focus is rather on market based priorities, even on a voluntary basis. In such a situation, are there other possibilities for reducing the apparent collective action problem and bringing corporate environmental performance out of the mud? The answer obviously lies in an international investment regime that stipulates both environmental rights and obligations for the TNCs. The history tells us, however, that an opportunity for multilateral environmental regulation of TNCs will be a rather demanding task.

As a direct consequence of a US TNC’s role in the 1973 Chilean coup against the democratically elected Allende government, efforts were made by the UN to regulate TNC behaviour in LDCs. A commission on Transnational Corporations was established initiating a series of publications that began in 1973 with the publication of the report “Multinational Corporations in World Development”.297 A sequel to the 1973 study was published in 1978 under the title Transnational Corporations in World Development: A Re-examination,298 followed by a third survey in 1983.299 Combined with strengthened efforts of documented actual FDI flows, initiatives were taken by the Economic and Social Commisionto establish a
permanent centre to offer resources to FDI hosting nations. By the end of the 1970s the United Nations Centre on Transnational Corporations (UNCTC) was staffed and established to fulfill the need expressed by the multilateral system of strengthening efforts to control the activities of TNCs. Thus, not surprisingly one outcome of the activities at UNCTC was a proposed code of conduct for TNCs to respect national sovereignty, adhere to social cultural objectives, and disclose information at the request of governments. Subsequent efforts by the late 1980s to include environmental provisions, however, spurred a heated debate. In 1990, despite the Bhopal tragedy, due to criticism from the business community and conservative governments, particularly in the UK and USA, the draft code of TNC conduct proposal was withdrawn from further negotiations. Subsequently, the UNCTC attempted to include a chapter on environmental responsibilities of TNCs in the 1992 UN Conference on Environment and Development’s (UNCED’s), Agenda for the 21st century: Agenda 21. By directly following up the petitions included in the “Our Common Future” (WCED 1987), the proposal asked TNCs to assume particular environmental responsibility on issues relating to global corporate environmental management, risk and hazard minimisation, consumption patterns, environmental accounting and environmental conventions, standards and guidelines. The attempt failed, mainly due to lack of support from a required minimum number of national governments represented at the UNCED conference. In accordance with the arguments of the business community, as verified by Willums & Golüke (1992), the draft chapter was removed from the agenda during the UNCED preparations. According to Hansen (1997:173), the drafted chapter on TNCs was found to be controversial because the tone was too regulatory. Business feared that market efficiency would be sacrificed to strengthen regulatory capabilities. Furthermore, controversy was related to the fact that the drafted chapter did not deal sufficiently well with the issues of the protection of property rights and patents. The relevance for the collective action problem is apparent, as business wanted a guarantee that environmental innovations actually transferred to LDC locations should be controlled by the TNC having developed the technologies.

In the preface to the World Investment Report 1993, Kenneth Dadzie, the Secretary-General of UNCTAD wrote as follows (UNCTAD 1993b):

The early 1990s have witnessed increasing cross-national economic integration, with the single market of the European Community, the European Economic Area, the North American Free Trade Agreement, MERCOSUR and ASEAN as the most visible examples. Perhaps of greater significance is the emergence of an integrated international production system, brought about by the activities of transnational corporations which are increasingly integrating across borders the functions required to produce goods and services [my bold] This integration presents opportunities and challenges for both host and home countries, and in particular, raises important issues for developing countries that are seeking to improve their development prospects by integrating their economies more closely into the world economy. It also raises a number of new policy issues, such as the definition of the nationality of the transnational firm, the determination of the tax base of the firm and the complex relationship between parent firms and their foreign affiliates.

