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Modes of environmental management in transnational product chains

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Many companies in industrialised countries are outsourcing production or sourcing materials and products in countries with lower environmental protection than the companies' countries of origin. The background is access to special materials and/or lower costs, but some times also the market opportunities by being present in the country where the sourcing takes place. The paper discusses different modes of environmental management in such transnational product chains based on a number of cases, and explores the links to the business strategy of the companies and national and international regulation and standards. The roles of the involved nation states are often limited. In some cases international regulatory initiatives may shape the environmental management in product chains. The interpretative elements in ISO 14001 imply that some companies are sceptical about this kind of management in supply chains and practice in stead direct control based on more specific demands. More analyses of environmental management in transnational product chains is needed, including the role of general and more specific international guidelines and standards in combination with initiatives like customers' own control, facilitating stakeholders etc.

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Introduction

The paper has the following points of departure:

- Many companies are outsourcing manufacturing activities to or sourcing materials or products from countries with lower levels of environmental protection than where they previous manufactured or purchased these materials etc.

- Some companies sell products developed for countries with one level of governmental regulation of safety etc. in countries with a lower level of safety regulation and causes thereby health and safety risks

- The product chains are often lacking transparency due to the complexity, the power relations between suppliers and customers and the physical distances in product chains.

The lack of transparency and the different levels of protection cause a problem for other stakeholders' assessment of the environmental management and the environmental protection as well as health and safety issues, and thereby also becomes a problem for the company, who is sourcing.

The background of the sourcing from other countries is either the access to special materials (like cacao beans for chocolate, exotic wood for furniture etc.) and/or lower costs (manufacturing of shoes, textiles etc.). The background of the outsourcing (here meaning the change where a business decides to move activities to other locations or to close down own activities and buy the same service from other companies) is often lower costs. However, in some cases it is also a question about being present at the market in the country where the sourcing takes place, for example in relation to China,.

The sourcing companies are of very different kind. Sometimes they are small companies, based in one country and sourcing in a few others and selling their products in their home country and maybe a few neighbouring countries. In some cases all earlier manufacturing activities have been outsourced and the company is now a company mainly basing its activities on design, sourcing and distribution. Other types of companies operate in transnational product chains and are big multinational companies with activities in a large number of countries, maybe manufacturing and sale in some countries and sale in other countries, with a complex structure of affiliated and external supplying companies. Some of these companies have no manufacturing activities themselves, or have outsourced all earlier manufacturing, while others maintain their own manufacturing activities in the country of origin , but typically have an increasing part of their manufacturing in other countries.

A often experienced lower level of environmental protection in the country where the sourcing takes place is due to a combination of weak governmental regulation most often in the form of weak enforcement measures and lack of environmental infrastructure for handling of wastes and emissions etc. A low level of environmental protection may have three types of consequences (seen from the sourcing company)

- The level of environmental protection may be lower compared to the level in the sourcing country, which may be seen as a problem by other stakeholders. E.g. from an equity perspective: 'polluting processes should not be moved to other

- The sourced materials or products may contain higher levels of unwanted substances, which are transferred to the country, where the product is used, and may cause environmental problems and health problems.

- The sourced products may cause environmental pressures in developing countries either from the extraction of resources or in the production process, if the environmental infrastructure in terms of governmental regulation, education, and local company protection measures are not in place. Furthermore, if products like pesticides, electronic equipment etc. are used in these countries, this lacking environmental infrastructure may cause even problems from the use than in the companies' countries of origin.

The paper asks the questions:

- What type of responsibility can be observed in the environmental management of product chains, like the level of protection, the limits to the responsibility in terms of time and space etc.?

- What elements play what role for this environmental management, like international standards, certified systems, partnerships between customer and supplier etc.?

The paper is partly based on a literature review and partly on experiences from the authors' case study based research in the field.

Theoretical framework for the shaping of environmental management in transnational product chains

This section presents theories and typologies have been developed for the characterisation and analysis of environmental management in transnational product chains and the relations between public regulation, market forces, industrial structures and corporate practice.

