

Environmental Management of Foreign Direct Investment

Survey on the Environmental Management
of Foreign Direct Investment Activities
and Positions of Experts in Developing
and Newly Industrialized Countries

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BUSINESS SCHOOL e.V.**

Environmental Management of Foreign Direct Investment – Survey on the Environmental Management of Foreign Direct Investment Activities and Positions of Experts in Developing and Newly Industrialized Countries

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1 Summary

1.1 Section A: Overview and Conclusions

1.1.1 Introduction

The German Federal Government is negotiating voluntary Foreign Direct Investment (“FDI”) principles for German transnational corporations (“TNCs”). The objective of these principles is to promote environmental protection and sustainable development in developing and newly industrialized countries. The formulation of the principles is through an iterative multi-stakeholder process, which commenced in November 2000. Prior to this process company level case studies were carried out in P.R. China, India and Malaysia.

This summary has been prepared by Paschen von Flotow¹ and Sigrid Shreeve², from the Institute for Environmental Management and Business Administration at the EUROPEAN BUSINESS SCHOOL (“the Institute”), as part of that process. It provides host country input into the formulation of the principles, drawing on relevant experiences of experts with regards to Brazil, P. R. China, India and South Africa and South East Asia as a region.

1.1.2 Methodology

Nineteen German TNCs self-evaluated their environmental management performance with regards to their foreign direct investments in 2001, by completing a questionnaire (see appendix). The questionnaire itself was formulated by the Institute and a broad group of stakeholders, including the Federal German Government (the Department for the Environment and the Department for Economics), German industry association, environmental and development organisations and trade unions. The TNCs also made recommendations on future measures for improved performance. The Institute analysed and prepared a summary of these responses (see chapter 3). On the basis of this summary, the experts listed below were requested to prepare a position paper that stated:

1. whether the responses provided by the TNCs corresponded to their own experience and knowledge of TNCs operating in their respective countries;

¹ Paschen von Flotow is head of the Institute and has been working on foreign direct investment and sustainable development since 1998. He holds a PhD in economics and has six years experience in different management functions in international business.

² Sigrid Shreeve has worked as an associate to the Institute since 1999 and has extensive environmental and business management experience in developing and newly industrialized countries, including Brazil.

2. whether there was any notable difference in behaviour and performance between German TNCs and TNCs from other countries of origin;

3. whether the recommendations made by the TNCs with regards to future measures met the expectations of host countries.

The position papers drew on expert opinions and relevant publications. No new systematic research was undertaken and the papers thus reflect the current degree of transparency and depth of knowledge with regard to relevant environmental issues in their respective countries. They have not been submitted to wide consultation with stakeholders in the respective countries. The research methodology was not designed to compare conditions in the host countries and analyse how these impact differentially on sustainable development. The papers were prepared by:

Pedro Jacobi
Assistant Professor
Environmental Sciences Graduate Programme
University of São Paulo
São Paulo
Brazil

Shi Han
Director
Centre for Environmentally Sound Technology Transfer
Beijing
P. R. China

Jose PD
Corporate Strategy & Policy Area
Indian Institute of Management
Bangalore
India

Anthony Butler
Associate Professor
Department of Political Studies
University of Cape Town
South Africa

A regional comment for South East Asia was also provided by:

Philippe Bergeron
Director
Regional Institute of Environmental Technology
Singapore

The Institute analysed these papers and experts provided further clarification on specific details. They also reviewed the final draft of this paper. They endorse it accurately reflects their positions and agree with the conclusions reached.

1.1.3 Summary of expert positions

The experts consulted are in general agreement with the information provided by the TNCs regarding their FDI activities and environmental performance. There is a consensus that TNCs have a potentially significant role to play in promoting sustainable development by transferring environmentally superior technologies and know-how to host countries, raising local consciousness of environmental/ sustainable development and catalyzing appropriate stakeholder responses³. They confirm that in general, TNCs have a corporate environmental performance that is better than that of local companies. However, this does not always constitute good international practice or even meet local stakeholder expectations. In Brazil, TNCs are seen as more reactive than proactive in their environmental policies and actions. In China, it is noted TNCs are not always compliant with local environmental regulations and in India, TNCs tend to avoid environmental responsibilities by sub-contracting activities with significant environmental impacts.

The empirical basis of the research is not adequate to differentiate German TNCs from other TNCs on account of their environmental performance. In most areas of environmental activity, this does not appear to be the case although in South Africa and Brazil, the performance of German TNCs is in advance of their peers with regards to life-cycle approaches.

The experts acknowledge the complex challenges cited by the TNCs in promoting sustainable development. They also point to potential conflicts of interest not only between the environmental and commercial priorities of the TNCs but also between the political, social and economic objectives of stakeholders within the host countries themselves. They therefore emphasise the need to adapt global environmental policies and approaches to local needs and realities whilst following good international practice.

³ The expert from Singapore highlights the need to distinguish between fully owned subsidiaries and minority stakes, where the significance of environmental matters and ability to influence can be significantly lower. He also distinguishes between FDI driven by efficiency considerations rather than access to market.

The experts recognize that competitive pressures are a barrier to the enhanced environmental performance of individual companies and sectors, as are weak or inconsistent regulatory approaches. Poor or non-existent infrastructure may mean certain more environmentally-friendly options are simply not available as solutions to problems. Nevertheless, they believe that TNCs should operate to international good practice wherever they are located and take a more proactive and innovative approach to promoting sustainable development. The relationship between the parent company and subsidiary is of critical importance, through setting appropriate goals, monitoring their implementation and providing necessary resources and know how.

Implementing international environmental good practice in production processes is an achievable minimum for TNCs in their FDI activities. Appropriate technologies and know how should be transferred. Greening the supply chain and integrating social with environmental issues are seen as next steps to address in the short and medium-term. A longer-term but nevertheless critical challenge is the adoption of life cycle approaches and consumer education, to raise awareness of environmental issues and promote sustainable consumption. TNCs aggressively compete with each other with regards to product quality and performance, both creating and responding to consumer expectations. This is not generally the case on environmental matters but must be, if the market is to effectively promote sustainable development.

1.1.4 Recommendations

The experts support the recommendations made by the TNCs regarding future measures for improved environmental performance. Their modifications and additional recommendations reflect their view that TNCs should take a more proactive approach both in driving continual improvement and engaging with other stakeholders to catalyze sustainable development in the market place. The following are a consolidated summary of TNCs and expert recommendations:

Regarding setting of environmental goals

- Increased use of worldwide environmental goals and improved monitoring of their implementation.
- Greater adaptation of goals to the local context, whilst reflecting minimum standards in home countries, especially where these are more stringent than those required in the host country.
- Integration of social goals with environmental and economic ones.

Regarding technology transfer

- More support for subsidiaries from parent companies in the transfer of environmental technologies and know-how, to raise local operating standards to European levels.
- More proactive measures to help address local barriers to technology transfer, including input into policy dialogue, the development of technical standards and support to suppliers to improve the local supply base.
- Governments from host and home countries to support appropriate public private sector initiatives.
- Home country rules preventing the transfer of obsolete technologies.

Regarding environmental management systems

- Environmental management systems in all foreign subsidiaries, which are continually improved and independently certified.
- Separate budget lines for environmental management activities.
- Capital investment decision processes to involve environmental departments.

Regarding product life cycle

- Wider implementation of product life cycle approaches, especially with regard to verification of input supplies and end-of-life issues.
- Parent companies to provide more support to subsidiaries in transferring life-cycle tools and methodologies.
- More proactive promotion of life-cycle concepts in host countries.
- Standardization of LCA approaches.

Regarding the supply chain

- TNCs to green their supply chains by incorporating environmental criteria in contract specifications, providing suppliers with relevant technical support and training.
- Commercial incentives for suppliers, rewarding improved environmental performance (for example, the award of preferred bidder status or longer-term contracts).
- The provision of supplier training, in collaboration with Government and/or other TNCs.

Regarding employee training and participation

- Increased provision of environmental training at all levels of the management hierarchy and for subcontractors.
- Links between environment, health and safety to be strengthened.
- Introduction of innovative schemes to incentivise improved environmental performance by employees.
- Inclusion of worker representatives in decision-making processes, especially when management is foreign.
- Introduction of director responsibility legislation by host countries for accidents and activities that harm the environment.

Regarding consumer education

- More proactive education of consumers on environmental issues, in collaboration also with credible independent organizations.
- An increased focus on sustainable consumption.

Regarding stakeholder engagement

- Improved transparency and proactive engagement with all stakeholders.
- The provision of stakeholder dialogue training to staff with environmental responsibilities.

Regarding external reports

- More and improved environmental reporting, including the provision of site-specific data, information in local language and proactive dissemination.
- Mandatory environmental reporting to be introduced if voluntary approaches inadequate.

1.1.5 Conclusions

TNCs have a key role to play in catalyzing sustainable development in the market place, but actions are needed from a wide range of stakeholders to incentivise companies to be environmental leaders, encouraging them to behave proactively rather than reactively. The proposed FDI

principles for German TNCs if widely adopted, publicized and 'enforced' can play a useful part in this process.

In the course of executing this study further research needs have been identified to promote improved environmental management practice in host countries and help disseminate best practice. These are:

- Research into the drivers for improving environmental transparency and the development of best practice benchmarks to drive improved environmental performance.
- Success stories of mutually beneficial partnerships between TNCs, host country governments and local industries.
- Research into understanding the dynamics of TNCs and local industry, from a sustainability leadership perspective and transformation of the market place
- A systematic comparative analysis of the framework conditions in different host countries which are important recipients for German FDI and how these impact on sustainable development. This would facilitate the legitimate adaptation of global corporate policies to differing host country contexts.
- The preparation of sector-based industry Case Studies. These would both provide information on good practice and stimulate performance improvements through benchmarking.
- Tailored technical information on subjects such as life-cycle analysis and greening the supply chain for opinion formers in host countries, including policy makers, trade associations, consumer groups and local research institutions.

1.2 Section B: Analysis of expert position papers

This section analyses the position papers submitted by the experts, by area of environmental performance appraised. The responses and recommendations provided by the TNCs, on which the experts have commented, are briefly summarized in the highlighted inserts.

a. Setting of environmental goals

The experts agree that the majority of TNCs operating in their respective countries base their environmental goals on global corporate policies. As a result, environmental goals set can go beyond those required by local regulations. The experts recognize that complex drivers underlie the formulation of these goals but observe that, with the exception of Brazil⁴, global policies need to be better adapted to reflect specific host country realities and needs. This requires the additional inclusion of country-specific goals and does not mean a lowering of corporate environmental standards away from international best practice.

TNC responses

The majority of respondents:

- have a global environmental policy
- take higher German standards into account in addition to local standards
- encounter problems with the degree of environmental engagement possible due to conflicting business priorities, limited local resources and/c local framework conditions

In general, TNCs have superior environmental performance compared with local industry. This results from their enhanced access to capital and trained human resources, their ability to draw on international best practice in environmental management and to transfer technologies environmentally superior to those available in the local market place. In South Africa and Brazil, German TNCs can indeed be distinguished from TNCs from other countries of origin, on account of their environmental performance with regards to life cycle approaches. Nevertheless, examples are cited by the experts, where TNCs irrespective of their country of origin have avoided their full environmental responsibility in order to save costs. For example, in China, some TNCs adopt maximum rather than minimum emission standards. In India, TNCs frequently contract out polluting activities. This has a major detrimental environmental impact because local suppliers are under intense competitive pressure to avoid environmental costs and enforcement of environmental regulations by competent authorities is fragmented, weak and/or inconsistent. In Brazil, TNCs react primarily to regulations in setting goals and policies and these fall far short of principles set out in Agenda 21. In China, there are instances where TNCs do not comply with local regulations.

⁴ Environmental regulations in Brazil are advanced by international standards although enforcement is relatively weak and standards can be reduced by states competing for inward investment

The role of the parent company is considered instrumental in driving the environmental performance of subsidiaries. Despite the need for local adaptation mentioned above, there is a consensus that over time environmental goals and standards should and will converge globally.⁵ This process can be accelerated by appropriate corporate policies based on continual improvement. Parent companies have an important role as enforcers through performance management processes and as ‘watchdogs.’ In India, for example, NGOs have by-passed local subsidiaries and directed complaints on environmental matters directly at parent companies.

The experts believe TNCs should develop environmental goals further in order to promote sustainable development, primarily by incorporating social objectives⁶. In Brazil there is already strong stakeholder pressure for good performance in terms of social impacts. The experts all acknowledge the complexity of managing stakeholder processes to legitimately establish priorities, trade-offs and implementation timescales. Conflicts between competing stakeholders potentially arise within companies, within countries and, indeed, internationally between interest groups in developed and developing countries. The integration of social and environmental goals makes improving environmental performance even more complicated. In South Africa, for instance, black economic empowerment is a political priority, in China, stimulating local consumption, technology transfer and employment growth are key priorities. These may conflict with best environmental options and compromise positions must therefore be found through effective stakeholder dialogue.

The experts support the recommendations made by the TNCs. In addition, they recommend that TNCs should:

- Ensure the fitness of their environmental goals to the local context.
- Formulate and follow minimum environmental standards which must at least be as stringent as local environmental standards, reflecting those in the home countries.
- Incorporate social goals.
- Undertake more proactive and wider dissemination of environmental policies and good practices both to internal and external stakeholders, especially government.
- Improve monitoring processes to ensure the achievement of goals.

TNC recommendations

- increased use of worldwide environmental goals and their monitoring
- further development of international and site-specific environmental, safety and health management systems and their independent certification
- further development of environmental reporting systems

⁵ As noted by the expert from South Africa, buy-in to these goals and standards needs to be truly global to avoid eco-dumping or trade barriers.

⁶ The formulation of environmental goals already involves a trade-off with commercial needs. It may be economic reality that dictates the latter, not purely profit motive. In India, for instance, competition in the chemical and pharmaceutical sector is particularly intense leading to cutting of environmental expenditure.

b. Technology transfer

The experts confirm that most German TNCs construct new plants to global design specifications, transferring modern production technologies through FDI. The main driver for this technology transfer is product and quality assurance to ensure competitive advantage. Environmental benefits also arise because modern production technologies often are inherently environmentally superior on account of their resource/cost efficiency. The push for cleaner production is stronger in some sectors than others. For instance, in Brazil it is particularly notable in the chemical industry.

TNC response

The majority of respondents stated:
-they aim to use the same or equivalent technologies worldwide
- consider production and quality assurance as the main drivers for technology transfer
-that a number of local barriers exist to technology transfer

The drivers for transfer of state-of-the art environmental control and end-of-pipe technologies are however much weaker. In part, this is a result of local barriers. Those cited include inadequate IPR regimes, weak or inconsistent regulatory processes, poor local supply base, competitive pressure, poor public infrastructure and a low priority on environmental performance from local stakeholders. It is also due to the planning and budgeting processes for such investments.⁷ There are however instances where TNCs have transferred, for example, state-of-the-art waste treatment technologies which have also addressed local infrastructure problems - in China, German TNCs have installed effluent treatment used for sewage treatment and in Brazil, industrial waste incinerators which are used to dispose of hospital waste.

The experts support the recommendations made by the TNCs. In addition, they recommend that:

- Governments of both host and home countries should work together to encourage technology transfer. For instance, more public/private partnerships could be stimulated.
- TNCs help address local barriers by more active involvement in IPR policy issues, environmental policy dialogue and technical standard development with trade associations.
- Technology transfer results in the development of independent local suppliers

TNC recommendations

-parent companies to provide more support in technology transfer in environmental area to raise to European standards
-introduce German SMEs into the supply chain to raise quality levels

⁷ Capital investment cases for new plant construction are usually decided corporately on the basis of global design specifications, which are strictly enforced. End-of-pipe and environmental control technologies are often funded from a subsidiary's operational budget and prioritized locally. The headquarters do not always have a direct mandate to enforce the implementation of state-of-the-art technologies. One of the TNCs participating in this study does however have a corporate environmental budget for such investments.

- TNCs should establish corporate environmental funds for environmental investments.⁸
- Home country rules be introduced to prevent the transfer of obsolete technologies.

c. Environmental management systems

The experts confirm that TNCs commonly implement centrally co-ordinated environmental management systems and that the EMS is key to managing environmental risk, driving continual improvement and the potential basis for effective stakeholder communications. The group parent company has a critical role in setting goals and monitoring performance, as discussed in (a) above. In India, parent companies also carry ultimate legal liability for the poor performance of their subsidiaries in environmental, health and safety areas.

TNC response
 The majority of respondents:
 -have a centrally co-ordinated EMS which takes into account or is based on international standards

In principle, the experts support the trend towards global standardization of environmental management systems and certification. However, in practice, they have observed problems with the implementation of standards such as ISO 14001. In India and China, intense competitive pressures amongst certification agencies have led to a reduced rigor in the certification process. In Brazil, some stakeholder groups perceive a conflict of interest in the combined role of the consultants who both help companies implement and subsequently certify the EMS.