In 1994, despite documenting unprecedented growth rates in FDI flows, and underlining the new challenges relating particularly to the growth of international integrated production networks under increasing control by TNCs (UNCTAD 1993b), the UN decided to close down its only centre on TNCs (UNCTC). Established in response to political controversies during the 1970s, UNCTC had managed to institutionalize resources to deal with relevant policy issues. This also included issues related to environmental management of TNCs as referred to in the introductory chapter (UNCTAD 1993a). Nevertheless, UNCTC located in New York, was closed and the staff moved to Geneva. Consequently the staff became involved with UNCTADs more general work on investment, management and enterprise
development. Officially, work that had previously been conducted by UNCTC was to be continued by UNCTAD. In retrospect, however, it is quite clear that the focus shifted away from TNC and FDI specific policy issues into private enterprise development and privatization in general. The issues raised by UNCTADs Secretary-General Kenneth Dadzie in 1993, which have been repeated by subsequent World Investment Reports published by UNCTAD, have not really been readdressed in the same policy related way as proposed by UNCTC. In accordance with neo-classical economic reasoning, the focus is rather related to eliminating market imperfections and inefficiencies. Thus, by closing down the normative, policy oriented work of the UNCTC, it became quite clear that formal multilateral efforts by the United Nations in regulating TNCs as the proposed mandatory code of conduct, will most likely not be proposed by the international political community. It is important to keep this in mind in a period when ‘everybody’ is asking for increased control of TNCs. The political priorities of national governments, constituting the major players of the UN, are quite the opposite. Rather, a market based development strategy is promoted, and this should not be hampered by formal regulatory intervention. As underlined throughout this dissertation, politics in changing and a new diplomacy is erupting.\footnote{This is even confirmed by studying the current activities of UNCTAD. Efforts are made of proposing an international investment agreements, but not one single reference is made to any mandatory code of environmental conducts as the one proposed by UNCTC. For further details see: \url{http://www.unctad.org/iia/index.htm}}

Changes in political priorities, however, do not mean that normative regulatory initiatives towards TNCs have been completely abandoned. Although the 1996 WTO Ministerial Meeting in Singapore failed to reach agreement on Trade Related Investment Measures (TRIMs), a working group was established and the Committee on Trade and Environment (CTE) did set an agenda for future work on reconciling efforts relating to trade liberalisation and environmental protection. The most significant initiative, however, has been conducted under the auspices of the OECD, proposing MAI agreement on investment. This was proposed to be followed-up by the revised guidelines for TNCs\footnote{or Multinational Enterprises (MNEs) as applied by OECD.} as per year 2000.\footnote{For furthed details on the revised details see: \url{http://www.oecd.org/daf/investment/guidelines/more.htm}} The normative regulatory efforts proposed by OECD, however, are strikingly different from the UNCTC proposals to directly regulate TNC conduct worldwide. First of all, the regulatory approach is based on voluntary support. Furthermore, the reasoning behind the MAI proposal radically different to that of the UN proposed Code of Conduct, as focus has been shifted from TNCs, and those controlling the FDI flows, to the countries wanting to be accessible for FDI resources. Those arguing in favour of the MAI Treaty justified the shift in approach with reference to a need for predictable investment policies enabling enhancement of market efficiency. A crucial dimension, however, is justice and political legitimacy of an international investment agreement that are radically changing the rules of the game. The proposed MAI framework that was later ‘postponed’, appeared to many to be protecting TNCs against discriminatory measures vis-à-vis domestic competitors from host countries. The MAI Treaty would eliminate traditional policy options such as preferential treatment for domestic firms at the expense of TNCs and other foreign investors. This was, and still is, perceived by many as detrimental to the defence of national and particularly local justice.

The concerns are legitimate, but the findings of this dissertation indicate that in the field of environmental protection, and particularly pollution control, the issues of strengthening justice will not necessarily be hampered if TNCs are treated on an equal footing to national firms. Current economic globalisation, caused partly by economic liberalisation and enabled by
innovations in communication technologies, creates a challenging situation for those concerned with environmental protection. Regulations are requested, but we must learn from the experience and priorities of the member countries of the United Nations and particularly those influencing the priorities of ECOSOC and UNCTAD.