Hansen (1999) uses the term "cross border environmental management" about the environmental management in transnational product chains by transnational corporations. With reference to among others UNCTAD, Hansen argues that transnational environmental management typically will have at least the following elements:

- General principles for the environmental activities of the entire corporation

- More specific policies and programs applicable throughout the corporation

- A cross-border environmental management system with procedures for monitoring and controlling the practice of the foreign affiliates

- Training, education and information exchange programmes and activities

- A formal organisation where responsibilities and functions are delineated and allocated between different entities and persons – for example between headquarter, affiliates and suppliers.

Hansen (1999) argues that corporate environmental management practice in transnational product chains falls within the range from adaptation to the local regulation and practice in developing countries to global integration where a company is

practising the same level of concern and responsibility as in the home country (Hansen 1999). Hansen (1999) refers to two types of product chains: management of controlled affiliates and management of non-controlled foreign entities (organised through franchising, licensing, subcontracting or strategic alliances). With reference to Bartlett's and Ghoshal's ideal types of cross border organisation in transnational corporations, Hansen (1999) describes four ideal types of cross-border environmental management: decentralised environmental management, international compliance, centralised environmental management and globally integrated environmental management. The most elaborated and environmental ambitious cross border environmental functions are seen in the centralised and globally integrated types. Table 1 presents an overview of the four types.

Table 1. A typology of corporate environmental management in transnational product chains (based on (Hansen 1999)).

	Decentralised environmental management	International compliance	Centralised environmental management	Globally integrated environmental management
Environmental management focus	Local adaptation	Host country legislation (country of affiliate)	Home country legislation (country of headquarter) and company standards	Internationally oriented company standards
Typical policy statement	None	"Meet and comply with all standards nationally and internationally"	"Employ the same standards and criteria worldwide"	"Strive to become global environmental leaders"
Concept of environmental management	Stand alone activities in affiliates. Environmental management the	Affiliates around the world take the necessary measures to operate in accordance with	The environmental management system of the home country as the basis, regardless of	Initiatives to new measures form different facilities in the company. Network among

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	responsibility of local managers. May take advantage of weak implementation of local environmental regulation	laws and regulations of the host countries	the local requirements. Fear the regulation of the host countries not sufficient.	local environmental managers. Adaptation to local conditions allowed, within the corporate principles
Cross border environmental control procedures	Stand alone activities in affiliates. No cross border activities	Procedures to ensure compliance with regulations home and abroad. Pre-acquisition assessments. Regulatory compliance auditing. Monitoring procedures	Procedures to ensure vertical integration: auditing according to company wide internal standards. Hierarchical, centralised internal environmental organisation	Procedures and activities to ensure horizontal integration: information exchange.

According to Hansen (1999) the type of forces shaping the environmental management in transnational product chains between local adaptation and global integration seems to be:

- Regulatory forces: the type of environmental regulation shaping the cross border practice: international regulation, home country regulation and host country regulation

- Market forces: the quality and environmental orientation of the markets and the value chains

- Industry specific forces: the collaboration in the specific industry

- Company specific forces: the nature of the production technology, the environmental history from the home country, the international orientation of the company.

Hansen (1999) points to the following forces as supporting local adaptation and fragmentation in cross border environmental management: absence or weak enforcement of regulation and standards, high price competition and low focus on quality and environment on the market. On the contrary, focus on first mover advantages and anticipation of future regulation, potential consumer backlash due to high focus on environment and quality and export to leading markets draw in the direction of global integration in the cross border environmental management.

The relations between customers (the sourcing company) and suppliers within a product chain can be very different. They can vary from adversarial leverage, where focus is on price comparison between different suppliers and on short term cost reduction, through more long-term and strategic relations with a limited number of suppliers to integration of the supplier into the sourcing company (Schary & Skjøtt-Larsen 2002). According to Schary and Skjøtt-Larsen these supply chain relations constitutes a continuum between market conditions and hierarchies. Market conditions imply that materials and services etc. are bought from time to time looking for the best price, and hierarchies imply that a company take over or integrate a certain competence into own organisation. In between these extremes are a number of so-called hybrid forms with some kind of competence held by the supplier and some kind of specificity of the materials, services etc. the supplier offers (see table 2).