TNC recommendations
 -continuous improvement of environmental management systems
 -certification of all foreign sites to ISO14001
 -the establishment of separate budget lines for environmental management and involvement of environmental department in capital investment decisions
 -consideration of social aspects

The experts support the recommendations made by the TNCs. The expert in China additionally suggests that:

- Links be established between ISO14001 and regulatory processes, as a means of improving its effectiveness.

d. Product life cycle

The experts note that life cycle approaches are not common practice in the countries reviewed, because lack of stakeholder awareness, available infrastructure or

TNC response
 The majority of respondents:
 -provide investment capital for disposal and recycling systems
 -undertake environmental measures to compensate for the impacts of their operations

⁸ See Footnote (4)

available tools. In India, even recycling systems are rare.

German TNCs are however taking a lead on life cycle concepts, compared also to other TNCs. In South Africa they are ahead of their competitors in terms of disposal and recycling systems and verification of input supply. In China, they are playing a leading role in introducing life cycle impact concepts and tools to the country. In Brazil they make greater use of life cycle tools such as environmental impact assessments.

The experts express differing opinions on the priority life cycle management issues should have relative to other environmental activities in the short-term. This is a reflection of local realities. On the one hand, life cycle management is a means of avoiding mistakes made in the past in the developed world, but for most local stakeholders there are more immediate pressing environmental and social needs. The expert in Singapore covering the South East Asia region, notes the need for standardising LCA approaches to enable comparisons to be drawn between companies and products.

In terms of compensating for their environmental impacts, some TNCs undertake ecological projects. In India, for instance, these are mainly reforestation projects, which tend to be ad hoc rather than strategically planned. In Brazil, some TNCs have set up recycling and reuse schemes.

The experts support the recommendations made by the TNCs to promote life cycle approaches, especially with regards to initially building capacity. They recommend that:

- TNCs in host countries promote life cycle approaches and infrastructure investment through policy dialogue, pilots and knowledge sharing.
- TNC parent companies transfer life-cycle design and management expertise and tools to subsidiaries.
- Standardization of LCA approaches.

TNC recommendations
- verification of the input supply
- further build-up of modern disposal and recycling systems

e. The supply chain

The experts note that TNCs do not integrate environmental management on a systematic basis into their supply chain programmes. The latter focus on quality issues, which have high competitive significance. If support is provided to suppliers on environmental matters, it relates to technologies or risk management. A The expert from Brazil notes that some TNCs do also provide support with regards to understanding and complying with environmental legislation. TNCs do consider greening the supply chain critical to raising environmental practices in host countries. However, it is noted that in

TNC response
The majority of respondents stated they:
- implement aspects of environmental management in their supply chain management programmes
- the environmental support they provide suppliers is primarily technology advice

India it is actually commonplace for TNCs to subcontract activities with high environmental impacts to local SMEs to avoid environmental costs and responsibilities.⁹The experts acknowledge the difficulties of raising environmental performance along the supply chain. The barriers include lack of access to funding, inadequate technical capacity, unavailability of necessary technologies/infrastructure and location within the host countries.

Some TNCs perform supplier audits in the environmental field, mainly where there are health and safety implications. In Brazil, some TNCs also provide assistance to their suppliers with regard to transport and storage use, recycling and packaging of products. Collaboration between competitors in improving supply chain conditions is nevertheless not observed on any significant scale even in Brazil. The expert from India also notes, that even where supplier training or audits have been proactively carried out by TNCs in his country, implementation of improvements by the supplier is voluntary. It is not accompanied by commercial incentives such as preferred bidder status or new or longer-term contracts lessening the impact of the support. Such commercial incentives would however help with raising finance from banks to fund environmental improvements, which is another key barrier to greening the supply chain.

<p>TNC recommendations</p> <ul style="list-style-type: none">- the formulation of environmental criteria for suppliers- improved employee training- provision of collaborative supplier training programmes with competitors

The experts support the recommendations made by the TNCs. In addition they recommend that:

- Improved environmental performance should be commercially incentivised.
- Associated costs for suppliers should be addressed.
- TNCs should play a greater and more visible role in national standard setting bodies as well as industry associations.¹⁰
- Supplier training centers should be established collaboratively between competitors and Government.

⁹ It should be noted that TNCs tend to out-source activities which for them are low value-added. Such activities are frequently low-tech and resource intensive and, by their very nature, carry potentially high negative environmental impacts.

¹⁰ In India, this is identified as the single most important way to influence supplier behaviour.

f. Employee training and participation

The experts confirm that German TNCs place high emphasis on employee training. The extent to which this is institutionalised varies between companies. In South Africa, the expert observes that TNCs are already operating according to their recommendations. The expert in India observes the need to extend training to on-site contractors. He also notes that few companies have identified measures for employee motivation or productivity on environmental matters. In Brazil, on the other hand, some TNCs provide environmental training that promotes proactive initiatives by employees to identify ways for minimizing environmental impacts. Training is also provided at all levels of the management hierarchy¹¹.

TNC response

The majority of respondents:
-provide employee training programmes as part of their environmental activities – have environmental measures which include, environmental motivation, employee participation, provision of information

It is noted that the integration of worker representatives in decision-making processes is especially important when management is foreign. The expert for South-East Asia observes that employee empowerment for the public good is not culturally encouraged in his region. He suggests that legislation that makes directors responsible for pollution incidents and environmental damage is an effective means of improving corporate environmental performance.

TNC recommendations:

-extend training to all levels of management hierarchy
-incentivise improved performance with award schemes
-strengthen links between environment and health
-include employee representatives in decision-making processes

The experts support the recommendations. Additional recommendations made are:

- Provide improved environmental training for on-site contractors and seasonal workers.
- Use more local contents and trainers.
- Introduce director responsibility legislation.

g. Consumer education

The TNCs see little room to influence consumer behaviour through their FDI activities. Consumer information on environmental matters and environmental education programmes are limited in the countries reviewed although with some notable exceptions in Brazil.

TNC questionnaire

The majority of respondents stated they:
-see little opportunity to influence consumer preferences through environmental issues

¹¹ The energy crisis in Brazil in 2001 strongly stimulated educational campaigns for employees to reduce energy consumption. The expert notes that it will be interesting to observe the internalization of these attitudes now the energy crisis is over.

In India and China the experts confirm consumer pressure is indeed a low driver for improved environmental performance. Currently very low or no priority is given by consumers to the environmental soundness of products. In China, some companies thus do not think it is worth intensive efforts to publicise the environmental superiority of their products. Energy consumption is of increasing significance on account of high costs. In India, the same trends are observed, although independent product testing is also becoming more common. The likelihood of liability claims being brought against certain products is also expected to raise consumer awareness also of environmental issues. The expert for the South East Asia region observes that green consumerism is difficult in the developed world and even more so in developing country contexts where price is an even greater factor in purchase decisions.

In South Africa, German TNCs do however publicise the superior environmental performance of their products. It was noted that there is evidence that this does improve brand image and positively affect share price. In Brazil, all TNCs inform consumers of the toxicity of their products and highlight regulatory approvals they have received. Voluntary consumer education actions in some sectors such as agrochemicals (for example, use of pesticides) and the beverage industry with regards to the recycling of aluminium cans have had a fundamental impact on consumer behaviour.

The experts believe consumer education is key to achieving the objectives of sustainable development and that TNCs need to be more proactive in raising awareness of environmental issues. They support the recommendations made by the TNCs and in addition recommend:

- Partnerships between TNCs with credible organisations for effective consumer education.
- Targeting retailers and sales people with consumer education programmes to better reach the end customer.
- Using the internet as a means of communication.
- TNCs should play a leadership role in stimulating policy debates on issues such as labeling and recycling.

TNC recommendations

- increase and improve consumer education on environmental issues
- incorporate environmental issues in employee training with regard to PR activities

h. Stakeholder engagement

The experts acknowledge that TNCs do seek to obtain early stakeholder buy-in to their projects. They therefore proactively undertake stakeholder communication programmes in the countries reviewed even when public consultation is not mandatory. In this respect, local community relations are particularly important. TNCs also input into policy debates on environmental issues and participate in technical chambers that focus on environmental issues. In China, German TNCs have formed a German Business Group for Sustainable Development.

TNC response
The majority of respondents:
- initiate early contact with social interest groups including environmental NGOs and trade unions

Engagement with pressure groups is primarily defensive although this in part reflects the nature and stage of development of the NGO sector in the host countries. In China, for instance it is still in its early stages of development, with a focus primarily on natural resource preservation and related public awareness activities, whereas in Brazil it is highly developed across a broader range of environmental interest areas including recycling and environmental education. There are also strong independent consumer associations in Brazil, which engage on environmental issues. In South Africa, where relations between TNCs and NGOs are generally confrontational, some observers note a trend towards greater collaboration, attributable to democracy and education. In China, however, the expert believes relationships between TNCs and NGOs will become more confrontational, once the latter become financially independent from TNCs, from whom they currently receive funding.

Transparency is vital for good stakeholder relations and the on-time provision of site-specific environmental data is key. The expert from India notes that none of the TNCs participating in this study currently provide environmental data on their operations to all stakeholder groups. Political controversies associated with a number of high profile FDI projects has resulted in a general reluctance amongst TNCs to draw attention to their activities, even where this involves publicizing positive environmental initiatives and disseminating good practices.

TNC recommendations
- stakeholder dialogue training for staff with environmental responsibilities
-voluntary and in-time publication of site-specific environmental data

The experts support the recommendation made by the TNCs. In addition the expert in China also recommends German TNCs actively take part in and facilitate the setting up of local business councils for sustainable development in host countries.

i. External reports

The experts note that environmental reporting is not common practice in their countries although in Brazil the trend for environmental reporting has been increasing over the last five years and most companies do provide some level of environmental information on their websites¹². In India most TNCs do not publish environmental reports and there are strong cultural and behavioural barriers to environmental reporting. Emissions data is regarded as commercially sensitive information and historically adversarial and emotive relationships between stakeholders, discourage voluntary disclosure. The Indian government is however considering a system like EMAS that makes public reporting mandatory¹³. In China, companies submit annual environmental data to authorities who treat this as confidential on an individual basis, but publish it on an aggregate regional or national level¹⁴. Draft legislation is however under discussion for mandatory disclosure although some TNCs already include the performance of their Chinese subsidiaries in group environmental reports. However, the expert notes that given these are published in German and/or English, their usefulness for local stakeholders is limited.¹⁵ In South Africa, environmental reporting is more common and reports are orientated on a number of internationally recognised reporting standards, with GRI being noted as likely to have longer-term significance. Freedom of access legislation also means people can demand information on emissions data from companies.

TNC response
The majority of respondents:
-publish a publicly available environmental report in English and German in which they sometimes include subsidiaries
-orientate themselves by an internationally recognized reporting

TNC recommendations
- inclusion of foreign subsidiaries in corporate environmental reports
-internet home pages for local sites
- more proactive dissemination, especially with the press

The experts support the recommendations made by TNCs. In addition they recommend TNCs:

- Increase environmental reporting and provide information in the local language.
- Improve their environmental reporting, especially with site specific data.
- Develop global approaches and apply recognized international standards.
- Discuss environmental reports with stakeholders in advance of release.

¹² This is more comprehensive where defensive positions are taken in response to stakeholder pressure.

¹³ The expert for South-East Asia notes the need for mandatory reporting

¹⁴ In Brazil regulators also do not publish specific emissions data which are treated as commercially sensitive information.

¹⁵ VW and ABB have recently published corporate environmental reports in Chinese.

2 Expert Inputs¹⁶

2.1 Pedro Jacobi - Brazil

Comments on the survey

Pedro Jacobi

Assistent Professor

University of São Paulo

São Paulo, March 26, 2002

Brief Introduction:

This report was developed using three procedures to obtain the data in order to confirm the findings that are presented by the survey with German TNCs in Brazil.

The data were obtained through :

1. Questionnaire sent to industries, academic researchers and the German Chamber of Commerce institutional representative
2. Research on Internet – Sites of German industries based in Brazil in different sectors on environmental management
3. Research of Publications on Industry and Environment in Brazil- institutional journals of industrial sectors

We observe that the outcomes indicate a coherence with the results of the survey on the main issues, although on specific matters the stakeholders share different points of view. These differences are also presented in this report, followed by our analysis based on the knowledge of the existing processes of environmental industrial management.

¹⁶ These expert inputs have not been edited or revised by the Institute and are appended here in the original form submitted.

2.1.1 Issues linked to the survey

a. Setting of environmental goals

Most TNC'S define guidelines for environmental policies, which are constantly reviewed and adjusted to their new needs.

Not all industries adopt the concept of Sustainable Development to define their environmental management guidelines. Those that adopt it can be considered as being more advanced and proactive. This initiative has as its main goal to strengthen the links with those parties involved - clients, shareholders, contributors and the society in general. For TNC'S Sustainable Development involves, among other possibilities:

- Rational use of natural resources;
- Seek to increase Eco-efficiency;
- Compliance to the legislation of the Ministry of Labor;
- Safety and protection of health and of the Environment;
- Compliance to the environmental legislation, rules and requirements;
- Identification and minimization of impacts on the Environment;
- Transparency of activities.

In Brazil, we verify that the main reasons that lead multinational companies to implement environmental policies in their subsidiaries are:

- To reduce costs;
- To minimize risks;
- To increase competitive advantages;
- To motivate the workers;
- To increase the acceptance of its activities by the external public

The issues of rational use of resources and increase in eco-efficiency are much less present in the definition of TNCs environmental goals, but are becoming more visible in the communication strategy – sites and publications.

Only a minority of the companies adopt, in their subsidiaries in Brazil, environmental standards that are more restrictive than those practiced in their head offices. In these cases, usually the goals for environmental quality are higher than the standards defined by the host countries. In any case, they are way below the standards desired by Agenda 21.

In Brazil, we verify that the organizations, both German and from other countries, take into consideration, in the setting their environmental policies, the specific characteristics of each country, as well as the specific interests of the subsidiary.

We also verify that it is important within the environmental planning to define minimum environmental standards and support the various segments of the company when making decisions that concern environmental policies.

We verify that as a result of the present state of the development process in Brazil, the stakeholders also expect from the organizations a good performance in their social impacts, which presently are strongly urged by society. With regards to environmental and occupational health aspects, there is in general an agreement in regard to the action of TNC'S.

b. Technology transfer

We note, in some TNC'S in a specific industrial sector- chemicals- notably, the search to improve the use of alternative technologies for cleaner production.

The order of importance given to the factors that determine investments in end of pipe technologies among TNC'S, both German and from other countries, prioritizes:

- Costs;
- Existing infra-structure; and
- Environmental standards.

It is important to stress that only some organizations are increasingly promoting the optimization of the production processes and adaptations in the production lines seeking for greater efficiency of the production process (Eco-efficiency). Most industries are mainly adjusting themselves to cope with the determinations of a more stringent environmental legislation. This legislation, which can be considered as very advanced according to international patterns, has been until nowadays very little effective in enforcing the law through penalties and sanctions.

Regarding the advantages of lower costs due to lack of environmental compliances, we observe that there is very little effectiveness in the control of the organizations that do not comply with the legislation.

We confirm the outcome of the survey that indicates “that the recommendations made by German TNC'S that their decisions are primarily guided by business considerations. These are followed by political and legal aspects, compliance to global environmental standards, support to their local sites when planning their activities so that the environmental standards are gradually improved up to the European levels in the chain of suppliers and to ensure a certain quality level, that corresponds to the expectations of Brazilian stakeholders. It is worthwhile mentioning that given

the peculiarities of local governments and their greed to attract industries to their region, frequently they flexibilize the environmental requirements of these investments, and this creates in some cases contradictions with environmental NGOs and community organizations as to the inadequate land use and risks of degradation of natural resources.

c. Environmental management systems

For most TNC'S located in Brazil, EMS plays a fundamental part as a management tool, means of global coordination, reduction of risks, improvement in the relation with environmental enforcement departments, prevention of risks to the image of the organization, and increased safety of the installations.

In most cases, the implementation of EMS is performed solely by the subsidiary, but with the support of the head office. In these cases, the Environmental Management System of the subsidiary is guided based on the dispositions of the environmental policies of the head office, but adapted to the reality of its Brazilian subsidiary.

In general, the recommendations made by TNC'S regard

- Continuous improvement through EMS certification of industrial sites of subsidiaries according to ISO 14.001 standards,
- Creation of environmental protection funds for Environmental Management,
- Concern with social aspects, and
- Incorporation of comments made by their Environmental Department in relevant investments,

All these meet the expectations of the Brazilian stakeholders involved in this process.

Almost all TNC'S, both German and from other countries, guide the implementation of their environmental management systems based on international certification standards, such as the ISO 14001 standard.

In Brazilian chemical sector, the adhesion of TNC'S to the Responsible Care program is mandatory and the certifications obtained are maintained and reevaluated by means of internationally qualified appraisals.

Those TNC'S that utilize forest resources are in compliance with, or in the process of complying to international certification standards such as the Green Label ("certified wood" seal), certified by the FSC (Forest Stewardship Council) or similar certifications.

d. Product life cycle

The subject “Life Cycle Analysis” of products is still quite new in Brazil and there are few companies that utilize this tool. However, the use of tools for systematic analysis such as environmental impact assessments – economic, technical, and scientific resources – is more frequent among German TNC’S than on those from other countries.

With regards to waste disposal, the organizations usually analyze the cost versus the benefits (both environmental, and legal) to decide over the way through which they will dispose their waste, since the most modern waste disposal systems are not always the least costly.