Economic forces can easily wreak total havoc in quite legitimate political processes and particular initiatives, such as the proposed UN Code of Conduct on TNCs. Increased flows of international trade and investment are perceived to be the causes of environmental degradation, and people affected protest even if the notion is based on historical impressions or current perception unfounded in empirical fact. At the same time, and despite rhetorical statements from LDC governments such as India’s, democratically elected nation-states continue to compete for foreign resources. At the same time, little concern is expressed with respect to an alarmingly more degraded physical environment. How do we enable these emerging and liberalised economies to protect their physical, social and human environment in an acceptable and just manner?

Exemplified by the report of the Brundtland Commission and Agenda 21, political environmental objectives often remain intentional. As stated by the World Commission on Environment and Development, page 231:

Large industrial enterprises, and transnational corporations in particular, have a special responsibility. They are repositories of scarce technical skills, and they should adopt the highest safety and health protection standards practicable and assume responsibility for safe plants and process design and for staff training. The transnationals should also institute environmental and safety audits of their plants measured against standards at other subsidiaries, not just against those of other local companies ...

As illustrated by the subsequent UN debate, few opportunities for actual realisation of these intentions have been agreed upon – at least not in a mandatory way. What remains are documents and petitions urging the TNCs to behave better, not only with respect to local competitors, but also in comparison to the best available technologies and practices worldwide. The political guarantees of such petitions are weak, if not non-existent. To better fulfill the environmental objectives stated by WCED, repeated by UNCED and Agenda 21, and subsequent documents published by the Commission for Sustainable Development (CSD), we need first of all to envisage the actual decision-making structures that prevail in the international political economy. Through my theoretical reasoning, I have tried to enable such an understanding, subsequently illustrated with reference to TNCs’ environmental procedures and practices in Jamaican and India.

Those favouring a market based development model talk about “rolling back the state”, enabling available resources to be used optimally by market players in efforts to promote continuous environmental improvement without necessarily jeopardising the benefits of trade liberalisation. The challenge is, however, that the same market players do have an opportunity to chose between economic growth or environmental protection. This choice must be made less desirable, but the multilateral efforts are reoriented towards more pragmatic approaches than those proposed by UNCTC. As stated by the Commission on Sustainable Development (CSD) in 1997 evaluation progress since the Rio conference: “Sustainable development should focus on the promotion of trade and investment, building on synergies between trade liberalization, economic reform, and improved management of

303 The current political priorities of the Indian government were most recently confirmed by India’s Minister of Finance, Yashwant Sinha, on 28 February 2001, informing the Indian Parliament that during the forthcoming fiscal year (1/4 2001 – 31/3 2001), in order to promote further economic growth, economic reforms introduced in 1991 would be sustained through reduction of import quotas as well as more equal treatment of national and foreign firms operating in India.
natural resources and the environment. There is a need to promote the involvement of the business community [my indent] and civil society in the design of specific enabling measures, including through capacity-building, especially in the context of environmental practices of FDI."...[and CSD stresses] "....the potential positive role that transnational corporations could play in conjunction with Governments in achieving global goals on emission standards[my indentation].304 The subsequent initiative of proposing a Global Compact, made by the UN Secretary-General, represents a continuation of the more pragmatic approach taken by the United Nations.

The UN believes that a global compact between industry, NGO, trade unions and governments can enhance efforts to strengthen environmental protection (Kell & Ruggie 1999). Nine principles are proposed related to humans rights, labour and environment. Specific environmental objectives are related to the support of a precautionary approach to environmental challenges (principle 7); initiatives to promote greater environmental responsibility (principle 8); and efforts to encourage the development and diffusion of environmentally friendly technologies (principle 9).305 Despite expressed concerns (Utting 2000), the Global Compact initiative can refer to progress at least in documented growth of worldwide environmental initiatives. Businesses from every continent have pledged their support of the Global Compact. 216 Brazilian companies have expressed support for the Global Compact and agreed to work with a local business association to implement the principles in company operations. Twenty-four countries from in the Asia-Pacific region co-sponsored a Draft Resolution stressing that efforts made to meet the challenges of globalization could benefit from enhanced cooperation between the United Nations and all relevant partners – in particular, with the private sector. The Global Compact principles are helping develop dialogue between global trade union organisations and companies. Over 20 high-level Indian business leaders have demonstrated their support of the Global Compact and the implementation of its principles.306 The Indian business leaders expressed their commitment by laying the foundation for collective action in the following areas: action against HIV/AIDS; the development of sustainable cities; work toward providing basic education.