The shaping of environmental and social aspects in a product takes place through different types of relations among the stakeholders. The decisions of a supplying company may have direct influence on the environmental aspects in the product chain through the choice of materials, processes etc. However, the influence on the shaping of the environmental aspects may also be more indirect. If a company demands e.g. a certain price or quality of its suppliers it may influence the decisions of suppliers in their choice of materials, processes etc. and thereby the environmental impacts (Forman & Jørgensen 2004) (Garcia-Sanchez et al 2004).

Table 2. Typology of product chain relations (adopted from (Schary & Skjøtt-Larsen, 2002, pp. 183-193))

Adversarial leverage	Focus on price comparison between different suppliers and short-term cost reductions. Merits when multiple suppliers and stable market conditions
Preferred supplier	Focus on longer contract periods with a limited number of suppliers and exchange of planning information. Relevant with products of low strategic importance
Single sourcing (Parallel sourcing)	Supply by a single supplier for a period for a certain good or service. Relevant with goods and services linked directly to the core competencies of the company. If there is more than one supplier within an area the practice is called "parallel sourcing"
Network sourcing	Focus on tiered supply structure, networking among suppliers, exchange of staff between buyer and supplier, high degree of trust and early involvement in design. Relevant with high specificity of goods and

	services
Strategic alliances	Focus on voluntary arrangements involving exchange, sharing or co-development of goods and services. Relevant when suppliers complement the buyers' capabilities

Different elements of environmental governance in transnational product chains

The following paragraphs describes some of the elements that constitute the background for the different modes of environmental governance that can be observed in transnational product chains.

International and national regulation

Crane and Matten (2004) talk about globalisation as deterritoralising social, economic and political action, which weakens the role of the nation state and move governance into a global context with a number of new governance strategies based on

- Co-operation among governments (like EU initiatives)

- Business initiatives (like Responsible Care organised by the international business organisation for chemical industry)

- Government-business initiatives (like the ISO 14001 series)

- Business-civil society initiatives (like Forest Stewardship Council (FSC) and Marine Stewardship Council (MSC))

- Government-business-civil society initiatives (like OECD Guidelines for Multinational Enterprises or UN Global Compact)

The conclusion of the limited role of the single nation state in cross border regulation fits with the conclusion of (Hansen 1999). Based on his literature study Hansen (1999) concludes that international and national legal frameworks only to a limited extent directly regulate the environmental aspects of transnational activities of companies. There are rather few international regulatory forces putting pressure on transnational corporations. It is primarily the Montreal protocol, which prohibits companies from relocating CFC production to developing countries, where production applying CFC's was allowed for a longer period (Hansen 1999). The Basel convention prohibits the export of hazardous wastes.

In the late 1980s, a tightening of environmental regulations in industrialised countries led to a rise in the cost of hazardous waste disposal. Searching for cheaper ways to get rid of the wastes, traders began shipping hazardous waste to developing countries and to Eastern Europe. International outrage led to the drafting and adoption of the Basel Convention (Basel Convention 2007). The convention may restrict the export of post-consumer products for disassembly; although the distinction between product and waste is highly disputed as has seen in the debates about the export of worn-out ships for disassembly at facilities located at beaches in Asia, for example in India. The EU has had to adjust its criteria for waste shipments within, into and out of the EU, since the EU criteria were less restrictive than those of the Basel convention. The changes were a follow-up to the decision of The Third Conference of the Parties to the Basel Convention that the export of hazardous waste for recycling purposes from OECD to non-OECD countries should be prohibited from 1 January 1998 (Decision on the common position…1996).

Among the more soft international regulatory forces are the OECD Guidelines for Multinational Enterprises and the OECD Guidelines for Accident Prevention, which states that hazardous installations in non-OECD countries should meet a safety level equivalent of that of similar installations in OECD countries (Hansen 1999).