Some TNC’S demonstrate concern over the impacts caused to the environment. So as to avoid causing environmental damage, they take into consideration the health safety and environmental protection aspects throughout all phases of the products, from its development up to its final disposal. However, this seems to be the case of few TNC’S.

Some TNC’S say that they restrict or discontinue the trade of products in the case it could represent a direct risk to the environment and public. This was more explicit in the pharmaceutical sector.

e. The supply chain

In most cases, the greater difficulties observed by German TNCs, as well as the ones from other countries in enlarging the environmental performance with regards to suppliers are:

- Level of necessary investments and costs;
- Availability of material resources; and
- Infrastructure of the country and/or location of industry of the subsidiary.

We do not verify, in practice, the existence of joint work among competitors so as to improve the environmental performance of their suppliers.

Some TNC’S claim to provide assistance to partners in the transport, storage, use, recycling, and packaging of products.

Some TNC’S claim to try to make sure as to the competency and reliability of their suppliers and contractors. Some TNC’S offer their knowledge of legislation as guidelines for the actions of their suppliers. These activities comply with the expectations of Brazilian stakeholders.

f. Employee training and participation

Most German TNC’S, but also those from other countries promote training to their workers aiming at encouraging pro-active initiatives, oriented towards actions that minimize the impact over

the environment. Generally this represents an initiative that extrapolates the current training patterns of environmental management.

Some TNC'S develop awareness programs that comprise all hierarchical levels, and also the whole community, by means of lectures, courses, seminars and educational visits, and of the distribution of publications on the subject.

The TNC'S try to optimize their production processes through educational campaigns to reduce water, electricity, and natural gas consumption, aiming at preventing misuse of these natural resources. This has been strongly stimulated in Brazil in the year 2001 because of the energy crisis, and it will be interesting to follow the process in the year 2002, to observe the internalization of these attitudes in a year without lack of energy.

We verify that most TNC'S conduct training for their workers – information and qualification, in addition to the implementation of measures to motivate the workers, and improve occupational health, and safety at the work place. In addition to that, it has been proved that providing information only through folders, and implementing environmental measures “from a top down approach” are not well recommended procedures.

We verify that the recommendations and planning of German TNC'S, as well as those original from other countries, in what regards:

- Providing training at all hierarchic levels;
- Defining internal awards to subjects related to the environment;
- Taking into consideration the cultural differences;
- Integrating representatives of the workers in the decision making process, especially when the management staff is foreign; and
- Highlighting the connection between environmental protection and safety and health;

These practices meet the expectations of Brazilian stakeholders involved in the process.

g. Consumer education

We verify that most German and other organizations understand that they have a limited ability to influence the consumers towards a change in habits for higher environmental awareness.

Regarding this subject, we again verify a diverse behavior in the actions of TNC'S. We might say that influencing the habits of the consumer with the goal of promoting higher environmental awareness is really a strategic decision for the organizations. There are cases in which the actions of TNC's have been fundamental in determining a behavior change in the consumer, such as, for example, in the case of the pesticides industry, influencing the consumer to properly use and dis-

pose the packaging, or in the beverage industries promoting recycling of aluminum packs.

Some TNC'S incorporate environmental values in the communication of their products to consumers mainly through their sites and media, but this still occurs in a reduced number of companies and generally without too much emphasis.

Most TNC'S try to inform the consumer about how toxic their products are, and highlight the fact that they are indeed approved by government departments of sanitary surveillance.

Brazil resents still from lack of consumer education, and initiatives linked to Responsible Consumption are at its early stages.

h. Participation of social interest groups

Part of TNC'S, both German and from other countries, try to establish debates with Non Governmental Organizations and other interest groups in the beginning of any potentially environmentally impacting project.

The initiative of some TNC'S of:

- Trying to appoint qualified professionals to debate and contact the communities;
- Voluntarily publishing environmental data;
- Establishing previous contact with local environmental authorities, with the media, and in specific situations with local Non Governmental organizations;

is an attitude that generally corresponds to the expectations of the Brazilian stakeholders involved in the process.

However, the above mentioned attitude, is at times perceived as a “rendering of accounts” to the society, about the actions and projects developed, in an attempt to justify certain attitudes which are not exactly the ones expected by the community.

Some TNC'S take part in technical chambers of both business and public organizations dedicated to issues regarding the environment, such as climate change, environmental impacts of fixed sources and environmental legislation.

i. External reports

Most companies maintain different levels of information about their environmental policies in their web sites. Those that are more subject to negative public perception- chemicals- tend to more comprehensive and detailed environmental performance information in their websites and media.

Most TNCs (German and others) use, in the elaboration of their reports, patterns and standards such as ISO 14.000, EMAS, GRI – Global Reporting Initiative – Sustainability Reporting Guide-

lines, CEFIC – Health, Safety and Environment Reporting Guidelines, which seems to be a trend among the TNC'S, both German and from other countries.

2.1.2 Other comments

1. The process of guidelines is meaningful if voluntary, but it is always important to consider that this depends on the level of socio-environmental responsibility of each TNC, given the fragility of environmental awareness in Brazil. It is also worthwhile noting that TNCs tend to comply with environmental regulations, as part of their organizational culture in their origin countries. But we also should observe that, although in some cases there have been negative procedures by TNCs of different origins, that contradict their practices in their home country. We can also observe, that generally they do not innovate in environmental management practices, but rather comply with the country legislation. Therefore there is a reduced expectation that TNCs in general will play an important role in promoting significant changes in environmental management , mainly stimulating preventive policies.
2. We think that the environmental agenda should be moving on to focus on the impacts on consumption, and in this case, as observed through our comments, they will have to play a proactive role, as our consumer in general has not explicated yet a higher concern about responsible and sustainable consumption. Notwithstanding, it is important to stress that increasingly companies tend to adapt themselves very swiftly to new demands of consumers. Hence, it is not so obvious that companies do not play an important role in promoting changes in consumption patterns, as we can see from the growing recycling programs sponsored and stimulated by sectors of the industry- chemicals and light metals.
3. We want also to make a comment on the social role of several TNCs (both German and others). Although several companies have increased their social investment, it is still not very perceived that companies have incorporated social premises in their agenda for developing countries. And this is much less perceived when it comes to environmental issues.
4. We consider that it is advisable that companies should have a much more active and educative role in this matter, and not be only reactive to demands of society, specially of interest groups and environmentally oriented organizations and institutions.

2.2 Shi Han - China

Comments on the survey

Shi Han

Director

Centre for Environmentally Sound Technology Transfer

22 January 2002

2.2.1 Executive Summary

The Report on Summary of the Appraisal of Survey on Environmental Management of Foreign Direct Investment (FDI) Activities (Latest Version as of 15 August 2001), which was prepared by Dr. Paschen v. Flotow and commissioned by the German Federal Ministry for Environment under UFOPLAN Project 201 14 106, provides a comprehensive and in-depth analysis on environmental management practices of FDI activities.

In order to compare the findings at the transnational corporations' (TNCs) headquarters with the perspectives of their Chinese subsidiaries and other stakeholders such as Chinese government and industry, the Centre for Environmentally Sound Technology carried out a comparative study on environmental management practices of FDI subsidiaries in China. The comparative study in China indicates that there are substantial similarities between the findings by the Survey and the evaluation on the Chinese experience in this respect. An important finding is that more and more TNCs start to place higher priority on corporate-wide safety and environmental policy and management systems primarily to minimize regulatory liability, to reduce costs, and to avoid reputation risks. This will expedite the diffusion and adoption of both environmentally benign technology and good environmental management practices at their subsidiaries in developing countries. Differences and conflicts also exist due to the different economic conditions, regulatory framework, and social context. The formulation of corporate environmental policy has been principally based on and driven by the context and trends in developed countries. Difficulties and conflicts prevail while adopting normal environmental standards and practices in FDI home countries at their subsidiaries in developing countries due to mixed reasons. Some are internal barriers related to financial considerations. Others involve the inadequate regulatory capacity and social pressures in host countries and inability of international legal and institutional framework.

2.2.2 Methodology

In order to contrast environmental management of foreign direct investment in China with the findings by Dr. Paschen v. Flotow in a systematic and in-depth manner, Shi Han, author of the commentary paper has reviewed publicly available literatures (including web-based information) about environmental management experiences of German and other companies in China, and has conducted an investigation into environmental management activities of 23 German and other manufacturing enterprises in China. The primary goal of the investigation was placed on companies' environmental management systems, environmental awareness concerning technology transfer to China, supply chain management, product life cycle, staff training, and stakeholder participation. The investigation is based on additional interviews to representatives of some of the 23 companies.

In addition the author has also carried out a comprehensive case study on the Anhui BSH

Cooling Appliances Co., Ltd., which is wholly owned by the BSH Bosch and Siemens Household Appliances Co., Ltd. in line with the ten categories of the Survey.

This commentary paper has been produced on the basis of the above-listed sources of information and the case study.

The 23 companies investigated are: ABB China Ltd., Adtranz (which is owned by Bomardier now), ASC Telecom GmbH, Aventis (Hoechst), Babcock, BASF (China) Co. Ltd., Bayer (China) Ltd., Boehringer Ingelheim International Trading (Shanghai) Co. Ltd., Bosch, DaimlerChrysler, Haefele GmbH & Co. Hardware Technology, Hofmann-Nago-Pausch med. Equipment Co. Ltd., Jing Mu International Exhibition Corporation, Mac Panther (Hunan) Tools Co. Ltd., Mannesmann Demag Krauss-Maffei AG, Preussag, Siemens Ltd., China (SLC), SKW Biosystems, Staedler Mars GmbH & Co., Thyssen-Krupp, Shanghai VW Co., Ltd., and Wella, Zibo Cerdec Ceramic Colours Co. Ltd.

The next section of the paper will provide specific comments on the following categories/activities that had been investigated by the Survey:

- setting of environmental goals;
- technology transfer;
- environmental- and safety management systems;
- product life cycle;
- supply chain management;
- employee training and participation;
- consumer information;
- stakeholder involvement; and
- external reporting.

2.2.3 Specific Comments

a. Setting of environmental goals

For those TNCs that have their global environmental policies, many of their Chinese subsidiaries have adopted or start to adopt their corporate environmental policies. To adopt corporate environmental policy at the subsidiary site level has been primarily required by the TNC headquarters. The underlining motivations for adopting corporate environmental policies are to minimize regulatory liability, to reduce costs, and to pursue better public images. From the interviews conducted for the study, staff motivation has not been mentioned as an important driver for environmental policy in China. For that reason many TNC subsidiaries are not actively communicating their environmental policies to all their employees.

Some TNCs operating in China have linked their environmental policies with global environmental issues (such as global warming and ozone layer depletion) and multilateral environmental agreements (MEAs), for instance the Montreal Protocol on Phasing Out Ozone Depleting Substances and United Nations Framework Convention on Climate Change (UNFCCC).

One example is that ABB has been actively involved in reduction of greenhouse gases (GHG) emissions for the past ten years through the activities of its “Energy and Global Change” Corporate Research Program and through its participation in international programs, such as the International Energy Agency’s (IEA) GHG R&D Program. This program is looking at ways to prevent man-made carbon dioxide from emitting to the atmosphere.

There are some cases that FDI subsidiaries have developed their own environmental policies while pursuing an ISO 14001 certification. Very few cases show environmental policies have incorporated local environmental problems or linked to domestic environmental policy and context.

Additional recommendations out of the China study include:

- Environmental policy should rather be made known to all employees working at the company and made public to outside people. The fitness of corporate environmental policies to local context should be reviewed. In some cases, it is advisable that special environmental policy can be adopted in line with the local context and Chinese language and culture.
- Because some TNCs’ operations in China haven’t satisfied even local environmental discharge requirements (University of International Business & Economics, 1999), it is essential to formulate and follow minimum environmental standards. The minimum environmental standards must be at least more stringent than Chinese environmental standards and are preferably geared towards those being adopted in home countries. Although China applies national treatment in terms of environmental management, those foreign invested enterprises that adopt more stringent environmental standards are better received and acknowl-

edged by the government and public. Furthermore, China is speeding up the process of tightening its environmental regulation as well as implementation. It will also make economic sense that initial capital investment would take the trend into account in order to avoid expensive corrective action in the future.

- Internal environmental reporting mechanisms should be further enhanced by means of more corporate-wide guidance and training. More employees can be involved in the preparation of internal environmental reports and shall be informed of the environmental performance of their plants. Key performance data of FDI operations should be disseminated to Chinese governments and enterprises despite the lack of government regulation to disclose environmental performance information at this stage. It is in the benefits of TNCs if they want to push similar environmental standards in the host countries.

b. Technology transfer

Almost all TNCs involve some sorts of technology transfer and primarily place priorities to the core manufacturing technologies. The main driver for technology transfer is the production and quality assurance.

In general, it has been found that transfer of more advanced and efficient production technologies, which are usually energy efficient and environmentally sound, are very common when TNCs open their operation in China. This is essential to bring the cost down in order to compete in Chinese domestic market. Transfer of environmental management systems and skills are quite commonplace as well, while much more expensive end-of-pipe pollution control technologies tend to receive less attention and priority by TNCs when they invest in China. As compared to environmental standards, safety, chemical and health standards are more likely to conform to their global ones. This is partly because health and safety issues can cause more immediate crises while environmental liability is still insignificant in environmental regulations in China.

Box 1: ABB Joint Greenhouse Gas Chemistry Laboratories in China

Starting in the early 1990s ABB Corporate Research ran a Greenhouse Gas (GHG) Chemistry Research Laboratory in Baden-Daettwil Switzerland. The goal with this lab was to study the possibility of recycling the GHGs and so limit their emission to the atmosphere. The idea was to take the most common man-made GHG, carbon dioxide or CO₂, from the flue gases of power plants or other industry and combine them with hydrogen or another hydrogen donor to form a liquid fuel, e.g. methanol. This GHG laboratory ran for almost ten years or until the year 2000. Many highly qualified and well-known scientists worked in the lab during this time, including a large number of

Chinese specialists.

During the year 2000 ABB decided to donate the laboratory to the Chinese Key State Laboratory on C1 Technology located at Tsinghua University in Beijing and Tianjin University in Tianjin. During the course of the years 2000 and 2001 both of these laboratories were set up and are now both function and doing research as Joint ABB/University Laboratories. The Tsinghua University Lab specializes in the Thermal Chemistry of GHGs and the Tianjin Laboratory in the Plasma Chemistry of GHGs. Both laboratories continue to be run with full support by ABB. ABB is also involved in formulating the direction in which the laboratories move. The daily running of the labs is entirely in the hands of the Chinese scientists leading the labs and the respective universities.

At this early stage one can say that this technology transfer has been extremely successful. Already over 20 publications and a number of patents have been made. Success has been made on the road towards turning GHGs into useable liquid fuels, something China will need in great amounts in the future.

Source: ABB (China) Limited web site www.abb.com.cn

Some products that are made in China have partly been phased out from production in home countries such as Germany and the USA. This, however, generally does not imply that the level of environmental soundness is lower than it is in Germany. At some sites in China the situation of wastewater pollution is more serious than in Germany, which can be attributed to the fact that, unlike in Germany, production is not integrated within a large range of products and a centralized in-plant wastewater treatment facility except for BASF Yangzi Corporation which is an integrated model site. It is easier and more cost-effective to treat wastewater generated from a few products in combination than to treat wastewater out of different processes separately.

Jilin Petrochemical and Gaoqiao BASF Dispersion Company in Shanghai are joint ventures between BASF and Sinopec. In these cases, moderately pre-treated wastewater is forwarded to Sinopec for final treatment, where the required maximum of pollution is officially met. Sinopec, being a state-owned enterprise, can still refer to special agreements that were made some years ago and allow a higher level of pollution.

BACC in Pudong Special Economic Zone, Shanghai is wholly owned by BASF. In this case, BACC is deploying state-of-the-art production technology and equipment. The construction of a public wastewater treatment plant had been announced by the local government when BASF set up the site. However, construction has not been implemented so far, leaving the treatment entirely to BASF who reached an agreement with the city that tolerates higher pollution levels.

Additional recommendations consist of:

- Partnerships between governments of both host and home countries and TNCs can catalyze

more successful transfer of environmentally sound technologies, including end-of-pipe pollution control technology. German Ministry of Economic Cooperation sponsored Public-Private Partnership Program has proved to be useful and can be further expanded to involve more local enterprises.

- Governments of host countries should work on creating more incentive for TNCs to transfer environmentally sound technologies, including better protection of intellectual property rights, and more active involvement of TNCs in environmental policy dialogue and technical standard development.

c. Environmental management systems

As stipulated in the Survey, most TNCs have built a centrally coordinated international environmental and safety management system. Their subsidiaries in China follow the corporate environmental and safety management system. More and more companies have or start to pursue ISO 14001 certifications. This is advisable because ISO 14001 certifications will catalyze the institutionalization of internal environmental management systems and diffusion of environmental consciousness and skills to all employees.

Like other developing countries, the current practices due to relatively few companies to pursue ISO 14001 certifications and too many consulting firms and certifiers competing for the limited domestic market. In many cases, companies are simply interested in obtaining the certification without making true efforts in improving effective environmental management systems. TNCs can show case the cost saving and environmental benefits of seriously implementing ISO 14001 EMS.

d. Product Life Cycle

Some TNCs are playing an instrumental role in promoting the life cycle impact concept in China. For instance, one of ABB's most ambitious collaborative programs is the China Energy Technology Program (CETP), managed by ABB in conjunction with the Alliance for Global Sustainability (AGS). The two-year program involves a team of 75 scientists, academics and engineers in three continents whose aims are to develop a generic methodology for assessing the "real" impact of electric power generation from cradle to grave, taking energy technologies and their environmental impact into account. The program has the potential to bring significant benefits for the environment, not just in China but globally. Above all, it should help China to raise its people's living standards toward Western levels, without repeating the mistakes the West has already made.