Despite an alarming growth in environmental degradation in India, however, no particular focus was set on industrial pollution control or natural resource conservation. The issues of expressed concerns are related to major problem and thus quite appropriate, but they do not necessarily reflect public policy priorites. Consequently, some argue that these efforts by the United Nations to promote partnerships must rather be understood as privatisation of public policies (Utting 2000). Seen from many LDCs, the world seems to be becoming increasingly insecure, both politically and economically. That said, and despite the Global Compact initiative, little evidence of a resurgence of traditional state power with interventionist capacities, as argued by Gilpin (2000), are referred in this thesis. Quite the contrary, political authorities are redefining their roles into supporting new market-driven initiatives. Stopford and Strange (1991) argued for a transformation of the old, rather bipolar, game of diplomacy, where national boundaries defined the rules of the game, to a situation where negotiations and actions are carried out on a triangular basis. The traditional players in embassies and

304 For further information, see: http://www.un.org/dpcsd/earthsummit/
305 For further details see; http://www.unglobalcompact.org/gccunweb.nsf/content/thenine.htm
306 On December 4, 2000 the Global Compact received a critical boost when over twenty Indian business leaders met in Mumbai, India to explore and discuss the Secretary General's Global Compact initiative. This was considered by those in attendance to be one of the most high-powered groups of Indian businessmen ever to meet to discuss a specific issue-area.
foreign ministries are still in business, but the diplomatic circle has been extended to other domestic government ministries and to the executives of firms, both local and foreign.

As a consequence domestic and foreign commercial actors are allowed new opportunities. Some TNCs are even using voluntary efforts and self-regulatory schemes to convince political authorities about their capability of achieving public policy goals. The same also related to environmental concerns. This dissertation has tried to shed some light into was has actually occurred at and around affiliated TNC units in Jamaica and India.

Corporatist literature has only to a limited extent focussed on environmental issues, and these issues are seldom related to TNCs and transnational relations. Among those studying transnational relations, either TNCs are excluded (Princen 1995) or environmental issues are excluded (Clark & Chan 1995). I do not question the conclusion reached by Clark & Chan (1995), that TNCs did not influence Indian politics due to certain prevailing characteristics of the Indian State, its relationship to society and the modalities of national policy networks. However, the case of Union Carbide quite clearly confirms that TNCs did, at least indirectly and rather unwillingly, influence Indian environmental politics. Furthermore, the Bhopal tragedy has triggered a public ‘understanding’ of the linkage between FDI and environmental protection as detrimental and negative. I have questioned this ‘understanding’.

As elaborated in the introductory chapter, the perceived outcome of policy linkages between FDI and the environment can be positive, neutral or negative. What makes this debate somewhat more challenging are the normative values embedded in such reasoning. What is positive? If TNCs are increasing the local environmental awareness of adjacent villages, as is actually the case in Jamaica, this can be perceived as positive.

If the same TNC fails to influence the same village, it might be perceived as a neutral or even negative impact. But is such reasoning necessarily correct? Most of the environmental problems remain beyond the reach of TNCs, and is it necessarily appropriate that TNCs are replacing legitimate governmental bodies in defining environmental priorities? From a practical point of view, it appears to be positive when foreign players set the environmental agenda. But is this necessarily a feasible long-term political option? As underlined by the work of Deblock & Brunelle (2000), the question of public legitimacy or lack of such is quite relevant is understanding negative popular attitudes towards the proposed MAI agreement. This was further absent when OECD subsequently strengthened its focus on TNCs and environmental management.307 Whether we term the players multinational enterprises, multinational corporations or, as I do, ‘transnational corporations’, these increasingly globalised entities are strengthening their political leverage, in terms of both formulating and, in particular, by implementing political priorities demanded by traditional political authorities. Thus, TNCs through corporate environmental management systems can achieve public policy goals.