One of the more recent initiatives is the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade. It came into force in 2004 (and had been implemented on a voluntary basis since September 1998 in the form of the interim PIC procedure). The Convention started with 27 chemicals (including 22 pesticides). PIC is a procedure that helps participating countries learn more about the characteristics of potentially hazardous chemicals that may be shipped to them, initiates a decision making process on the future import of these chemicals by the countries themselves and facilitates the dissemination of this decision to other countries. The aim is to promote a shared responsibility between exporting and importing countries in protecting human health and the environment from the harmful effects of certain hazardous chemicals being traded internationally. The PIC procedure is implemented jointly by FAO and UNEP through the FAO/UNEP Joint Programme for the Operation of PIC (Rotterdam Convention…2004) (Rotterdam Convention Secretariat 2006) (Sustainable Agri-Food Production and Consumption Forum 2006).

There are also rather few national regulatory forces, which restrict the cross border practice of companies having their headquarters in the country (which could be called the home country of the transnational corporation) (Hansen 1999). Some European

countries have requirements for companies to report on foreign subsidiaries'
environmental performance. In Denmark the Industrialisation Fund for Developing
Countries requires companies receiving funding for project in developing countries to
observe certain environmental and ethical standards (Hansen 1999).

The governmental regulation of developing countries is sometimes similar to those of
industrialised countries. It could be because the regulation was developed during a
period where the country was a colony (for example regulation on occupational health
and safety), or because capacity development projects have supported the development
of such governmental regulation. However, the enforcement of the regulation may be
weak due to lack of financial resources, lack of trained personnel and equipment or
problems of coordination between different ministries (Hansen 1999). However,
transnational companies sometimes observe higher standards, because foreign investors
sometimes are subject to tougher enforcement than local industry. The reason could be
that this could take away focus from the local industry, or the reason could be that the
foreign investments takes place in sectors having higher environmental risks and
impact, like chemical industry. The transnational corporations may also apply higher
standards in order to take account of future tougher regulation or to avoid more arbitrary
interventions from local regulators (Hansen 1999).

WTO restricts the possibilities for national and international (environmental) demands
to activities in other countries unless the activities influence the product and its impacts
in the country or countries raising the demand. These restrictions are a consequence of
the Agreement on Technical Barriers to Trade (TBT Agreement), which requires all
members of the WTO to inform other members of their proposed technical regulations

and conformity assessment procedures. WTO tries to draw a line between product demands, which are seen as legitimate, and demands to production and process methods (so-called PPMs), which in general not are legitimate unless a number of criteria are fulfilled (Fisher 2001) (Peel 2002) . The EU has some rules concerning products, which often are manufactured outside the EU, e.g. the ban of (certain) azo dyes in textiles. The RoHS directive (Reduction of Hazardous Substances) regulates chemical substances in electronic and electrical components and products, which often are manufactured in transnational product chains.

Forces, which are drawing in the direction of the adaptation of transnational corporations to weaker local regulation, are the efforts of developing countries to attract foreign corporations through the establishment of so-called industrial free zones (IFZ), free trade zones or just free zones. In such zones certain local regulation may not be enforced or trade unions not allowed operating or tax and customs exemptions are given. Among the so-called site selection factors are potential and flexibility of labour environment, quality of infrastructure, availability of real estate, and access to local markets (Multilateral Investment Guarantee Agency 2007). Country and regional analyses are done to assess the competitiveness of different countries and regions in attracting foreign investments (see for example (Pigato 2001) and (Multilateral Investment Guarantee Agency 2007)).

Types of control in product chains
A typology for the approaches to the control of management in product chains can be built around the division into first party, second party and third party control:

- **First party** – control of own practice, like when a supplier of products and materials gets a questionnaire from a customer and is asked to fill it in.

- **Second party** – direct control of suppliers, like in the control of suppliers by some retail chains through regional production offices or own monitoring company

- **Third party** – when formalised systems are certified and audited by an external, independent part to create legitimacy, credibility and recognition, like certified environmental management systems based on ISO 14001.