Additional recommendations in terms of product life cycle involve:

- TNCs can play a proactive role in promoting the development of sustainable logistic and dis-

posal/recycling infrastructure by participating in policy dialogues, initiating pilot projects, and knowledge sharing.

- TNCs should introduce life-cycle analysis, design for environment and other eco management tools to their Chinese subsidiaries. The TNCs can share their expertise and experience with Chinese governments and enterprises in these fields.

e. The supply chain

Green supply chain management will be playing an extremely important role in raising environmental awareness and diffusion of environmentally sound technologies among industrial clusters. Governments of both home and host countries should work together to encourage TNCs to green their supply chains by:

- Gradually incorporating environmental requirements into the technical and quality specifications and assist local suppliers in satisfying the requirements;
- Sharing the costs through bilateral and multilateral official development assistance to promote mutually beneficial collaborations related to environmental protection and community development between TNCs and their local suppliers.
- Establishing joint information and training facilities to local small and medium-sized suppliers in partnerships with government.

f. Employee training and participation

The training on environmental, health and safety awareness and skills should be extended to all levels of hierarchy rather than some segments of employees. More local contents and trainers should be developed.

Some companies have even developed better institutionalized mechanisms for training activities. Each of Siemens' joint ventures has appointed an Environmental Officer as the focal point. The Environmental Officers provide regular training for the employees. Once a year training courses are given at the Beijing Center for the Environmental Officers.

g. Consumer education

In China environmental soundness of products is still of little importance to customers. Some companies keep low profiles of the environmental superiority of their products. Some other companies decide to take a more proactive approach in this aspect. For instance, Siemens wants to en-

force awareness and influence policy makers positively to encourage environmentally friendly production. The idea has come up that Siemens give seminars on cleaner production to officials of the State Environmental Protection Administration (SEPA) and maybe also to Chinese industry in the future.

Additional recommendations include:

- Integrating environmental knowledge into the training programs of the retailers and sales people. They can then disseminate the relevant environmental knowledge to customers more effectively.
- Enhancing environmental consciousness and knowledge dissemination via the Internet.

h. Participation of social interest groups

Some TNCs have been playing active role in working with other stakeholders to promote sustainable development. For example, Volkswagen signed a memorandum of understanding with the State Environmental Protection Administration (SEPA) on the control of pollutants from vehicles in December 2000. Under this co-operation agreement, the two sides would focus on how to reduce pollution in the car industry. Volkswagen would provide technical and financial support to the project, which will last until 2002. Mr. Xie Zhenhua, minister of SEPA, stated that tight control on pollution from vehicles would benefit China's efforts to safeguard the environment and would also enable the automobile industry to develop further in China.

Box 2: GBGSD -- Promoting Cooperation and Sustainable Development

The German Business Group for Sustainable Development in China (GBGSD) has been established by members of the German Chamber in Beijing in the course of the Sino-German Environment Conference 2000 - Joint Ways Towards Sustainable Development. Presently the GBGSD is comprised of: ABB China Ltd., Babcock Borsig AG, BASF China Ltd., Bayer (China) Ltd., Dragon Consulting, Gerling Insurance Company, Siemens Ltd., China, SINOSPHERE Corporation, Beijing SULO Mobile Garbage Bins Co. Ltd., and TÜV Rheinland (Beijing). Utilizing the experience gained during the last few decades, GBGSD aims at Promoting a closer cooperation in the areas of environmental protection and sustainable development among the Chinese and German governments, industries, and related organizations.

GBGSD hopes to provide a forum to share experiences and knowledge in order to effectively reduce industrial pollution and promote a profitable business environment in China. Its members have accrued ample credentials in the field of economic development and environmental protection. They have been actively pursuing approaches that allow profitable and sustainable business

activities, which integrate environmental protection and social responsibility. The GBGSD understands that the role of industry is to promote efficient production based on environmental protection and social responsibility, as well as to provide innovative, cost-effective, and financially feasible solutions for the implementation of government regulations and to seek proactive solutions in close consultation with governments, society, and non-governmental organizations. The GBGSD thus being in a lead position to promote effectively Chinese-German cooperation in industrial environmental protection work.

Source: German Business Group for Sustainable Development in China, 2000

Environmental non-governmental organizations (NGOs) have just started to emerge in China over the past years. Their activities still very much confine to public environmental awareness raising and natural conservation. It is interesting to find that some TNCs have played a significant role to assist the fledging environmental NGOs in China. For instance, Ford Motor China, Ltd. launched a well-known Ford Motor Environmental Protection Award. Many China's environmental NGOs have been granted this award. To date, there have not been major conflicts between China's environmental NGOs and TNCs.

Chinese experience leads to some additional recommendations:

- It is recommended that TNCs should build good relationships with governments, industrial associations, and social groups on sustainable development and environmental protection.
- It is also recommended that TNCs actively take part in and facilitate the dialogues and processes that lead to the formation of local business councils for sustainable development in host countries.
- TNCs can contribute significantly to the ongoing policy debates on energy labeling system and recycling of home appliances and other electronic appliances.
- TNCs can continue to play an important part to support the development of Chinese environmental NGOs.

i. External reports

Out of 23 companies investigated by the author, 10 companies publish annual corporate environmental reports and the rest 13 do not. With the increasing importance of their Chinese operations, more and more TNCs start to incorporate environmental practices and performance of their Chinese subsidiaries in the corporate environmental reports. However, The corporate environmental reports of Aventis, Bayer and DaimlerChrysler do not contain any details about environ-

mental activities in China, despite Aventis being a member of the World Business Council for Sustainable Development and Bayer being a member of the German Business Group for Sustainable Development in China, as well as DaimlerChrysler's comprehensive environmental activities in other countries.

So far, still very few TNCs publish environmental reports in Chinese. Exceptions are that ABB China has translated the summaries of their corporate sustainability reports for 1998-2000 into Chinese and Volkswagen translated its corporate environmental report in 2000 into Chinese for the first time.

It is interesting to find that different TNCs have varying priorities towards dissemination of the information on environmental and safety management via the Internet. ABB (China) Ltd. has made sustainable development a very important component in its web site and includes the Chinese version of their corporate sustainable development reports. Siemens China, Ltd. has also included substantial information in both Chinese and English about the environmental and energy features of their refrigerators in its web site. A senior representative of Volkswagen China expressed the importance to distribute their corporate environmental report via the Internet. However, it is impossible to find any environment-related information from the web site of Volkswagen, which is primarily an e-marketing tool.

It is recommended that more TNCs translate and publish their corporate sustainability/environmental reports in Chinese for wider distribution. Some forerunning TNCs might summarize and disseminate their environmental performance for experience sharing with Chinese governments and companies.

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2.3 Jose PD - India

Comments on the survey

Jose PD

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October 5, 2001

2.3.1 Introduction

In general the results from the survey indicate that there exist several similarities between the Indian and German experience. However there are also some points of difference, which arise from the differences in the contexts that these companies face at home and abroad. The following comments are based on several secondary sources as well as primary data obtained through interviews with managers of several multinational companies. This data pertains all FDI inflows into India from several countries and is not limited to German firms. A wider sample was included to increase generalisability of the findings and also reflects the immediate availability of data for this study.

2.3.2 Specific Comments

a. Setting of environmental goals

In India as elsewhere in the world, almost all transnational companies follow their global environmental policy. Some of the main advantages pointed out by them include (in addition to those mentioned in the summary)

- Lower total costs
- Increased stakeholder acceptance, and
- Avoiding liabilities

Most firms operating in India do not see environmental goals as a means of gaining competitive advantage, as environment has not yet become a differentiating factor for selling products and services. For instance Henko, which emphasizes the environmental friendly nature of its products does not have similar advertisements in India. One sector where the competitive implications of environmental issues have been analyzed in the Hotel industry. Several foreign and domestic chains are now in the process of leveraging on their environmental management systems to build and sustain corporate reputation and attract clientele.

From a financial perspective however, Indian companies and customers are used to environmental differentiation. This is best illustrated in the case of Adtranz, which introduced Indian Railways to the 3-phase locomotive technology that was energy efficient. This subsequently became one of the parameters on which Indian Railways evaluated competing bids. With energy costs being very high, particularly in the chemical sector, where almost 60% of the costs were energy related the concern about energy conservation is very high. Also energy efficient lamps marketed by General Electric and Phillips have met with a fair degree of success.

Another important reason for firms setting environmental goals relates to the fact that environ-

mental groups in India are better organized and may often access the foreign parents of the Indian subsidiaries. An example is the case of an aluminum unit, which heard about the local pollution problem from the parent company that was directly contacted by the local NGO bypassing the local subsidiary.

Environmental groups activism has in fact been a very strong driver for companies to set environmental goals.

In general Employee motivation is not a strong factor in the Indian context for setting environmental goals. With the high levels of unemployment, most of the Indian workers have limited choices regarding their work environment. However the motivation levels of environment and safety professionals was high in some of the transnational companies studied. This may be related to the influence of the parent on the subsidiary company.

Most of the companies maintain relatively low profile regarding their environmental activities. They not publish their environmental policy in external publications. However almost all have internal publications on environmental management. These are normally made available on request.

In India, as in some other developing countries, the price competition in some sectors such as chemicals and pharmaceuticals sector is very high. This means that the industry's attention is focused on cost minimization. Investments in cost adding environmental control activities (implying increased operational costs) are likely to be delayed as far as possible. This is particularly true as in the Indian context, where competitors with poorer environmental values and performance, sometimes enjoy a competitive advantage over other environmentally responsible companies.

Overall, the effectiveness of setting environmental goals by the Parent company as well as the subsidiary may be reduced greatly because of the propensity of the subsidiary companies to contract out polluting activities outside At the vendor level most companies focus on quality issues and environmental issues receive little or no priority.

Comments on the recommendations:

- Increased use of worldwide goals and their monitoring
- The important issue is to monitor the implementation of existing standards by the companies in their host countries.
- Further development of international and site specific EHS standards and according certifications

The Indian experience with ISO 14000 is somewhat similar to its experience with the ISO quality standards. With a large number of companies (over 200 at the last count) going in for ISO 14000 the competition among certification agencies have intensified. As a result the certification process has lost some of its rigour. There is now a proposal to introduce more stringent standards

on similar lines as EMAS in India.

- Further development of environmental reporting systems

Some third party initiative is already under way in India. Though companies are not involved, the Global Reporting Initiative has already identified several affiliates in India to carry on its work.

b. Technology transfer

As noted in the summary, the main driver of technology transfer is product and quality assurance. There are few cases of transfer of specific environmental technologies. It needs to be noted here several of the new generation technologies are inherently energy and environment conserving and to that extent there is an automatic transfer of systems for environmental management and pollution control. However, in most cases quality assurance is the single most important concern that drives technology transfer. Some of the reluctance to share technologies may be related to the relatively poor intellectual property regimes that currently exist in India. However this situation is likely to change significantly in the near future.

End of pipe technologies, when not determined by production technologies, are most often determined by India standards as well as costs. There is no evidence of special efforts being made to transfer environmental control technologies.

Comments on Recommendations:

In the Indian context, it is very important consider social legitimacy as important or even more important than legal legitimacy. There are several instances of transnational firms having to shift their operations despite strong legal support because of political/social pressures. This trend is only likely to increase in the future. In this context it is important to realize that most of this debate is spearheaded by special interest groups. For instance the Clean Air Network, which spearheaded the movement for enforcement of Euro II and III norms in the automobile sector, is the activist arm of a local institute/organization Center for Science and Environment (CSE). Two research and extension institutes, namely Tata Energy Research Institute (TERI) and CSE, have framed much of the parameters of the debate. They have also made significant attempts to mold public opinion. Though there are several international players in the Indian automobile sector, most have been passive observers in this debate.

It may be desirable to introduce German SMEs into the supply chain to ensure quality, especially in cases where comparable skills and materials do not exist in India. However the requirements of long-term sustainability are met only if the appropriate technology is transferred to local vendors. Given the flux in the political situations in countries such as India, developing local sources would also be a sound political strategy.

c. Environment management systems

Most transnational companies in India have a centrally coordinated environmental and safety management system, which undertakes multiple activities to improve local environmental performance. Some of the companies such as Phillips and Aventis also lend their expertise to other enterprises in the areas of environmental management safety. For instance the environmental team from Phillips Holland visits India at regular intervals and was involved in training programmes for Indian managers. Other senior managers from transnational also routinely advise the local industry on issues related to environmental management leading to some diffusion of environment and safety management systems.

While the responsibility for the implementation does not rest with the headquarters alone, the potential for liabilities could largely end up at the parent company's door. The judgment in the Union Carbide case illustrates this. The case was ultimately tried in India under Indian laws while the compensation was paid for jointly by the Indian subsidiary and Union Carbide Corporation. Earlier judgments in the Indian courts highlight the issue of liability. In the judgment in the case of gas leak in Shriram (a well diversified industrial group in Delhi) Indian courts ruled that in the case of environmental mishaps the principles of strict liability (fault is not required to be proved) as well as absolute liability (compensation is limited only by the defendant's ability to pay) would apply. Fortunately for the industry subsequent judgments have not applied the principle of absolute liability but there is no reason why it may not be invoked in the future. In conclusion, while operationally the responsibility may be assigned to the subsidiary, legal responsibility for clean-up as well as restitution are with both the parent as well as the subsidiary company.

Some of the factors that limit the engagement of TNCs are (in addition to those already mentioned in the summary)

- Trade off between environmental cost and profitability
- Differing educational and literacy levels, differing expectations about quality of life
- Fragmentation of the stakeholders at the site level, requiring multiple interactions with several stakeholder categories, each often working at cross-purposes with others. For instance while environmental standards are specified by the regulatory agencies and licenses granted by the political administration, actual implementation of systems at any site is dependent on practical considerations such as expected community response. Within the local community itself there are often divergent interests and the managerial costs of synthesizing these diverse opinions is likely to be high.

Comment on Recommendations

In India several attempts have been made by the regulatory agencies to formalize audit and

reporting systems. However these attempts have not been successful in the absence of adequate political and administrative support. The utility of ISO 14000 certification is also now being questioned given the disparity in the service standards of major certifying agencies.

Separate protection funds are a good idea. Something similar has already been initiated in India under the Public Liability Act where firms are required to deposit substantial amounts with the District Administration. Further the Indian government has also created district level disaster management plans to deal with exigencies. These are planned in consultation with the local industry. We suggest that the involvement of the foreign companies in this exercise be strengthened.

d. Product life cycle

Product life cycle issues are seldom systematically analyzed in India by both domestic as well as foreign investors. Environmental investments are mostly made on a case-by- case basis rather than as part of any strategic plan. Reforestation is a very popular activity among all industries, both domestic and foreign, but such reforestation is a peripheral activity that has no influence on the major activities of the firm. Recycling systems are rarely present in these firms. Also, most companies do not follow any life cycle assessment. This may be due to the lack of adequate data for conducting a complete life cycle analysis. It may also relate to a lack of interest since product life cycle analysis is not widely practiced in India.

e. The supply chain

The effect of foreign direct investment in greening the supply chain is limited. As noted before, several firms take an easy route to clean production, that of farming out polluting activities to small and medium scale enterprises which normally compete aggressively on price and quality and pay little attention to issues such as pollution control. Auditing of suppliers is primarily carried out for quality assurance. Even in instances where some multinational companies have offered to carry out environmental audits fro their suppliers the response has been poor. In general environmental auditing along the supply chain are carried out only at the request of the suppliers.

There are several difficulties in increasing the environmental performance in the supply chain. Even in situations where the transnational firm has adopted a proactive approach its impact was limited, primarily because of the lack of assurance mechanisms. This means that even if the SMEs were to voluntarily follow the environmental standards specified and in the process adding to its costs, there is no guarantee that it will become a preferred supplier or get guaranteed business. As a result SMEs have little or no motivation to improve their environmental performance.

Other issues that act as barriers to greening of the supply chain include:

- Lack of access to finances for investing in environmental management systems

- Small vendor base capable of delivering specified quality levels. As a result the Indian subsidiaries are forced to depend on a few vendors and often ignore environmental issues
- The lack of suitable infrastructure such as product testing facilities etc
- The poor enforcement of environmental legislation

Comments on the Recommendations

All the suggestions mentioned here are good, but some practical difficulties can be foreseen.

- Even now many firms have stringent requirements for the suppliers but the exigencies of quality and cost make these standards irrelevant
- Training of local employees at the local site is a possibility, but the issue of meeting the costs of the training needs to be addressed.
- The recommendations also need to address the core issue; allowing suppliers, particularly SMEs, access to finances needed for environmental investments. Financial assistance from Banks may be obtained if there is adequate assurance of market for the products manufactured. Hence long term arrangements with suppliers would greatly increase their motivation to adopt and adhere to higher standards
- The single most important way to influence supplier behavior would be through industry associations. The transnational companies must play a greater and more visible role in national standard setting bodies as well as industry associations.

f. Employee training and participation

Most companies have well detailed training programmes. However very few have identified measures for employee motivation or environmental productivity. A large part of the training is related to safety issues. Information brochures etc have played an important role in educating employees.