Corporate motives entering into new partnerships such as the Global Compact Initiative of the UN, is questioned (Utting 2000). Why should firm become involved in cost-creating efforts that ought to be the sole responsibility of public authorities?. What I have found in this dissertation does not provide any substantial clarification. This is basically because only limited empirical verification of such partnerships were actually documented as related to specific FDI projects. However, at a more generic level I have pointed to a potential challenge as long as environmental politics is understood as normally done by students of political science, as merely a state–to–state affair. According to such an approach, political authorities

307 For further details, see: http://www.oecd.org/da/fvestment/guidelines/index.htm
formulate environmental political priorities, regulations are implemented, and those influenced by defined political priorities are asked to comply with these regulations. Andrews (1994) and Vedung (1998) confirm that this also has been the case of industrial pollution control. At the same time they show that there are a number of policy tools available to political authorities. Still, what is perceived is a situation where the state is assumed to be in charge, the traditional approach to politics. My proposition is that a new form of co-operative environmental management regime is needed. However, in contrast to those who question such approaches within the context of national politics (Meadowcraft 1998), co-operative regimes can become subject to transnational influence. Due to investment liberalisation and FDI inflows controlled by TNCs, cooperative environmental regimes might become transnationalised. With explicit reference to my empirical findings, I need to apply the word ‘might’. Some TNCs are responding beyond traditional plant specific issues. However, the empirical findings of this thesis indicate that only scattered evidence is to be found of individual firms becoming more strongly involved in local policy networks.

However, the same TNCs that show a strong reluctance to becoming strongly involved in local politics, nevertheless remain very active in more global policy networks such as the WBCSD. Efforts are being made by TNCs such as ICI, Bayer and Norsk Hydro to strengthen what they call ‘eco-efficiency’ and corporate social responsibility. Support of the Global Compact is expressed, but efforts of strengthening local corporate diplomacy beyond the factory walls are limited. This can appear paradoxical. In the global arena, the perspective is very much pro-active and socially oriented. When it comes to local environmental issues in LDCs, the TNCs reduce their scope and focus to plant specific issues. This discrepancy is documented when other transnational players, like environmental NGOs, are creating new expressions of transnational environmental politics, challenging more directly local activities of TNCs. As long as TNCs continue to publicise statements on Corporate Social Responsibility, the trend will be increased exposure of actual local TNC operations. A good example is the controversial Utkal project in India, in which Norsk Hydro is a major managing partner, but where local controversiers supported by Norwegian NGOs have forced the TNC to reconsider the whole project.308

Management of investment liberalisation requires certain standards, to which everybody must comply, including certain minimum environmental standards. Based on political decisions, specific guidelines must be agreed upon and made transparent to enable a minimum of predictability in their actual implementation. Agents such as TNCs can enable the fulfilment of environmental objectives, and I have documented that this, to a large extent, is happening in the form of intra-firm exercises. However, the thesis also documentes that TNCs alone cannot solve current problems of environmental degradation. In such a situation, TNCs who are environmental innovators, can use these corporate achievements to stimulate a dissemination to less environmentally efficient firms. Still, rather islands of excellence are created, even using environmental efforts to enhance local competitiveness at the expense of local firms with less access to relevant firm-specific resources enabling environmental improvements. Thus, despite strengthened TNC environmental performances, do they necessarily promote more sustainable development? In such a situation, with the TNC as hegemonic players having the structural power to influence local social changes, and with

308 January 21, 2001 Norsk Hydro announced that activities will be reduced until “until acceptance from a majority of local stakeholders is manifested and a dialogue established with all organized groups that in a significant way represent these stakeholders.” As stated by Ivar Oelligrath, the CSR responsible at Utkal: “As long as the impacted villages strongly oppose the project, we will not go further with our plans” (Profil, no. 1 2001, page 24).
few significant efforts of multilateral reregulation, a crucial element would be the modality policy linkages between FDI and the environment.