International schemes and standards in environmental management in transnational product chains

McIntosh et al (2003) analyse in the book "Living Corporate Citizenship" a number of initiatives, which aim at supporting the development of socially responsible businesses, including environmental management. The following are in the book mentioned as "the Global Eight":

- The UN Compact - with focus on nine UN principles within social and environmental problems and rights and commitment to improve and report

- The Global Reporting Initiative – a scheme for corporate sustainability reporting

- OECD Guidelines for Multinational Enterprises – a broad focus with local practice in a host country, rather than international principles, as norm

- ILO Conventions – a set of core labour standards and a number of more specific conventions on health and safety and child labour

- The ISO 14000 Series – a set of international standards with focus on corporate environmental management and some of the tools within this area like eco-labelling

- The Global Sullivan Principles – a set of principles focusing on corporate social responsibility, but lacking freedom of association as principle and primarily with an American basis

- AccountAbility 1000 – with a focus on organisational learning in combination with social and ethical accounting

- Social Accountability 8000 – an auditable standard on working conditions

McIntosh et al (2003) point to a number of gaps and problems in these initiatives:

- Numerous issues are being ignored, like animal welfare and indigenous rights

- There is a lack of definition and consensus on several major terms, like "the precautionary principle" and "the spheres of influence of a company"

- The initiatives are voluntary and mostly probably not adopted in a pro-active way by companies and companies vary dramatically in their levels of commitment

- The schemes seems to favour large companies

- If the various initiatives are to gain legitimacy, societies will also have to benefit through enhanced social and environmental development and greater access to information

- There are unintended consequences, like when initiatives try to curtail child labour lead to children being fired and resorting to begging or prostitution

The initiatives may be divided into principles and standards, where principles are more overarching values that underpin behaviour. Standards can be very different with more or less focus on process, performance and certification. Recently there has been a tendency towards corporate management combing some of these initiatives, especially UN Compact and Global Reporting Initiative and ISO 14001 and SA8000 (McIntosh et al 2003) of these initiatives.

The ISO 14001 standard contains a number of demands to the certified company, but core elements of the standard also demonstrate a weakness opening for a large degree of interpretative flexibility in how this standard is implemented (Behrndt 2002), here cited from (Jørgensen 2003). These open and at the same time weak elements ('hot spots') are:

- The scope or boundaries of the activities covered
- The identification of environmental aspects and impacts of company activities
- The legal requirements to be recognised by the company
- The policy priorities of the company
- The extended focus in relation to suppliers, products and design

These issues become even more complex when they are analysed as part of the dynamics in transnational product chains with very different national cultures and regulatory systems and levels of environmental and social awareness and responsibility.

The ideal role of third party certified systems can be described like this: Customers (or other stakeholders) should expect that a certified system ensures that a supplier has

control over relevant issues in general, including the performance of its sub-suppliers further upstream the product chain. However, ISO14001 is rather weak in its demands to companies' management of environmental issues upstream (and downstream) in product chains.

In the section 4.3.1 about procedures for identifying environmental aspects it is said (ISO 14001 2004): *"The organization shall establish, implement and maintain a procedure(s)*
a) to identify the environmental aspects of its activities, products and services within the defined scope of the environmental management system that it can control and those that it can influence taking into account planned and new developments, or new or modified activities, products and services".

This paragraph leaves it more or less up to the company to define its environmental scope, since it may decide to say that it cannot control or influence suppliers' or users' activities. If it is a multinational company it may be difficult to justify that it cannot control or influence activities upstream. However, the company may decide as legal basis to have the legal requirements in the host country (where the supplier or affiliate is located), whereby they – according to the typology of Hansen (1999) - practice "local adaptation" in their environmental management.

In the section 4.4.6 about Operational control it is said (ISO 14001): *"The organization shall identify and plan those operations that are associated with identified significant*

environmental aspects consistent with its environmental policy, objectives and targets,

in order to ensure that they are established under specified conditions, by...

c) establishing, implementing and maintaining procedures related to the identified

significant environmental aspects of goods and services used by the organization and

communicating applicable procedures to suppliers, including contractors".

This paragraph demands a company to focus on environmental aspects related to the activities of its suppliers. However through section 4.3.1 the company may decide that it does not find it possible to control or influence suppliers and contractors and it may leave out these aspects in their choice of aspects to focus upon.

A brief analysis of some of the other initiatives, analysed by McIntosh et al (2003), with respect to the product chain aspects, show that the product chain focus often is rather weakly developed. In the Global Reporting Initiative, for example, there is no demand for environmental management in the product chain towards the suppliers. In relation to customers, there is a weak demand for consumer information about health impact of products.