Some proportion of the employees at any site is working under contractors. This contract labor is often unaware of environmental issues and is often exposed to hazardous environments in the course of their work. Firms need to evolve some methods to increase the environmental awareness levels of the contract labour. Audiovisual methods are most likely the suitable medium for training such employees.

There is a strong need to introduce new and innovative measures to improve employee participation. An interesting practice observed in an Indian company illustrates the role of employees in environmental problem solving. This company established several environmental quality circles in different departments to discuss environmental problems and evaluate solutions. Despite the poor

levels of literacy these committees proposed several innovative solutions, which were later, implemented by the management.

g. Consumer education

While compliance with raised health standards and avoidance of dangerous materials may offer significant advantages in developed country contexts, it is not so in India. However lower energy consumption is an important issue due to the escalating energy bills in India.

In general most companies may not have a significant opportunity to influence consumer behaviour from the supply side, except through energy conservation issues. Some attempts have been made in this regard by foreign automobile companies such as Ford, Fiat and other manufacturers such as Electrolux, Siemens, Whirlpool etc. No transnational firm has made any significant attempts educate consumers on environmental or product safety issues. There are a few exceptions, notable among them being the attempts by Seagram (US based liquor manufacturer) and excel industries (an Indian company manufacturing pesticides and agrochemicals) to promote responsible use of their products.

However in the future we expect this to become a significant issue of concern to transnational firms operating in India. Organizations such as Consumer Education and Research Centre (CERC, located in Western India) is actively involved in independent product testing. There is also a strong possibility of liability claims being brought against several categories of products, particularly tobacco.

Given this our strong recommendation would be that the transnational firms must develop partnerships with the local research and education organizations to leverage on their credibility and gain acceptance locally. Also consumer education efforts initiated under such a partnership are more likely to be successful in the long run.

h. Participation of social interest groups

In the recent past almost all foreign investors have made attempts to establish contacts, at an early point in the project, with special interest groups, local community and other interested stakeholders.

The need for getting all stakeholders to buy-in into the project is highlighted by the nature of legal action being initiated against several foreign investments in India. The best example of this is the joint venture between Du Pont and Thapars (a large industrial house in India) for nylon manufacture. Despite significant progress having been made in the construction of the plant it was relocated from Goa in western India due to local community pressure. This project was moved to Kar-

nataka and finally to Tamil Nadu, where once again it is under scrutiny by a local special interest group. The experience of Cogentrix power project also is similar. Despite intensive attempts by the top management of the company, and despite the special status accorded to it by the local state government, the project had to be scrapped because of objections from environmental groups. There have been several such incidents in the last decade.

For several categories of projects a public consultation is now mandatory under Indian laws.

Comments on the Recommendations

- The single most important factor for success is correctly identifying the relevant stakeholder groups at the earliest and negotiating with each group independently rather than collectively. It is virtually impossible to discover common ground between the different categories of stakeholders and hence optimal solutions that satisfy all demands may have to be worked out.
- A good practice would be to co-opt a local organization/special interest group in the project planning process itself, or at the very least, as soon as approvals are obtained from the government.
- An early contact with opinion leaders in the community
- Voluntary disclosure of all environmental data to all interested parties, a practice that is not currently followed by any of the firms studied.
- A comprehensive communication strategy, which includes risk communication

i. External reports

Most transnational firms in India do not produce external reports or their reports are not easily accessible. Their environmental achievements are also underreported in the media. The general reasons cited for not releasing this information are the following

- Fear of stakeholder pressure and even attempts at greenmail. This is occasionally a valid response as environmental debate in India at times is carried out more at an emotional rather than rational level. Hence there is a strong interest in the firm to reduce exposure to environment and related risks.
- The general market conditions in India, which do not really support or encourage environmental/stakeholder reporting. The traditional approach in most Indian companies has been to treat environmental emissions related data as confidential. Most foreign companies are

also trapped in this mindset.

- Absence of legislative or administrative requirements to do public reporting. This is likely to change in the future with the likelihood of the Indian government introducing an EMAS like system in India. The Global Reporting Initiative has also initiated some actions in this regard.
- There is an absence of adequate prior experience in reporting environmental issues. Current reporting is limited to energy efficiency issues and environmental restoration activities such as reforestation, which normally find a mention in the annual reports.

Given the above, we would recommend that monitoring of performance as well as reporting be global. This means that at the corporate level every facility, regardless of location, is analyzed from an environmental impact perspective and the performance reported in a similar manner to the global audience, which includes the host country.

2.3.3 Sources:

Secondary Data sources:

1. India Business & Industry Database (IBID)
2. Prowess Database (Centre for Monitoring Indian Economy)
3. The Ministry of Environment & Forests website
4. FDI references in Business Standard, Business Today, etc
5. Report on integration of environmental requirements into FDI: Indian case studies
6. Down to Earth

Primary Data Sources

7. Discussions with managers of several multinational companies including: Phillips, Indal, Hoechst Marion Roussel, Adtranz, Siemens.
8. Discussions with managers of several Indian companies
9. Discussions with colleagues from several academic and research institutions including, Indian Institutes of Management at Ahmedabad and Bangalore, Development Alternatives, New Delhi

2.4 Anthony Butler - South Africa

Comments on the survey

Associate Professor MA (Oxon) PhD (Cantab)

Director

Political and Policy Uncertainty in South Africa (PUSA) Project

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Second supplementary draft 12 December 2001

Environmental Management Survey responses

2.4.1 Responses to EBS survey from South African practitioners

I interviewed six environmental consultants, four of whom had worked previously in the academic sector. One works for an international management consultancy, and the other five for smaller domestic environmental consultancies. Three are based in Cape Town, one in Durban, and two in Gauteng. Their responses are summarised by section.

Unfortunately there are no systematic academic studies of the environmental management performance of German companies in South Africa. Indeed, the academic literature on environmental management is very limited in this country. For this reason it is not possible to support or refute these expert views by reference to the literature.

a. Setting of environmental goals

German companies, in comparison to other TNCs in SA

- Are more likely to have a sophisticated environmental policy
- Publish their environmental policy more widely
- Are more likely to use globally accepted standards
- Demonstrate greater awareness of sustainability issues
- Demonstrate a 'healthy' or 'positive' attitude towards environmental issues

The German company head office recommendations, taken from the EBS survey, were generally viewed in a positive light, with the following exceptions:

- Regulatory change tends in all spheres to impact negatively on smaller businesses. The emphasis in environmental management should therefore be on systems for small and medium sized enterprises (SMEs) and not just for trans-national corporations (TNCs). The enforcement of international standards, designed around the practices and capabilities of large businesses, can effectively penalise smaller operations seeking to enter international markets. Environmental regulation in this context can effectively create trade barriers to developing country SME exports.
- There needs to be more emphasis on Sustainability issues.
- For example, one respondent stated that the discussion around Ecological Footprints is valuable, but must take into account the impacts of policy changes in developing countries

and not just the TNC.

b. Technology transfer

There were some very positive comments on the extended history of benevolent technology transfer from Germany:

- Innovation and technology transfer has taken place across decades
- Through all the years of sanctions, Volkswagen, Mercedes Benz, Opel remained in South Africa and effected transformation through 'constructive engagement'.

The following recommendations were fully endorsed:

- German companies should aim to use equivalent technologies world-wide primarily "to ensure coherent production and product quality standards".

Companies' comments and plans should include:

- Decisions should be primarily based on business considerations
- World-wide standards should be adopted and promoted

However, the following qualifications were expressed

- These recommendations should be understood in the context of assessing impacts on developing countries – not just own business (market risk) considerations
- The companies operate in a global market / environment and so they must accept global issues. Specifically they must address developmental issues and the disparity in livelihoods. Development and inequality issues are highly politically charged in South Africa.
- World wide standards are acceptable, provided these are driven by and accepted by "the world" and not just the developed world or the particular company to try and protect its market. Subsidies and dumping are completely unacceptable in any circumstances, but especially so when perpetrated by developed against developing countries.
- One example of this would be in the practical effect of the "good" policy to have a percentage of packaging recycled in Germany. This resulted in surplus waste paper, consequent dumping into South Africa, and so local companies going out of business and a drop in local recycling rates and jobs! The point is that the full effects – social and environmental -- must be understood and acknowledged before decisions are taken.

c. Environmental management systems

- The recommendations were supported.

- In particular there was support for an overarching policy with local adaption and implementation, monitored by Head Office to check for compliance with their policy
- Certification of foreign sites to ISO14001 is supported. However, consultants insist that certification in some instances will require quite fundamental changes in the operating systems and institutional cultures of particular business units.
- Variability in certification standards and agencies currently makes the certification process unreliable. However, this will change over time as the certification bodies improve their coordination. South Africa is currently very early on in the cycle of the certification business.
- One respondent commented that “the ISO series have almost the standing of ‘dog licences’.”

d. Product life cycle

German companies are agreed to be well in advance of competitors in:

- disposal and recycling systems
- verification of input supply

However, the following qualifications were advanced:

- They still only consider mass and energy and not the social issues
- It is “pointless being “green” and checking LCAs of products or processes when unemployment levels are over 25%”.
- There should be more focus on social issues, such as empowerment and who one buys from, how the product could be made in alternative way which benefits more people, while still being environmentally responsible.
- Specific conflicts of interest may occur where ‘black economic empowerment’ policy favours procurement and partnerships with black owned or managed businesses despite their relatively poor environmental management performance. Black businesses are often small and face considerable managerial stress. In addition, employment creation is a pressing concern in South Africa and needs to be creatively built in to second-best solutions to environmental problems.

e. Supply chain

- German companies are believed to offer good support their suppliers through advice on technology

The following German companies' recommendations are endorsed

- the formulation of concrete requirements for the suppliers of the foreign sites
- training for the relevant local employees at the foreign sites
- development of joint training measures for the suppliers together with competitors

The specification of a common phase-in period would be advantageous (BMW mentioned by one interviewee here).

f. Employee Training and Participation

- German companies' claims and recommendations were broadly endorsed
- The companies are already acting in line with their recommendations
- Integrating employee representatives into decision making processes and emphasising the link between environmental protection and health are especially significant
- Transformation in the workplace through enlightened employment policies must go hand in hand with concern for the workers environment in the factories. This concern must in addition spread to the host environments of the plants. "The environment also includes the economic environment in this case."

g. Consumer education

- German companies believe higher public relations spending on environmental management matters makes business sense
- Two respondents noted that there is evidence in South Africa that this helps performance, improves brand image, and positively effects share price.

h. Participation of social interest groups

German companies have been adopting the following desirable practices

- Early contact with local NGOs
- Voluntary publication of detailed environmental data
- Good contacts with employee/trade union representatives
- Daimler-Chrysler (a Patron Affiliate Member of the Institute of Waste Management of Southern Africa) was highly praised
- Local community group participation can bring benefits. Consultations associated with Bayer

Chemical Company's EIA process (required for the extension of the plant in one of the more sensitive areas in South Africa - the South Durban Industrial Basin) helped the company to develop a very good working relationship with the local community. Bayer has "benefited as a result of genuine openness and transparency being demonstrated by its management team". This was "an excellent example of a company wanting to do the right thing for the right reasons", claimed one respondent.

i. External reports

- German companies orient themselves on a number of standards
- Which standards are most appropriate for the SA context? ISO at present from the companies' perspective, but ideally (there was consensus on this issue) GRI in the longer run.
- Environmental reports should be discussed with stakeholders/employees in advance of release
- Certification procedures in South Africa are currently only of moderate reliability. There are currently too many organisations operating in this area. However all respondents were expecting consolidation and an equalisation of standards at a higher level of competence.

Respondent details

Three of the respondents preferred not to be identified. Three would be happy to be thanked for their participation.

John Raimondo

Managing Director

African Environmental Solutions (Pty) Ltd

Ray Lombard

Senior Member

Lombard de Mattos & Associates

Arend Hoogervorst

Director

Eagle Environmental

2.4.2 Review of literatures on TNC environmental management performance in South Africa:

I conducted a detailed review of university library, NGO, and business school research databases. There is virtually no systematic research in this area. What is available is either in the form of practical 'how to' articles in business publications for domestic businesses (see bibliography below for key examples) or surveys and reports conducted by international management consultancies.

Of these latter, the most useful is:

KPMG South Africa, Research and Survey Report on Environmental Accounting in South Africa (<www.kpmg.co.za>).

This report deals with the performance of domestic companies only and highlights a lack of appropriate accounting and information management practices. KPMG is the most prominent of the big practices in the environmental management area. They currently post a number of EM reports on their website.

2.5 Philippe Bergeron – South East Asea / Singapur

Comments on the Survey

**Phillipe Bergeron
Director
Regional Institute of Environmental Technology**

February 2002

2.5.1 Specific comments

a. Setting for environment goals

The different handling of full fledged subsidiary company and/or a company in which a MNC has a minority/majority stake is worth investigating further. It seems that a company takes reputational risk much more seriously if the MNC brand name is directly at stake. An associated company in which a MNC company has a majority stake may be less strict in terms of environmental management and performance. A n associated company in which an MNC has a minority stake may be even less strict not last because the local partner is less aware of environmental risks and may have the power to decide on the preferable environmental policy and action.

In terms of policy it is indeed probably cheaper and more efficient from a strict engineering point of view to apply global technology specification and standards often based on home office experience and practices.

The tendency seems indeed to be toward international but site-specific EHS systems using international standards like ISO 14001, or OHS 18,000 or even SA 8800 (Social Accountability).

The issue of the quality and credibility of the certification (corruption, lack of national accreditation body) is becoming in Asia a growing concern that can undermine the overarching objectives and acceptance of the standards by the international business community.

b. Technology transfer

One creeping issue in Asia may be the in kind transfer of older technologies from home country to host country investment as part of a FDI. For the argument sake the export of an used truck or older oil refinery from Germany to India as part of a FDI deal.

Such technology transfer still displace upward the host country technology base but the introduced technology may not be up-to-date nor further acceptable in the home country.

Here the principle of home country rule should apply. If the introduced technology is still authorised in a home country (while being perhaps less efficient) it should be allowed to be . If a process is becoming obsolete and forbidden in a home country, reexport in a host country should be forbidden.

The main difficulty faced by European FDI investor in Asia is discriminatory practices between foreign and domestic direct investment with regard to environmental practices and performancei. In resource or market seeking investment this may kill the competitive advantage of a FDI. In an efficiency seeking investment targeting reexport, the ultimate customer in home country may ensure that the higher environmental standards used by the FDI help him keep an competitive advantage.

c. Environmental management systems

The main two weakness of the ISO 14,001 standards in Asia is

- 1) Focus on the system improvement only without due regard to practical environmental improvement achieved by the system.
- 2) Absence of public publication of objectives and target which enable company to focus on non important environmental aspects and fool public scrutiny.

d. Product life cycle

Product life cycle in Asia is in infancy.

Weakness of the process is the constraint of the need for boundrary which make comparison often impossible.

It would be a great advantage for everyone if common rules and benchmarks could be developped for three common elements of any Products Life Cycle Assessment ie. Transportation, Energy use and Waste management. The absence of comparative rules and standards figures make it impossible to have meaningful comparison of a LCA with another one.

On the other hand the best value of a LCA seems to be when the process is applied partially (tight and limited scoping boundary) to help improve an input and material used in a product (often high tech complex product).

There is broad scope and opportunity for consulting business for enhanced use of Eco-design and LCA in product that are designed in Asia. Lack of innovative culture however make such progress difficult outside Japan.

e. The supply chain

Forcing German standards throughout the supply chain may indeed be counterproductive.

The use of open,management and system based international standards like ISO 14001, OHS 18000 or SA 8800 may be better because it gives better capacity for FDI in host countries to take advantage of different regulation and different natural endowment of country.

These standards however need to strengthened so that they practically lead to environmental improvement.

It is felt that voluntary instruments can only go that far and that enabling regulation (always the ultimate prime driver in environmental action) at the company act level (Definition of company and

director responsibility) need to be addressed.

In most countries a director of a company is required to execute his power and discharge its duty in the interest of the shareholder (only). Unless share holder have adequate responsibility and control to ensure that environmental and social issues are respected (next to never the case in reality) , director fiduciary responsibility toward shareholder may be sub-optimal and insufficient. Shareholders are interested in profit maximization which forces directors to externalise costs (environmental, social) as much as they possibly can. The higher the externality the lower the internalisation of cost and therefore the higher the prospect of profit. In fact along this way of thinking, a director trying too hard to internalise proactively environmental or social cost may be infringing and injure its fiduciary responsibility toward shareholders. There is therefore no surprise to see that many voluntary instruments remain too often lip service in terms of reducing practically environmental aspects and impact.

To force a company director to start internalizing (environmental) externalities, it may become necessary to add a sentence in the company act at the end of the key sentence that gives power to director to act in the interest of shareholders. This sentence should possibly simply read " A Director discharges his duty in the interest of shareholders but not at the expenses of the environment, the public safety, the local communities where the company is operating or the dignity of its employee".