7.4 Triangular environmental diplomacy – creating more environmentally sustainable alliances?

In this dissertation, indications were found that foreign, more than local factors, influenced the environmental management of TNCs operating in India. This is increasingly also the case for Jamaica. Such foreign factors, however, are not related to traditional economic and political reasoning. Economic factors, in particular market forces as such, proved to have significantly less influence than institutional factors. However, these institutional factors were less related to current political regulations and more to TNCs’ environmental policies and programmes. A major finding of this dissertation is that TNCs are not only setting global environmental performance criteria and standards for affiliated units worldwide. These standards are also operationalised as part of worldwide cross border environmental management systems. Thus, the outcome is a strengthening of pollution control and environmental protective measures at affiliated plants in Jamaica and India. As indicated in figure 4.4, corporate environmental policies and commitments are converted into changes in the local environmental procedures of affiliated TNC plants in Jamaica and India through the dynamics of cross border environmental management. At the same time, however, it is documented that these efforts and concerns remain limited to TNCs’ formal equity interests. Dissemination of TNC experience and the sharing of knowledge with external parties are limited, if not insignificant. The only exception is related to those economic agents directly involved in TNC manufacturing activities such as on-site contractors or suppliers of raw materials. Even among these, external concern for environmental management and protective measures in general is limited. What are the policy implications?

First of all, in contrast to the conventional wisdom proposed by Castleman (1985), and repeated by Korten (1995), the study documents that TNCs do not necessarily use LDCs as a dumping ground for obsolete and polluting technologies. Rather than promoting cross border environmental defection strategy, best practices and worldwide standards are transferred and implemented regardless of local regulatory regimes. The Indian FDI projects analysed, inaugurated in the wake of the new economic policies launched in 1991, are based on state-of-the-art technologies. Even more important, however, is the fact that environmental management procedures at older plants, presumably utilising more obsolete design, are becoming increasingly subject to cross border environmental controls. The number of TNC plants in India formally screened through environmental reporting or auditing procedures illustrates quite clearly such increased corporate control. This first policy finding is in itself of crucial importance, both with reference to the perceived outcomes of the Global Compact initiatives proposed by the UN Secretary-General as well as any future negotiations related to the proposed and hopefully revised MAI Treaty of the OECD.

Secondly, the study has nevertheless documented that FDI inflows do not automatically create a general improvement in the environmental performance of local industries. As referred to in the first policy implication, significant impacts on TNC affiliates have been documented, but equivalent impacts on local partners, suppliers or consumers have not been verified. This implies that while project specific linkages are strengthened, they are not automatically transferred into policy related linkages. The findings indicate that this is not even the case when focusing on firms that have a commercial relationship with the TNC in
question. Even fewer indications are found that TNCs are becoming integrated in local policy networks to promote increased environmental awareness in local communities. Consequently, the transnationalisation referred to in the theoretical section, creating the potential for triangular environmental diplomacy, is not manifested as indicated by the publicised commitments made by TNCs or the WBCSD.

The third finding that ought to be remembered is that history counts. Cross border environmental management of TNCs is a new empirical phenomena that most of the relevant political and economic literature is not investigating at all. Within the field of political science, debates have taken place on the increasing power of the corporate sector to influence public policies through policy networking and lobbying, but very few have actually extended this reasoning to a transnational dimension. If so, little documentation is collected with respect to intra-firm environmental co-ordination to the benefit of LDCs. Within the literature of economics, there are tendencies, particularly from those advocating a more evolutionary approach, to focus on entrepreneurship and innovative capacities. Mainstream economic literature, however, treats TNCs as 'black boxes', as a consequence neglecting the dynamics created by cross border environmental management. From an empirical perspective, it is furthermore important to keep in mind that, while the majority of TNCs studied operate relatively new production units, a significant number are still very old. These plants were inaugurated when nobody was really concerned about environmental protection. Consequently, these older plants are not considered to be optimal, either in terms of promoting economies of scale, or environmental protection. Therefore, some of the cases are less focussed on transferring state-of-the-art processing technologies, but more so on strengthening environmental control with the overall aim of limiting any environmental liabilities. This also has significant implications for the potential to strengthen external policy linkages between FDI and the environment, and for whether TNCs really are contributing to sustainable development.