Environmental management practice in transnational product chains

This section presents the environmental management practice in transnational product chains, based on a number of case studies. Some case studies are from a study of Danish textile companies carried out 2000-2002 (Stranddorf et al 2002), while other case

studies are more recent and developed as part of ongoing research in environmental management in transnational product chains (like Jørgensen 2006).

The case studies from the Danish textile sector show that whether a company chooses to address an environmental issue is depending on a number of factors including the present product chain relations and possible ways of integrating the topic into the business strategy. The shaping factors include (Stranddorf et al 2002) (Forman and Jørgensen 2004):

- Governmental regulation of chemicals and materials
- Governmental regulation as public-private sector-based dialogue forum (developing plan for eco-labelled collection of garment)
- Governmental funding, including funding for eco-labelling and for joint development projects with suppliers in developing countries
- Public debate, especially in relation to child labour
- Customer demands
- Expectations to market opportunities
- International economic structures like currency rates and trade quotas.

The same study identified three different types of environmental management practice in transnational product chains with focus on the relations to the suppliers. The aspects, which showed the need for differentiating between different practices, were (Forman and Jørgensen 2004):

- The degree of pro-activity in the sourcing company's corporate environmental strategy

- The tradition for short or long term relationships and for control and/or co-operation with the suppliers in the product chain

- The concepts used by the companies to plan and monitor demands to the suppliers

- The organisational effect of the environmental initiatives on the product chain in terms of development of the competencies in the company itself, the supplier(s) and/or third parties like certifying companies etc.

The three environmental management practices towards suppliers are:

1. **The wake strategy**, where the company does not place own new requirements on suppliers, but follows in the "wake" of organisations, which already place these requirements.

2. **The asymmetrical partnership**, where a company wants long-term relationships with a supplier. The customer is dominating the relationship, builds up a lot of competence itself and controls that the supplier meets the requirements.

3. **The symmetrical partnership**, where a company wants long-term relationships with suppliers and maybe also customers and enters a mutual partnership, where the strategies are developed in dialogue.

Table 3 shows the different tools applied by the sourcing companies to plan and monitor their environmental management in these product chains in the Danish textile sector. The table shows a mixture of formalised tools and structures (like certified systems

based on ISO 14001) and non-formalised tools and structures (like personal relations to suppliers developed through visits to the supplying company).

Table 3. Overview of the relations between environmental supply chain strategies and tools and structures for planning and monitoring environmental management in transnational product chains (based on (Forman and Jørgensen 2004))

Environmental supply chain management practice	Tools and structures for planning and monitoring environmental management in transnational product chains
Wake strategy	• Recruitment of new suppliers who already have implemented the demands due to demands from other customers • Incorporation of requirements into general terms of business which allow contract termination if the requirements are not met
Asymmetrical partnerships	• Code of Conduct • Supply chain management system • Personal relations based on visits • Joint development project
Symmetrical partnerships	• Development of joint goals and joint development of implementation • Personal relations based on visits • Joint development project • Knowledge exchange between the sourcing company and supplier, as well as among suppliers

A specific company might have different supply chain strategies and different environmental management practices in relation to different suppliers, depending on the importance of the supplier and the difficulty involved in changing suppliers. The case studies seem to show that the more aspects besides lowest possible price that is important in the supply chain relations, the more the sourcing company tends to develop fewer and more long-term supply chain relations based on partnership-like conditions. One of the companies in the above mentioned study (Stranddorf et al 2002) mentioned as the argument for developing long term relationships with suppliers and focusing on fewer suppliers that they find it is too time consuming to develop confidence in a new supplier. This is especially the case when the focus is not only on low price, but also on good quality and a certain level of environmental protection. Another Danish company reported that they focuses on fewer suppliers in order to cover so much of the supplying company's capacity that it is likely that the supplying company is willing to establish a certain practice for them as customer.