This additional sentence would place at the fiduciary responsibility level the obligation of director to ensure that their pursuit of maximizing profit is qualified to ensure that this does not take place as the expenses of. . . .Up to the director to see to it that indeed this responsibility is not injured.

f. Employee training and participation

If technical training and skills upgradsing is very demanded in Asia, empowerment of employees toward broader public good issues is not really encouraged in corporate Asia.

Employee training in Asia has to offer tangible value in return for the employer

g. Consumer education

Green consumerism is hard enough to stimulate in Europe. In Asia it is next to impossible especially if its means paying more for a green product.

Eco-labels in Europe are perceived in Asia as trade barriers due to the difficulty to get them and the multiplicity of labels to be applied for to cover the whole of Europe.

h. Participation of social interest groups

In the context of Asia mandatory disclosure would be probably better able to mobilize companies to report on their environmental and social performance.

Three keys dimensions would need to be reported publicly (which of course is not the case yet.

- 1) Compliance with local and country host regulation
- 2) Any material environmental or social impact that come to the knowledge of the company
- 3) Any contribution in kind or payment to a government agency, an elected representative or a public position of influence

3 Survey on the environmental management of FDI

Summary of the Appraisal

**Commissioned by the
German Federal Ministry of the Environment,**

UFOPLAN Project 201 14 106



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Institute for Environmental Management and Business Administration
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Oestrich-Winkel, 28.9.02

Preliminary Remarks:

The process of globalisation results in an increasing significance of FDI activities, particularly for the economic and technological development of developing and newly industrialised countries. At the World Summit on Sustainable Development 2002 („Rio-plus-10“), in South Africa, representatives from politics and business will have to explain what progress they have achieved since the 1992 Rio Earth Summit concerning the set goal of sustainable development, and how they plan to proceed from then onwards. With this in mind, the Federal Ministry of the Environment (BMU), together with representatives from the business community, trade unions as well as from development- and environmental groups has started an initiative for a dialogue about foreign direct investment activities and the environment.

The goal of this process is to supply concrete suggestions on how companies can structure their FDI activities in a way as to better contribute to environmental protection and sustainable development. The BMU initiative comprises all German companies involved in FDI activities. The results of the dialogue initiative will be used in the preparations of the World Summit 2002 and presented at this occasion. The BMU has commissioned the Institute for Environmental Management and Business Administration to do the background research for this project.

One critical component of the dialogue process is a survey on the practical experiences with FDI. The objective is to gain deeper insights into the mechanisms, critical success factors and tackling of difficulties encountered in the process of implementing environmental management in FDI activities.

In the context of the survey, the following categories / activities were examined:

- setting of environmental goals
- technology transfer
- environmental- and safety management systems
- product life cycle
- supply chains
- employee training and –participation
- consumer information
- stakeholder involvement
- external reporting

This summary is the first result of the dialogue. It is based on a survey of German companies undertaking FDI activities in developing and newly industrialised countries. It was developed by the Institute for Environmental Management and Business Administration, discussed with the project steering committee in February and March 2001.

Members of the steering committee are representatives of the business community (Federation of German Industries, BDI; Chemical Industries Federation, VCI), trade unions (Federation of German Trade Unions, DGB; German Metal Workers Union, IGM), Environmental- and Development Groups (World Economy, Ecology and Development; German Consumers Initiative) as well as the BMU and BMWI (German Economics Ministry).

On the basis of the first results of the survey, the mentioned associations and Institutes from developing countries are being asked to share their relevant experiences.

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Summary

1. General Information

Participating Companies who answered the questionnaire:

<u>Company</u>	<u>Sector</u>
ABB AG	Electronic Engineering
Babcock Borsig Power GmbH	Mechanical Engineering; Environmental Engineering; Technology Solutions for Power Stations and other Energy Projects
BMW AG	Automotive
BASF AG	Chemicals
Bayer AG	Chemicals and Pharmaceuticals
Boehringer Ingelheim GmbH	Pharmaceuticals
BSH GmbH	Electronics; Household appliances
Degussa AG	Specialised Chemicals
Faber Castell AG	Chemicals
Henkel AG	Chemicals
RWE AG	Power Production
Schering AG	Pharmaceuticals
Schott Glas AG	Glass-ware
Siemens AG	Electronics
J.M. Voith AG	Mechanical Engineering
Volkswagen	Automotive
Wacker-Chemie GmbH	Chemicals
WELLA AG	Cosmetics
Deutsche Entwicklungsgesellschaft	Bank

These eighteen companies differ in their size, industrial sector, the degree of internationalisation, **organisational structure** and so forth. In particular, they also differ in the degree of their 'structural centralisation':

- More than a half of the companies consider themselves to have a **decentralised** leadership structure with globally operating subsidiaries (i.e. a network structure with globally distributed competence centres and business segments).
- Another part of the companies consider themselves to have a **centralised** leadership structure with globally operating subsidiaries (centralised business processes for development, production, buying).
- Finally, some companies state that the decision-making processes are being dominated by whoever is responsible for the business segments or product lines in question.

The worldwide **turnover** of the companies surveyed is between

Max.: 85,500 mio. Euro

Min.: 330 mio. euro

The number of **employees** worldwide is between

Max.: 450,000 employees

Min.: 5,500 employees

The number of **production sites** worldwide is between

Max.: 550 sites

Min.: 9 sites

The following **developing and newly industrialised** countries were mentioned as recipients of companies' investment during recent years (number of mentionings in brackets, with a maximum of three mentionings per company):

- China (11)
- Brazil (6)
- Mexico (6)
- Indonesia (5)
- India (4)
- Thailand (3)
- Korea, South Africa (2 each)
- Egypt, Algeria, Chile, Columbia, Croatia (1 each)

2. Setting of Environmental Goals

- Almost all companies have a **global environmental policy**. For the companies, the main uses of such an environmental policy lie in
 - lower costs
 - risk minimisation
 - competitive advantages
 - employee motivation
 - greater outside acceptance of the company's activities.
- In formulating environmental policy, the companies also consider aspects of Agenda 21 and of other international guidelines. They publish their environmental policy in several internal and external publications.
- A large part of the companies further specifies its environmental policy through
 - globally accepted **standards**.
 - environmental programs, in which goals and time frames for the implementation of measures are being set.
- A majority of the companies states that in their foreign direct investment activities they, at least in part, orientate themselves on the (stricter) German standards on top of local standards. Some companies also make the implementation of international environmental agreements part of their environmental policy.
- **Limits** to the formulating and implementation of a global environmental policy are mainly being seen in the over-regulation of the subsidiaries. The companies frequently claim that it is vital to take into account
 - the specific background in each country (characteristics of the market and the competitors, technological capabilities etc..) and
 - the specific interests of the subsidiary.On the other hand, many companies believe that it has not been fruitful to
 - not set minimum standards
 - leave decisions to decentralised company segments alone.
- On the basis of their experiences, the companies plan and recommend for instance the following **measures**:
 - the increased use of worldwide environmental goals and their monitoring;
 - the further development of international and site-specific environmental-, safety- and health management systems and according certifications as well as
 - the further development of environmental reporting systems.

You are kindly requested to share your experiences with respect to the abovementioned issues:

3. Technology Transfer

- In the context of their global production networks and in order to ensure **coherent production- and product quality standards**, the majority of the companies aims at using the same or equivalent technologies worldwide.
 - Sometimes this is stipulated by the companies in the context of certain technology transfer principles,
 - Sometimes this is done in less formal ways, by introducing technology and know-how from the parent company.
- The main driver for this technology transfer is the production and quality assurance. Environmental- and health standards also work to make standards more coherent. Moreover, in each company, specific internal and external factors have a bearing on the technology transfer.
- The adequacy and expedience of the transfer of **end-of-pipe-technologies** depends (if they are not determined by the production technologies) among others on
 - costs
 - the locally available disposal infrastructure
 - and the standards of the host country.
- Hence, some companies indicated that technology transfer is conducted in a less stringent way than the transfer of products and manufacturing plants.
- Among the difficulties and **limits** to technology transfer, companies mention in particular
 - technical barriers and limited qualifications of suppliers
 - insufficient IP protection
 - insufficient licence- and know how protection in the host countries
 - the extent of the investment costs and the length of amortisation of the investments.
- Yet, it has not proved favourable to only concentrate on compliance with local minimal standards.
- Some companies point out that competitors with a worse environmental performance may – at least in the short run – have an advantage in terms of costs.
- On the basis of their experiences, the companies plan and recommend the following **measures**:
 - make decisions primarily on the basis of business considerations
 - additionally, consider the political and legal framework as well as
 - compliance with worldwide standards
 - to support local sites in planning efforts in order to slowly raise environmental standards to a European level and
 - introduce German SMEs into the supply chain in order to ensure a certain level of quality.

You are kindly requested to share your experiences with respect to the abovementioned issues:

4. Environmental- and Safety Management Systems

- In order to implement their environmental policy, most companies have built a **centrally co-ordinated international environmental and safety management** system. Some of its crucial functions are
 - management development, including on-site visits and internal audits,
 - a co-ordinating function and
 - internal and external reporting, including the development of appropriate indices for the management of subsidiaries' or foreign sites' environmental performance.
 - Important are also the
 - minimisation of risks through improved legal certainty, improved relations with the enforcement authorities, avoidance of reputational risks, installation safety.
 - For the majority of the companies, however, the board of directors is given an annual report.
- In no case, however, do the headquarters alone carry the **responsibility for the implementation** of the environmental policy. The responsibility either lies with
 - the subsidiaries alone
 - the subsidiaries jointly with the headquarters
 - or sometimes an international panel is specifically entrusted with the responsibility.
 - In some cases, the partaking of a central environmental unit in the decisionmaking process in FDI activities is assured through rules. In order to assure planning certainty and legal certainty, the subsidiaries / local companies on site usually approach the local authorities.
- They see the **difficulties** and limits of their engagement in
 - the necessary weighing of environmental goals with business goals
 - the adequate consideration of different framework conditions
 - differing „environmental consciousness“
 - limited local resources at the sites.
- On the basis of their experiences, the companies recommend the following **measures**:
 - continuous improvements of the management systems (audit systems, reporting, performance figures, training)
 - certification of the foreign sites according to ISO 14.001
 - the establishment of separate safety- and environmental protection funds for environmental management
 - consideration of further social aspects and comments of the environment department on relevant investments.

You are kindly requested to share your experiences with respect to the abovementioned issues:

5. Product Life Cycle

- The majority of the companies indicate that they provide investment capital for supply- and disposal structures on a case-by-case basis or build up recycling systems where these do not exist at all or not to a sufficient extent (cf. end-of-pipe technologies). Most companies also take measures to compensate for the interference in ecological systems (e.g. reforestation). Partially the companies use systematic analyses (environmental impact assessment, life-cycle assessment) for the evaluation of the environmental impact of their production / products.
- On the basis of their experiences, the companies plan and recommend for instance the following measures:
 - verification of the input supply
 - further build-up of modern disposal- and recycling systems.

You are kindly requested to share your experiences with respect to the abovementioned issues:

6. The Supply Chain

- Almost all companies support their suppliers through advice on technology. Approx. a third of the companies takes further action such as
 - **training**, e.g. through supplier workshops
 - the organisation of know-how transfer.
- Furthermore, measures are taken to ensure certain **(management-)standards**, such as
 - auditing
 - request to build an environmental management system and
 - the formulation of concrete technical specifications to the suppliers.
- Such an active management of the suppliers serves the reduction of quality deficiencies as well as supply risks, and is moreover being seen as a contribution to the improvement of the environmental situation.

- The difficulties and **limits** of raising environmental performance in the supply chain lie in the
 - level of the required investments, the costs and capacities as well as
 - in the availability of the components and materials and
 - the infrastructure in the host country / at the site.Some companies pointed out that an insistence on German standards may not be a good option.
- On the basis of their experiences, the companies plan and recommend for instance the following **measures**:
 - the formulation of concrete requirements for the suppliers of the foreign sites;
 - training for relevant local employees at the foreign sites
 - the development of joint training measures for the suppliers together with competitors.

You are kindly requested to share your experiences with respect to the abovementioned issues:

7. Employee Training and Participation

- Almost all companies take measures for **employee training**, -information and –qualification. Moreover, measures for
 - employee motivation
 - health safety
 - safety at the workplace etc.are being carried out. The majority of the companies also takes measures in **employee participation**, which are also partially based on formal rules. In some companies these rules are applied globally.
- It has proved less advisable to
 - only provide information brochures
 - prescribe environmental measures „from above“.
- On the basis of their experiences, the companies plan and recommend for instance the following **measures**:
 - extension of training on all levels of the hierarchy
 - award internal ‚environmental awards‘
 - taking cultural differences into consideration
 - integrate employee representatives into decision making processes, especially where the relevant management hierarchy level is not from the host country;
 - emphasise the link between environmental protection and health.

You are kindly requested to share your experiences with respect to the abovementioned issues:

8. Consumer Education

- Partially, companies are successful in establishing themselves in some developing and newly industrialised countries through better environmental performance relative to their competitors, that carries an advantage for its client. Such an advantage may lie in e.g.
 - compliance with raised health standards
 - the avoidance of dangerous materials
 - lower energy consumption when the product is being used.However, most companies see little chance for a ‚supply-side influence‘ on the environmental consciousness of their clients.
- On the basis of their experiences, the companies usually plan and recommend in the field of client- and public-oriented information the following measures:
 - extension of the topic „PR“ in the training context
 - visits to and presence at local fairs
 - brochures, articles

- improvements in client training and
- extension of application technology.

You are kindly requested to share your experiences with respect to the abovementioned issues:

9. Participation of Social Interest Groups

- In order to secure broader acceptance, there frequently is an attempt to establish **contact, at an early point in the project**, with
 - local environmental NGOs
 - local employee / trade union representatives
 - other stakeholders.
- Sometimes this has resulted in a long-term contact such as exchange of information and discussions. It has not proved advisable to ignore the concerns of the local population.
- On the basis of their experiences, the companies recommend e.g. the following **measures**:
 - adequate qualification for public dialogue of those employees responsible for environmental issues at the sites
 - voluntary and in-time publication of environmental data and other information on the site in question
 - early contact with local environmental authorities, the press and, at times, local NGOs.

You are kindly requested to share your experiences with respect to the abovementioned issues:

10. External Reports

- In order to inform the public, almost all companies publish a **publically available environmental report** in English and German, in which they sometimes also include foreign subsidiaries. For approximately half the companies, the subsidiaries compile their own reports. In some cases, this environmental report is discussed with the employees and / or their representatives.
- In the compiling of this report, the companies orientate themselves on different standards, mainly
 - ISO 14000 ff.,
 - EMAS
 - Global Reporting Initiative (GRI) – Sustainability Reporting Guidelines,
 - CEFIC – Health, Safety and Environmental Reporting Guidelines.
- On the basis of their experiences, the companies recommend for instance the following measures:
 - inclusion of international investments in the reports,
 - individual homepages for the company's local sites,
 - generally closer contacts to the media (press invitations for important new investments).

You are kindly requested to share your experiences with respect to the abovementioned issues:

Thank you for your co-operation!

Appendix: Questionnaire

Inquiry into Environmentally Oriented Management of Foreign Direct Investments Requested by the Bundesumweltministerium

UFOPLAN Project 201 14 106



Paschen von Flotow

6.4.2001

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Instructions concerning the Methodology and Answering of the Questionnaire

The questionnaire aims at the following subjects:

- The focus is the management of the firm, the success factors and the obstacles. The questionnaire is directed at the company head offices in Germany.
- The survey looks into the environmental management of foreign direct investments (FDI) connected to the actual operational responsibility for the industrial manufacturing process. Other forms of foreign participation (trading posts, minority holdings or pure financial participation) are not taken into consideration.
- The focus on questions regarding environmental management includes the question of integration of the respective FDI into the production network (possibly worldwide). Therefore, we are not dealing with the immediate local environmental management alone, but also with management processes along the product life cycle and supply management.
- The design of the questionnaire is therefore focussed on large and complex companies. In the evaluation it is taken into consideration that management processes between branches and large companies of diverse size and complexity can vary considerably. Especially, it is taken into consideration that SMEs have often less formalized management processes.
- At times the answering of questions requires a great deal of generalization. This makes the answers difficult for companies with very varied technologies and many different locations; it is, however, inevitable if one wants to obtain generally applicable statements. The questionnaire contains also a lot of open questions so that a sufficiently diverse picture can develop. At the end of each category you have the opportunity to write comments.
- The goal of this survey is not a performance evaluation of foreign direct investments with regard to a certain standard or code of conduct.

Survey Categories

The following categories or areas of activities are being addressed in this questionnaire:

1. Setting of Environmental Goals
2. Transfer of Technology
3. Environmental and Safety Management Systems
4. Product Life Cycle
5. Supply Chain
6. Employee Training and Participation
7. Consumer Education
8. Participation of Social Interest Groups
9. External Reports

1. General Information

1.1 Name and Address of Headoffice of your Company

1.2 Director of Central Environment Management (incl. contact data for further inquiries)

1.3 What branch does your company fall under?

1.4 What are the three most productive business-lines, product groups/products worldwide?

1.5 What best describes the organization of your company?

- Company with centrally managed, globally acting branches (central business processes for development, production, purchase etc.)
- Company with decentralized, globally acting branches (network structure with globally distributed business fields)
- The decision making process is dominated by the regional branches / Country Companies
- The responsible person –managers - of the business fields or product lines handles the decision-making processes
- Other characteristics

1.6 a) What is your turnover?