Thus, finally, and despite increased TNC efforts, it must be concluded that sustainable development will not be catalysed by TNCs as long as affiliated TNC units are treated as enclaves, lacking more explicit and well defined concerns for local environmental challenges. Given current political priorities by an increasing number of LDCs assuming local commitments, TNCs ought to establish more direct and long-term contact with local communities and domestic industries. The modality of triangular environmental diplomacy must be changed to increase focus on the needs of society rather than the FDI hosting state. As long as TNCs remain focused merely on their internal environmental procedures, the opportunity for increased environmental improvement for society at large will be missed.

I have studied the internal relationships of TNCs and interactions between affiliated units under formal corporate control. I did this to eliminate any problems in understanding the actual responsibilities and formal corporate dynamics defined by equity interests. By making such an operationalisation, I have at the same time neglected a major development in the global political economy. During recent years, there has been a spread and growth of strategic alliances and new forms of investment between firms at an international level. As stressed by Jones (1996), collaborative ventures between firms across national countries are nothing new. What is new, however, is their current proliferation and that they have moved from a peripheral to a central position in the global strategies of many TNCs. Through such collaborative ventures, including increased use of sub-contracting, TNCs are reducing their direct exposure to particular FDI projects. This is achieved either by equity sharing, as shown in various strategic alliances, or by contracting out the whole manufacturing process.
A chain reaction appears to be taking place. While FDI flows are increasing, new alliances beyond equity collaborations are emerging. This has been described as ‘alliance capitalism’ (Dunning 1997). Alliance capitalism refers to the growing use of non-market, quasi-hierarchical modes of corporate activity. Whereas TNCs formerly internalised their value-added activities in a FDI project, they now utilise a variety of collaborate associations with other firms to achieve the same commercial goals. A crucial question is related to cross border environmental management and whether transnational influence is sustained as projects are delegated to subcontractors.

Given political priorities and interventions, TNCs have sought the most effective and appropriate means to control operations. However, in contrast to domestic firms, solutions can be found and organised on a global scale. Searching for the strategy at any given time, it is important, however, to keep in mind that a firm’s past structures and management cultures have a considerable influence on what can be actually achieved. Whilst existing academic literature has, to a large extent, ignored the dynamics represented by transnational co-ordination and control, corporate experiences have, to a large extent, been influenced by the policies of local adaptation to current market priorities. Bartlett and Ghosal (1989) referred to the so-called ‘administrative heritage’ of TNCs, and this justifies an evolutionary approach to the analysis of international business. I have designed my study accordingly.

While project specific linkages between FDI and the environment seem to be significantly strengthened as a direct consequence of enhanced structural conformity, institutionalised within specific systems of cross border environmental management, the same systems have not triggered a strengthening of policy linkages with external stakeholders. Several of the suppliers I have been in contact with supply a number of buyers, but almost all expressed a preference to supply TNCs. Asking whether this could merely be explained by better prices, they said no. Actually, in some of the cases, alternative ‘domestic’ buyers paid even more. However, they rather focused on the opportunities to establish a longer, and more lasting relationship with TNCs, as these represented a potential source of knowledge as well as further global contacts. In addition, better access to technological and human resources not easily available locally was also acknowledged as a driving force in voluntarily accepting increased dependency on the TNC.

The suppliers in questions are obviously expressing an economic rationality I did not expect to find in India. The Indian economy is often managed by extremely short-term investment horizons. Confronting the TNC with these supplier priorities, it was explained to me that company policies were changing, by establishing more permanent supply-chain management. This was primarily in order to control the quality of raw materials, however, new standards of life-cycle management and cradle-to-grave responsibility also influenced policies and practices towards up-stream suppliers, as well as down-stream distributors or dealers. When studying a broader sample of firms, equivalent findings of supply chain management were not documented. A relevant question would be to ask why did only some initiate such external efforts?