The focus of the environmental management in time and space

The environmental initiatives in a product chain may focus at different parts of the product chain and for different reasons. Some sourcing companies are concerned about the conditions at the suppliers' facilities, while other are concerned about the conditions at own facility. However, the latter type of concern may also imply demands to suppliers in order to prevent problems at own facilities (for example setting limits to the use of pesticides among the farmers in order to reduce the exposure of own employees sowing T-shirts knitted from this cotton) (Stranddorf et al 2002) (Forman & Jørgensen 2004). Examples of the two types of concerns from the textile sector are:

A. Demands to conditions at the suppliers' facilities:

- Pollution from cotton growing (either purchasing organic cotton or restrictions on pesticide residues (requirement for eco-labelling))

- Child labour

- Chemicals for dyeing (requirement for eco-labelling)

B. Demands to suppliers in order to improve conditions at own plant:

- Buying organic cotton in order to improve occupational health and safety in own plant

- Demands for supply with less hazardous chemicals (due to requirement from local environmental authorities about the environmental load of the waste water)

Three Danish cases with environmental management as a combination of initiatives

An analysis of three Danish companies shows how different initiatives are combined in the environmental management in transnational product chains.

The textile company Novotex has sourced their textile sewing of 'green cotton' products to different Central and Eastern European countries with cheap labour – and has been changing the country for sourcing, as the wages got higher, from Poland to the Baltic countries and later Ukraine. Recently they established a joint venture around a refurbished facility in Ukraine (Novotex 2001). When Novotex started outsourcing the sewing activity, they developed a supply chain management system based on ISO 9000

and ISO 14001 (earlier BS7750) for gradual development of suppliers' management of quality, environment and work environment (Stranddorf et al 2002) (Forman and Jørgensen 2004). The annual action plans were made in dialogue between the Danish environmental manager and the supplying company. The mode of control of the environmental management in the product chain can be characterised as second party control in relation to own suppliers (and now first party control in relation to own facility in Ukraine) through the supply chain management system, combined with third control of Novotex' ISO 14001 system. The type of cross border environmental management seems to globally integrated, since the focus seems to be a combination of Danish conditions as long term goal, but with annual plans developed in co-operation with the foreign supplier.

The shoe company Ecco has gradually since the 1970'ies moved the leather and shoe production to countries with cheaper labour by building sometimes own and sometimes joint-owned facilities in Europe and South East Asia and has recently implemented ISO 14001 at their Thai facility. At the other facilities Ecco has implemented its own environmental management system. The central environmental department is developing the frames for environmental management, which includes a Code of Conduct. However, the actual environmental management practice, for example annual plans for the single plants, is co-shaped in the network with the local plants' environmental co-ordinators. The focus of the environmental management draws also on international guidelines for the shoe sector, the so-called SG list (Schadstoffgeprüft), which contains threshold values for harmful substances in textiles and leather products (Ecco 2005) (Ecco 2006). The environmental management at the different plants is

developed according to a so-called STEP-model (developed by the Danish packaging manufacturer Hartmann (Hartmann 2007)) where the environmental management focus gradually is developed towards a more and more formalised environmental management system and towards focus on not only the facility itself, but also the product and the product chain. The STEP-approach can be seen as a combination of adaptation to local conditions and global integration. The vision is a global integration, but the starting point is the local conditions, which is then gradually improved through training of employees from the affiliates, technological improvements etc. Furthermore, it is combined with the establishment of networks among the environmental coordinators from the different parts of the company, aiming at exchange of experiences, including exchange of solutions to problems developed in one part of the company.

The mode of control of the environmental management in the product chain can be characterised like a first party relation to the supplying affiliates, combined with third party control of the ISO 14001-based systems at the different facilities.

The Danish manufacturer of pesticides, Cheminova, has several times been accused of not having a sufficient ambitious environmental management practice in relation to the transnational product chains it is part of. Part of the critique focuses on the production of pesticides in India, which no longer are allowed to be produced in Denmark. After public and political pressure and pressure from shareholders Cheminova accepted to start phasing out these pesticides and after further pressure from FAO, Cheminova accepted to accelerate the phasing out. Another part of the critique has focused on the responsibility of Cheminova in ensuring safe application of its products in developing countries, where Cheminova was accused of not being serious enough in the

environmental management in the downstream part of the product chains. One consequence has been the development of a CSR Report practice from 2006, because "*..several of Cheminova's interested parties need more and better information about the company's activities and efforts in these areas – also known as Corporate Social Responsibility*" (Cheminova 2007). About the level of environmental protection, Cheminova states that "*Cheminova wants to ensure…is operated in full compliance with international conventions, local legislation and the management philosophy and values, which are promoted in the entire group*" (Cheminova 2006).