In Germany

Worldwide

1.7 How many employees do you have?

In Germany

Worldwide

1.8 How many manufacturing plants do you have?

In Germany

Worldwide

1.9 In what newly industrializing and development countries have you mainly invested in recent years? (Please, name max. three countries)

A list of developing countries is given in the appendix (source: OECD)

1.10 Comments

2. Setting of Environmental Goals

2.1 a) Does your company have an environmental policy, which has worldwide validity for the company?

- Yes, published in an environmental report
- Yes, unpublished
- No, because no relevant effect on the environment is exerted by the manufacturing plants and products of the firm
- No, because solely the foreign branches are responsible for environmental policy
- No, because all relevant environmental decisions are made on a case-by-case basis
- Other

2.2 a) Does your global environmental policy depend on

legal environmental standards in Germany?

Yes No Partially

the legal environmental standards of the host country?

Yes No Partially

additional codes of conduct in Germany or the host countries?

Yes No Partially

b) If yes, which one?

2.3 a) Do you orient your environmental policy according to international guidelines?

Yes No

b) If yes, which one?

- Agenda 21
- Global Compact

- UNEP (Voluntary Industry Codes of Conduct for the Environment)
- OECD (Guidelines for Multinational Enterprises)
- ICC (Business Charter for Sustainable Development)
- WBCSD (Declaration of the Business Council on Sustainable Development)
- ICCA (Responsible Care)
- Other

c) Do you communicate the implementation of these guidelines?

- Yes, externally and internally
- Yes, externally
- Yes, internally
- No

d) If yes, in what form?

2.4 What elements of Agenda 21 do you implement in your environmental policy?

- Product Stewardship
- Management of the total product life cycle
- Use of health- and environmentally safe methods of production
- Use of technology that cuts down emission
- Avoiding and minimizing use material and energy consumption
- Avoiding and minimizing garbage, and aiming at its environmentally friendly disposal
- Avoiding and minimizing emissions
- Transfer of environmentally friendly technology in newly industrializing- and developing countries
- Support of know-how- and technology-transfer and co-operation as partners of SMEs
- Use of preventive strategies
- Employee participation

- Keeping of national environmental rules of the host country
 - Use of national environmental rules of your country in the host country if your standards are higher than those in the host country
 - Use of the best technologies available
 - Environmental information of the public
 - Other
-

2.5 Which international environmental agreement do you honor in your environmental policy?

- London Convention on Maritime Pollution (1983)
- Montreal Protocol for the Protection of the Ozone Layer (1989)
- Basel Convention on Hazardous Waste (1989)
- Convention on Biodiversity, including Biosafety-Protocol (1992)
- Framework Convention on Climate Change, including the Kyoto Protokoll (1994)
- Convention to Combat Desertification (1996)
- Convention on Persistent Organic Pollutants (POP)
- Convention on the Prior Informed Consent (PIC) procedure on international trade in hazardous chemicals and pesticides.
- Other

b) If yes, in what sense?

2.6 a) What benefit do you get or expect to get from your global environmental policy?

b) What difficulty did you have in defining a global environmental policy?

2.7 a) Does your company (in addition to environmental policy) have an international environmental program with goals and deadlines?

- No
- No, measures are decided on a case-by-case basis
- No, regional companies or branches plan measures independently
- In addition to international goals of the company, regional companies and branches plan measures independently

b) If yes, for what aspects are international goals and dead lines planned?

- Development of management systems
- Employee training
- Employee participation
- Supply Chain management
- Logistic management
- Machinery Investments
- Product development
- Material choice and consumption
- Water consumption
- Energy consumption
- Industrial effluent management

- Avoidance and reduction of emissions
- Waste management and -treatment
- Land consumption
- Noise
- Product recycling
- Risk management
- Work safety
- Installation safety
- Transport safety
- Health protection
- Other

2.8 Who makes decisions on these programs?

2.9 a) Do you have worldwide valid environmental- and safety standards in your company?

- Yes
- No, regional companies or branches set standards independently

b) If yes, what is regulated in these standards?

- Development of management systems
- Employee training
- Employee participation
- Supply Chain management
- Logistic management
- Machinery Investments
- Product development
- Material choice and consumption
- Water consumption
- Energy consumption

- Industrial effluent management
- Avoidance and reduction of emissions
- Waste management and -treatment
- Land consumption
- Noise
- Product recycling
- Risk management
- Work safety
- Installation safety
- Transport safety
- Health protection
- Other

c) Are these standards published in the Environmental Report?

Yes No Partially

Other

d) Who determines these standards?

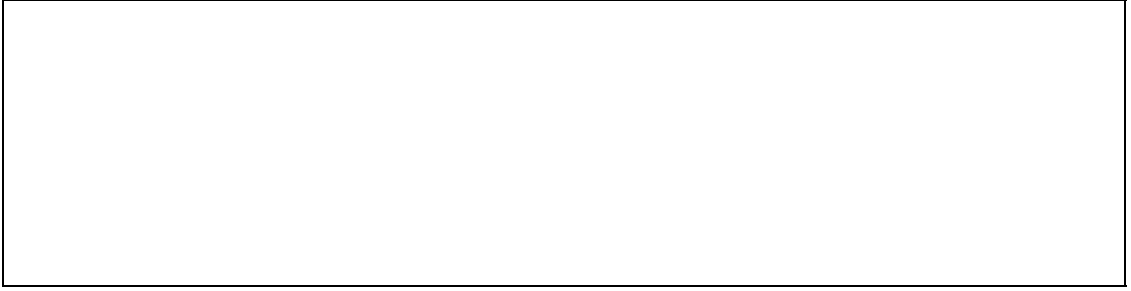
2.10 a) What has been your greatest success in recent years in reaching your environmental goals within the framework of foreign direct investments in newly industrializing- and developing countries?

b) What measures for implementation can you recommend to other companies?

c) What measures have not been effective?

d) What measures are you planning to ensure continual improvement?

2.11 Comments



3. Technology Transfer

3.1 a) Does your corporation have binding principles for technology transfer, co-operation and adaptation in newly industrializing- and developing countries?

- Yes
 No, decisions are made case-by-case

b) Are you striving to use the same technology worldwide?

- Yes, in general
 Yes, same as in home country
 Yes, **in the sense of** comparable technologies with a high percentage of local adaptation
 Yes, within the framework of necessary replacement and expansion investment
 Yes, but this is valid mostly for integrated product- and process technology and less so for end-of-pipe installations
 No, there are no fixed rules in principle, only case-by-case decisions
 No, there are no fixed rules in principle, decision are made exclusively by the respective branches
 Other

3.2 a) Do you regard the technology employed by you in newly industrializing- and developing countries as the best available one?

Yes No Partially

b) Do you find the technology employed by you in newly industrializing- and developing countries appropriate regarding their state of the art?

Yes No Partially

3.3 Which business units of your company are the drivers regarding the implementation of worldwide valid standards?

Please evaluate the importance on a scale from 1 to 5
(1 = very little, 5 = great importance)

Development _____
Production _____

Technique	_____
Environmental Protection	_____
Procurement	_____
Sales	_____
Marketing/Communication	_____
Controlling	_____
Organisation	_____
Other	_____
<input type="text"/>	_____

3.4 In your opinion, how do the following internal and external factors influence the transfer of environmentally efficient technologies through your company in newly industrializing- and developing countries?

Please, evaluate the influence of the factors each on a scale from 1 to 5 (1 = very limiting to 5 = accelerating)

If you find a general evaluation of the influence impossible, rate 0.

Company guidelines for technology transfer	_____
Standardizing as a matter of principle	_____
Realizing global quality standards of the company	_____
Realizing global environmental standards of the company	_____
Realizing global Safety- and health standards of the company	_____
Cost cutting through complexity reduction in the development	_____
Cost cutting through complexity reduction in the manufacturing process	_____
Acceleration of planning process	_____
Global Production strategies	_____
Global Sourcing	_____
Higher demands by clients	_____
Opening of markets and therefore intensifying competition	_____
Patent-, license- and know-how-protection in the host country	_____
High or higher energy costs	_____
Inadequate availability of energy	_____
Consideration of climate and environmental conditions in the host country	_____
Investment costs	_____
Investment amortization	_____
Capital costs	_____
Material costs	_____
Salary costs	_____
Qualification of personnel	_____
Qualification of supplier	_____
Technical barriers of supplier	_____
Reputation - risks to reputation	_____
Increasing attention of the media	_____
Heightened environmental awareness in host countries	_____

Stricter enforcement of environmental laws in host countries _____

Government support for foreign direct investments _____

Other

3.5 a) Can you achieve a comparative advantage in newly industrializing- and developing countries due to your higher environmental performance?

Yes

No

b) If yes, in what sense?

3.6 a) Have your competitors been able to gain a comparative advantage over you due to their poor environmental performance in newly industrializing- and developing countries?

Yes

No

b) If yes, in what sense?

3.7 a) Can you observe a spill over-effect to competitors, suppliers and clients in the newly industrializing- and developing countries in some cases?

Yes

No

b) If yes, in what sense?

3.8 a) Are you exchanging environment- related experience and management know-how with companies in newly industrializing- and developing countries through associations, scientific institutions etc.?

Yes No Partially

b) If yes, how?

3.9 a) Are you using international environmental technology- or management data banks?

Yes No

b) If yes, which?

- UNEP's ICPIP (International Cleaner Production Clearing House)
- UNIDO's INTIB (Industrial and Technological Information Bank)
- ICC's IEB (International Environment Bureau)
- Cleaner Production Germany (the gateway to environmental technology transfer)
- Other

3.10 a) What has been your biggest success in technology transfer in the framework of foreign direct investment in newly industrializing – and developing countries within the last year?

[Empty rectangular box for text input]

b) What measures can you recommend in this respect to other companies?

[Empty rectangular box for text input]

c) What measures have not been effective?

[Empty rectangular box for text input]

d) What measures are you planning to ensure continuous improvement?

[Empty rectangular box for text input]

3.11 Comments

[Empty rectangular box for text input]

4. Environment- and Safety Management Systems

4.1 a) What Elements and Procedures of an International Environment- and Safety Management are being Implemented in your Company?

- Environmentally responsible person on company board
- International environmental commissioner
- International, central environment-coordination office
- International, central environment committee
- International project teams
- International issue monitoring
- Integration of environment dimension into an international know-how management- or innovation system
- International environment –goal setting process
- Internal internationally valid technical environmental standards
- Internal internationally valid safety- and labor safety-standards
- Integrated environmental-, health- and safety management
- Organisation of experience exchange and international information exchange between companies
- Visits on location or internal audits
- Job rotation
- Internal, international environment- and safety reporting
- Index system for the management of environmental performance of branches or foreign locations
- International environmental controlling to guarantee that respective regulations and internal standards are kept
- Certification of the international environmental management according to ISO 14.001
- International, external reporting - including foreign branches - on environmental issues
- Other

4.2 Who is Responsible for the Implementation of Environmental Policy of Foreign Branches?

- Headoffice of the company
- Management of the branch
- Mutual responsibility of headoffice and branch management
- International committee of the corporation

Other

4.3 a) Does the board receive regular reports on the implementation of an international environmental program within the company?

Yes

No

b) If yes, at what intervals?

annually

monthly

weekly

other

c) If yes, on what Topics?

4.4 For what areas do you use internal figures to manage the environmental performance in foreign locations?

Procurement

Logistics

Production

Product

Materials

Water consumption

Prevention of water pollution

Energy consumption

Emissions

Waste

Noise

Risk management

Work safety

- Health safety
- Installation safety
- Transport safety
- Other

4.5 How do you rate the Importance of the following Task Areas of the Center for the International Environmental Management for the Improvement of Environmental Performance of the foreign direct investments?

Please evaluate the importance on a scale of 1 to 5
(1 = very little 5 = great significance)

- Immediate support from board decisions _____
- Support from international affiliated companies re
 - Management development _____
 - Training _____
 - Employee participation _____
 - Production related questions _____
 - Product related questions _____
 - Market related questions _____
 - Communication _____
 - Dealings with authorities _____
- Controlling _____
- Development of new methods _____
- Establishing of reliable legal standards _____

Other

4.6 a) Do you have in your company a regulation that mandates that the central business unit “environment” has to comment on decisions concerning foreign direct investments (FDI)?

Yes No

b) If yes, in what case?

- Choice of host country
- Choice of location
- Technology- or Product choice
- Proceedings in case of deviations/malfunctions
- Other

4.7 a) When talking to authorities about licensing, are you typically confronted with special requests regarding environmental standards different from local prati?

Yes

No

b) What role does that play in your decision to invest?

4.8 a) Do you as a rule establish active contact with local environmental authorities?

Yes

No

b) What advantage do you see in establishing active contact?

4.9 Are the relevant local environmental laws also known to your head office?

- Yes, as long as they are of relevance (e.g. involve considerable investment)
- Yes, as long as branches in the respective host country request the need for counsel
- Yes, because the head office shares also the responsibility for keeping the laws in foreign countries
- Yes, but keeping the laws is solely the responsibility of the branches in the respective host country
- No, the responsibility for keeping the local environmental laws lies solely with the branches in the respective host country or with the local company
- Other

4.10 a) Do the financing banks question you in connection with foreign direct investments about environmental risks or environmental- and risk management in your company?

Yes No Case by case

b) What significance did this aspect have in credit negotiations?

4.11 a) Do your insurance companies ask you in connection with foreign direct investments about environmental risks or environmental- and risk management?

Yes No Case by case

b) What significance did this aspect have in your insurance contract?

4.12 a) Do you audit internally and/or externally the environmental management of your foreign locations in newly industrializing- and developing countries?

Certification ISO 14001

completed partially planned

An external and internal audit is done (according to corresponding directions by the organization)

Only an internal audit is done according to corresponding directions by the organization

- The development of the environmental management is exclusively the responsibility of the branches
- Other

b) What benefit does the external certification/validation have for your foreign locations?

- Improved relationship with local authorities
- Improved reliability of legal standards
- Improved customer relations
- Improved stakeholder relations
- Improved employee acceptance
- Improved competitiveness
- Reduction of responsibility and expenditure of the central environmental management
- Other

4.13 How do you evaluate the benefit of the international organization for environmental management and the development of management in branches of that enterprise?

Please evaluate the importance on a scale from 1 to 5
(1 = very low - 5 = great significance)

- Improved reliability of legal standards _____
- Improved relations with authorities _____
- Avoidance of financial risks _____
- Avoidance of risks to reputation, securing social acceptance _____
- Increased installation security _____
- Increased quality _____
- Cost reduction _____
- Strengthening of brand image _____
- Securing of social acceptance _____
- Increased planning efficiency _____
- Increased developmental efficiency _____
- Increased production efficiency _____
- Other

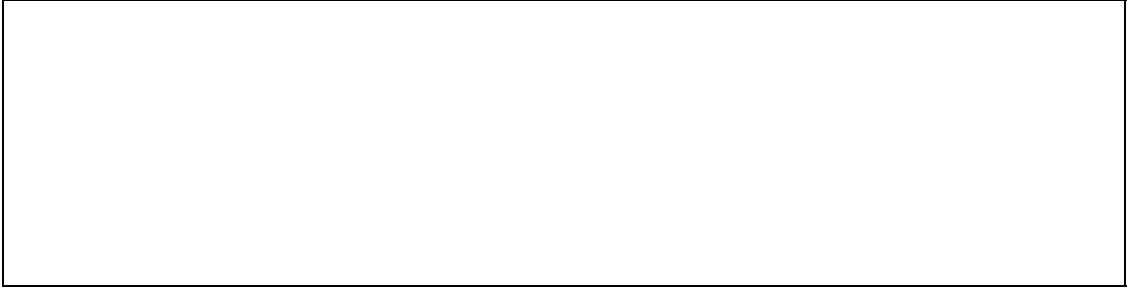
4.14 What difficulties do you have to overcome in the development of an international environmental management?

4.15 a) What was your greatest success in developing environmental management from foreign direct investments in newly industrializing- and developing countries last year?

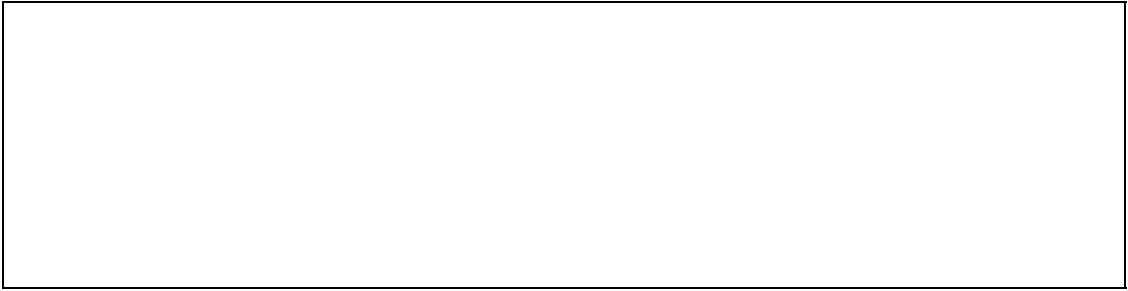
b) What measures can you recommend to other companies in this respect?

c) What measures have not been effective?

d) What measures are you planning to ensure continuous improvement?