One of the TNCs in question had experienced a lot of criticism for the way in which certain suppliers were performing in Brazil. Accidents had caused injuries and even deaths, and the

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309 I openly admit that the suppliers contacted were all identified by the TNC in question. In terms of being representative, I assume that those suppliers having a propensity to defect and not accept increased TNC control, would rather not be identified by the TNC. I nevertheless defend my approach both related to TNCs and external stakeholders by referring to Yin’s (1984) methodological consideration of conducting an explorative and even relatively embedded case study.
public criticised the TNC for not having up-graded the rather primitive and hazardous working environments prevailing among the Brazilian suppliers. A particular death triggered a minor ‘Bhopal syndrome’ in terms of increased public scrutiny towards the TNC in question. As a remedy, the TNC not only strengthened the Brazilian procedures, but, in the name of life-cycle management, affiliated TNC units worldwide, regardless of location, were also told to increase the environmental surveillance of suppliers. The outcome was a new policy linkage between FDI and the environment due to a strengthening of cross border environmental management. TNC subsidiaries were increasingly asked to comply with environmental priorities, extending the perspective beyond plant specific issues. This is one particular case, and even here the actual Indian management found the increased supply chain control rather challenging. One dimension was the use of limited available resources for environmental management to be extended to suppliers in a situation where in-house challenges still existed. However, more important was the reference to the fact that no other local competitors performed such screening. Some of the TNC managers even expressed clear scepticism towards initiatives made by TNC HQ of a kind of ‘cultural imperialism’.310

I have chosen to include this illustration in the concluding chapter as an example of the changes that are currently taking place in India. The case studies in Jamaica gave a somewhat different picture of local environmental managers enabling corporate HQ to specify standardised efforts of restoring former bauxite mining field. However, even in Jamaica environmental standards are increasingly becoming part of the transnational environmental control and co-ordination efforts that I have termed cross border environmental management systems. Although policy linkages are still weak, and even in some TNC cases de facto non-existent, the dissertation have nevertheless provided several examples that illustrate a new phenomenon and modality embedded in current dynamics of economic globalisation. This is merely a phenomenon that has been related to a few TNC operations in Jamaica ands India, but still increasing initiatives of strengthening transnational environmental control and coordination are taken.

I introduced this dissertation by referring to Bhopal and how the mismanagement of Union Carbide caused one of the bigger industrial disasters in history. TNCs were generally referred to as ‘culprits’ and ‘dirty firms’, and a conventional wisdom was confirmed that TNC relocate pollution-intensive industries to LDCs such as India. This dissertation gives no general dismissal of such a claim, but it has documented that certain TNCs are increasingly changing environmental policies and practices in LDCs. Consequently, what was perceived as cross border environmental defection is being converted into cross border environmental management. Still, the significant impacts are nevertheless minor. Many TNCs have still not published any global environmental commitments, and among those included in this dissertation, the corporate efforts seems to be limited to affiliated units. Nevertheless in a few cases both in Jamaica as well as in India, policy-networking efforts are initiated outside the realm of formal TNC control. Consequently, these TNCs are influencing environmental procedures beyond the FDI projects. The TNC manager in charge at the Indian unit referred to that faced with the requirement to screen suppliers, were not convinced that this was necessarily appropriate. This is very much reflecting the different attitudes prevailing within the same TNC that still by many is treated as a black box. However, as stated: “we must comply with company standards”.

310 Due to India’s colonial past, the managers of Indian TNC units headquartered in the UK are particularly reluctant to act as ‘neo-colonial agents’, imposing standards detached from local procedures.
What I have found is that these standards are increasingly transferred through transnational corporate networks on a global scale. Some TNCs are currently making more manifest expressions of global environmental commitments previously published. Currently these commitments are converted into practical solutions at affiliated units in Jamaica and India. Uniform environmental standards are not only promoted, but enforced through cross border environmental management systems. Among these TNC a race to the bottom is not taking place. Still these efforts made by some of the more pro-active TNCs seem to be limited to those concerns that can be directly linked to specific FDI projects. Consequently, environmental policy goals as stated in global corporate statements are achieved. Nevertheless, these promising TNC efforts remain insufficient to achieve public environmental policy goals in Jamaica and India.
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