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4.16 Comments

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5. Product Life Cycle

5.1 What significance do crossborder material flows have for your company?

- Considerable significance, since the manufacturing process is dominated by global networks or worldwide profitchains
- Little significance.
- A general statement is not possible.

5.2 a) Do you have examples in your company for a documentation and analysis of crossborder material flows via material flow analysis or ecobalance?

Yes No

b) If yes, in regard to what processes, products and materials?

5.3 a) Are there examples in your company in newly industrializing- and developing countries for a documentation and analysis of materialflows via life-cycle analysis etc.?

Yes No

b) If yes, in respect to what processes, products, materials?

5.4 a) Depending on the method, material flow analysis or ecobalance require data about environmental conditions or the effect on the environment, which cannot be generated by the company itself. Are such data available in newly industrializing- and developing countries?

Yes No Partially

b) If yes, in what countries are they particularly good?

5.5 a) Were you able to transfer the results of material flows analysis or ecobalances in Germany to products/locations in newly industrializing- and developing countries?

Yes No

b) If yes, which ones?

5.6 a) Do you implement a systematic environmental impact assessment (EIA) of your foreign direct investment in newly industrializing- and developing countries?

- Yes
- Yes, a rough analysis
- No

b) If yes, when?

- Before investment decisions
- Before expansion
- Other

c) Have environmental analyses in the past been externally examined?

Yes No Some

d) If yes, by whom?

- Government
- Certifying agency
- NGO
- Other

5.7 a) Is your company aware of possible stress on ecological systems in connection with your production, your products or your materials?

Yes No Some

b) If yes, which ones?

- Climate change
- Endangering the ozone layer
- Reduction of biodiversity
- Damage to ecological systems through overuse
- Water pollution
- Air pollution
- Soil pollution
- Health defects
- Other

5.8 a) Are there examples of voluntary measures by your company to improve ecological systems, which go beyond the improvement of industrial production processes?

Yes No

b) If yes, which ones?

- Measures to support biodiversity
- Measures to avoid erosion
- Measures to clean up of rivers
- Reforesting
- Other

5.9 a) Do you have examples of your company influencing supplier or customer processes and systems for supply and for waste removal with the goal to improve environmental conditions (e.g. recycling- or waste removal systems)

Yes No

b) Have you personally taken such measures, because of lack of suitable pre-conditions in the surroundings?

Yes No

c) If yes, what examples can you give for one or the other process?

d) What effect did you notice based on such improvement?

5.10 a) What has been your greatest success in recent years regarding improved consideration of product life cycles in foreign direct investment in newly industrializing- and developing countries?

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b) What measures can you recommend in this regard to other companies?

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c) What measures have not been effective?

[Empty rectangular box for text input]

d) What measures are you planning to ensure continuous improvement?

[Empty rectangular box for text input]

5.11 Comments

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6. Supply Chain

6.1 What measures does your company take to ensure an environmentally oriented supply management within the framework of FDI in newly industrializing- and developing countries?

- Support for suppliers through
 - Technology advises
 - Technology transfer
 - Management-know-how-transfer
 - Help with the development of an environmental management system
 - Training
 - Supplier-Workshops
 - Implementing a procedure for continual improvement
 - Establishing a mutually utilized environment data base
- Environment related auditing within the framework of general supplier audits
- Environment related auditing within the framework of supplier selection
- Request to develop environmental management systems
- Formulation of management demands and /or technical demands regarding
 - Dealing with dangerous substances
 - Substitutes for dangerous substances
 - Material
 - Water management
 - Limitation of emissions
 - Recycling
 - Waste management
 - Risk management
 - Energy consumption
- Technology transfers through initiating a direct investment of one of your suppliers with environmentally friendly technology
- Other

6.2 What experiences from Germany can you use within the framework of environmentally oriented supply management in newly industrializing- and developing countries?

6.3 In what area have local suppliers learned the most from cooperation regarding environmental issues?

6.4 What reasons speak for intensifying environmentally oriented supplier management in newly industrializing- and developing countries?

- Reduction of supply risks
- Reduction of quality defects
- Cost reduction
- Improvement of logistic
- Improvement of environmental situation
- Other

6.5 What factors could limit intensifying of environmentally oriented supplier management in newly industrializing- and developing countries?

- Lack of qualifications of supplier that cannot be overcome
- Availability of materials and components in the country
- Higher cost of material
- Size of required investment
- Other

6.6 Is the vertical manufacturing scale within the framework of FDI in newly industrializing- and developing countries different from the vertical manufacturing scale of similar factories in Germany?

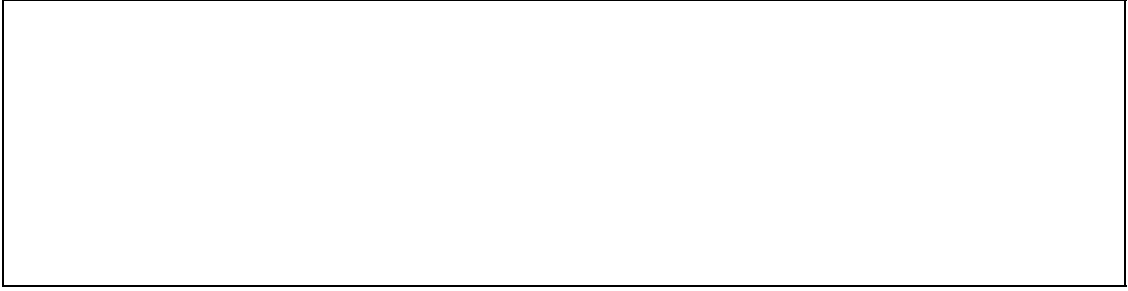
- Yes, there is usually a lower vertical manufacturing scale
- Yes, usually a higher vertical manufacturing scale
- No, usually it is the same vertical manufacturing scale

6.7 a) What has been your greatest success with regard to an environmentally oriented management of the supply chain within the framework of foreign direct investments in newly industrializing- and developing countries in recent years?

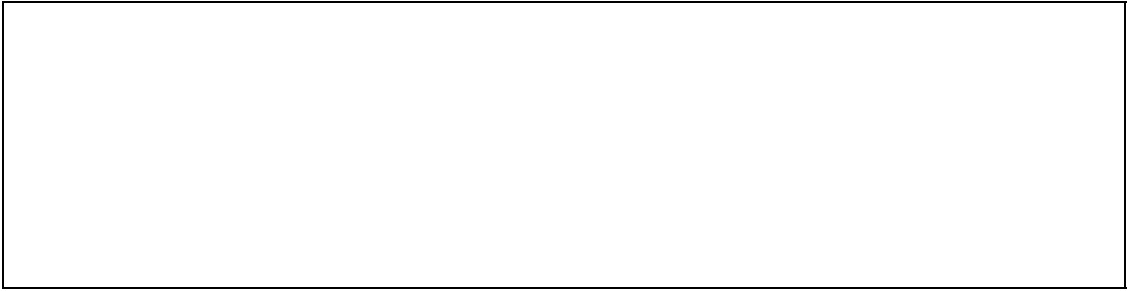
b) What measures can you recommend to other companies in this regard?

c) What measures have not been effective?

d) What measures are you planning to ensure continuous improvement?

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6.8 Comments

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7. Employee Training and Participation

7.1 What environment related personnel measures do your branches typically take in newly industrializing- and developing countries?

- Employee information
- Employee motivation
- Employee qualification and -training
- Employee participation
- Continued education courses
- Quality Circle
- Environment circles
- Employee suggestion systems
- Project groups
- Health protection
- Work safety courses
- Ecology column in employee magazines
- Other

7.2 a) Does a formal regulation exist for employee participation regarding environment- and health related topics in newly industrializing- and developing countries?

Yes No Partially

b) If yes, in what newly industrializing- and developing countries is this particularly the case?

7.3 a) **Do employees have as a rule the right to information regarding environment- and health related facts and decisions in newly industrializing- and developing countries?**

Yes No Sometimes

b) **If yes, in what newly industrializing- and developing countries is this particularly the case?**

7.4 a) **Does your company have as a rule environmental committees where employees or company interest presentation is represented in newly industrializing- and developing countries?**

Yes No Sometimes

b) **If yes, in what newly industrializing- and developing countries is that particularly the case?**

7.5 a) **Does your company have in newly industrializing- and developing countries a employee suggestion system that is also open to environment and health related proposals?**

Yes No Sometimes

b) **If yes, in what newly industrializing- and developing countries is this particularly the case?**

7.6 Is there a difference in employee training, -information, qualification, - participation and –motivation between newly industrializing- and developing countries and the same procedure in Germany?

Yes No

If yes, describe

7.7 a) Do you use for knowledge development and –communication the competence of scientific institutions or educational facilities in the newly industrializing- and developing countries?

Yes No Sometimes

b) If yes, what examples can you give us?

7.8 a) Does your company in Germany have a shop-agreement for environmental protection or for environmental employee questions?

Yes No

b) What procedures and measures are being regulated here?

c) In what way can you use the experiences of foreign direct investments in newly industrializing- and developing countries?

7.9 a) What has been your greatest success in environment oriented training and - motivation of employees in newly industrializing- and developing countries last year?

b) What measures can you recommend to other companies in this regard?

c) What measures have not been effective?

d) What measures are you planning to ensure continuous improvement?

7.10 Comments

8. Consumer Education

8.1 a) Can you distinguish yourself to clients through better environmental performance than your competitors in newly industrializing- and developing countries?

- As a rule, yes
- In some countries
- As a rule, no
- No

b) If yes, in what newly industrializing- and developing countries in particular?

8.2 a) Can you align yourself with the rising environmental awareness of clients through market positioning in newly industrializing- and developing countries?

- As a rule, yes
- In some countries
- As a rule, no
- No

b) If yes, in what newly industrializing- and developing countries in particular?

8.3 a) Do you see in newly industrializing- and developing countries a chance for supplyside influence of the environmental awareness of your clients?

- As a rule, yes

- In some countries
- Not as a rule
- No

b) If yes, in what newly industrializing- and developing countries in particular?

8.4 Can you give an example of a successful introduction of a product in newly industrializing- and developing countries based on environmental performance?

8.5 What added environmental benefit did your clients in newly industrializing- and developing countries especially appreciate?

Please, evaluate the importance on a scale from 1 to 5
(1 = very little - 5 = great importance)

- Less energy consumption in the utilizing period _____
- Recycling capability _____
- Fulfilment of higher health demands _____
- Less weight _____
- Reduction of emissions _____
- Avoidance of dangerous materials _____
- Less water consumption _____
- Legal conformity _____
- Product responsibility _____
- Other _____

8.6 a) What has been your greatest success in improving with the environmental consumer information in the framework of foreign direct investments in newly industrializing- and developing countries last year?

b) What measures do you recommend to other companies in this regard?

c) What measures have not been effective?

d) What measures are you planning to ensure continuous improvement?

8.7 Comments

9. Participation of Social Interest Groups

9.1 Does the public as a rule have free access to the environmental information of the authorities in newly industrializing- and developing countries?

Yes No Sometimes

b) If yes, in what newly industrializing- and developing countries is it especially common?

9.2 a) Do you as a rule contact local environmentally oriented NGOs in newly industrializing- and developing countries before deciding on an investment or

Yes No Sometimes

do you contact local interest representatives of the employees/unions or

Yes No Sometime

other stakeholders?

Yes No Sometimes

b) If yes, in what newly industrializing- and developing countries is this especially the case?

b) Did lasting cooperation result from this?

Yes

No

Partially

c) What does it look like?

9.3 a) Are there conflicts with local environmentally oriented NGOs or stakeholders?

Yes

No

Sometimes

b) What were the reasons for these conflicts?

c) How did you deal with these conflicts?

9.4 a) What has been your greatest success in improving the participation of stakeholders in the framework of foreign direct investments in newly industrializing- and developing countries?

b) What measures can you recommend to other companies in this regard?

c) What measures proved ineffective?

d) What measures do you plan to ensure continual improvement?

9.5 Comments

10. External Reports

10.1 a) Does the company have a public, printed environmental report that is available to everybody?

Yes No

b) Is the environmental report also available on the Internet?

Yes No Partially

10.2 a) Does the environmental report take the foreign branches or their location into consideration?

The environmental report covers

- no foreign branches or locations
- some foreign branches
- all foreign branches
- some foreign locations
- all foreign locations

b) Do your foreign branches write their own reports?

- Some foreign branches publish their own reports
- All foreign branches publish their own report
- No foreign branch publishes its own report
- International reports are published with emphasis on the respective region
- Other

10.3 What topics are emphasized in your environmental report regarding international questions of environmental management, ecological performance, and effects on the environment?

10.4 a) Do you orientate yourself in your environmental report on certain standards?

Yes No

b) If yes, which one?

- ISO 14000 ff.
- EMAS
- DIN 33922
- Global Reporting Initiative (GRI) - Sustainability Reporting Guidelines
- CEFIC - Health, Safety and Environmental Reporting Guidelines
- Including the information needs of the public
- Other

10.5 a) Do you use standardized figures throughout your company in your environmental report?

Yes No Sometimes

b) For what areas do you use standardized figures?

- Energy generation
- Energy consumption
- Material consumption
- Water consumption
- Emissions
- Waste
- Recycling
- Other

10.6 a) In what language do you publish your international environmental report?

- in German
 in English
 in host countries in their official language
 Other

b) In what language do you publish your country-related environmental report in newly industrializing –and developing countries?

- in English
 in the language spoken in the country
 Other

10.7 a) Do you have your environmental report externally certified?

Ja Nein

b) If yes, are you striving for renewed certification?

Ja Nein

10.8 a) Do you present the environmental report in newly industrializing- and developing countries to your employees or their interest representative for review and counsel?

Ja Nein Teilweise

b) If yes, can you give some examples for newly industrializing – and developing countries in which this is especially common?

10.9 Do some of the newly industrializing- and developing countries demand that you publish the environmental performance report of your company?

Yes

No

No, only for authorities

b) If yes, can you name examples of newly industrializing- and developing countries that have special information requirements ?

10.11 a) What was your greatest success in improving the external reporting in the framework of foreign direct investments in newly industrializing- and developing countries?

b) What measures can you recommend to other companies in this regard?

c) What measures have not been effective?

d) What measures are you planning to ensure continual improvement?

10.11 Comments

Please return the questionnaire to us electronically as well as in form of a hard copy. Please enclose with the completed and signed questionnaire each a current company and environmental report and/or examples of environmental reports of your branches in newly industrializing- and developing countries.

If you want to present a case study please let us know as soon as possible. We would appreciate it if you could send us case studies by May 18th. If you decide to have a case study prepared, please let us know about it at your earliest convenience.

THANK YOU FOR YOUR COOPERATION!

Overview of the Developing Countries, according to the OECD

Afghanistan	Guinea	Palestinian Admin. Areas
Albania	Guinea-Bissau	Panama
Algeria	Guyana	Papua New Guinea
Angola	Haiti	Paraguay
Anguilla	Honduras	Peru
Antigua and Barbuda	India	Philippines
Argentina	Indonesia	Rwanda
Armenia	Iran	Saint Helena
Aruba	Iraq	Saint Kitts-Nevis
Azerbaijan	Jamaica	Saint Lucia
Bahrain	Jordan	Saint Vincent and Grenadines
Bangladesh	Kazakistan	Samoa
Barbados	Kenya	Sao Tome and Principe
Belize	Kiribati	Saudi Arabia
Benin	Korea, Dem. Republic of	Senegal
Bhutan	Korea, Republic of	Seychelles
Bolivia	Kyrgyz Rep.	Sierra Leone
Bosnia & Herzegovina	Laos	Slovenia
Botswana	Lebanon	Solomon Islands
Brazil	Lesotho	Somalia
Burkina Faso	Liberia	South Africa
Burundi	Libya	Sri Lanka
Cambodia	Macao	Sudan
Cameroon	Macedonia	Suriname
Cape Verde	Madagascar	Swaziland
Central African Rep	Malawi	Syria
Chad	Malaysia	Tajikistan
Chile	Maldives	Tanzania
China	Mali	Thailand
Colombia	Malta	Togo
Comoros	Marshall Islands	Tokelau
Congo	Mauritania	Tonga
Cook Islands	Mauritius	Trinidad & Tobago
Costa Rica	Mayotte	Tunisia
Côte d'Ivoire	Mexico	Turkey
Croatia	Micronesia, Federal States of	Turkmenistan
Cuba	Moldova	Turks & Caicos Islands
Djibouti	Mongolia	Tuvalu
Dominica	Montserrat	Uganda
Dominican Republic	Morocco	Uruguay
East Timor	Mozambique	Uzbekistan
Ecuador	Myanmar	Vanuatu
Egypt	Namibia	Venezuela
El Salvador	Nauru	Viet Nam
Equatorial Guinea	Nepal	Virgin Islands (UK)
Eritrea	Netherlands Antilles	Wallis & Futuna
Ethiopia	New Caledonia	Yemen
Fiji	Nicaragua	Yugoslavia, Federal Republic of
French Polynesia	Niger	Zaire
Gabon	Nigeria	Zambia
Gambia	Niue	Zimbabwe
Georgia	Northern Marianas	
Ghana	Oman	
Gibraltar	Pakistan	
Grenada	Palau Islands	
Guatemala		