The CSR report shows that Cheminova because of the external critique has chosen to develop its environmental management further, both in relation to users and suppliers. Part of the background has also been the development of new international regulation concerning the export of hazardous chemicals – the PIC convention, which was mentioned earlier. This implies that the Danish Environmental Protection Agency has to obtain consent from a non-OECD country, which Cheminova wants to export certain chemicals to. Furthermore, FAO's Code of Conduct is part of the regulatory framework, which Cheminova complies with. This code of conduct is meant to be applied in countries in which the local rules on approval and use of pesticides as well as the enforcement of legislation and rules are not fully implemented (Cheminova 2006). Cheminova has decided to develop product stewardship activities, like communication of information on the correct use and handling of the products, precise and informative labelling, development and marketing of less toxic formulations, use of appropriate packaging materials and phase-out of the most hazardous products to developing countries. For its manufacturing plant in India Cheminova has decided to invest in a new incineration plant and to let the new incinerator comply with expected future air

emission requirements for such plants in India. The Cheminova purchasing department has been provided with tools needed to assess suppliers. In Denmark the company has recently become certified in relation to ISO 14001 and OHSAS 18001. Such plans for the same type of certification are not mentioned in relation to the plant in India (Cheminova 2006). As a summary, the environmental management of Cheminova has been forced to focus more on Cheminova's responsibility towards its customers and suppliers. The environmental management is not based on centralised or global environmental management with the application of the same rules globally, but rather on international compliance based on a combination of host country regulation and international rules for countries with less developed governmental regulation.

Supplier scepticism towards certified environmental management system

Some companies do not find ISO 14001 reliable as basis for their suppliers' environmental management. A British DIY (Do It Yourself) chain found out some years ago that that it could not base its control of suppliers by just demanding a certified environmental management system. Suppliers with certified management systems to the DIY chain did not necessarily focus on the important issues, like whether the timber for garden furniture was from certified forestry. This led to a new strategy with focus on specific demands, which the DIY chain decided. However, the vision was to go back to relying on suppliers with certified systems, since the DIY chain found it too time consuming if it was going to develop requirements for the several thousand goods they were purchasing. Otherwise the amount of control which the DIY chain had to do was considered to become too big. Other examples with scepticism towards environmental management in supply chains based on the suppliers' third party certified environmental

management systems seem to be found in the meat industry, the retail sector and the oil and gas sector. An oil company seems to have started demanding that they get to know how the important aspects in the environmental management system of the supplier have been found.

The relation between policy and practice is also within the environmental management in transnational product chains a crucial issue. One example is the independent external assessment from the co-ordinator of a Fair Trade Center of the corporate social responsibility report from the garment retailer H&M in 2004, which were included in the report: "*H&M's code of conduct states that 'We have to make sure that nobody whose work contributes to our success is deprived of his or her human rights, or suffers mental or bodily harm. This is not the reality of H&M's production today, and unfortunately this is not made clear in the report. The report does not describe the conditions under which H&M's products are produced. From the report it is impossible to see to what extent H&M's code of conduct is followed. H&M holds much of this information already, and it should be presented. This lack of quantitative information on working conditions makes it hard for the reader to follow the development of H&M's work. The reader will not be able to know if H&M is indeed improving, or if conditions are actually deteriorating*" (Hennes & Mauritz 2004).

New modes of environmental management in transnational product chains
Some new modes, including new types of stakeholders within environmental management in transnational product chains have developed the recent years. Four

examples will be mentioned: Forest stewardship, the Ethical Trading Initiative, the Business Social Compliance Initiative and the MADE BY initiative.

Forest stewardship was probably one of the areas, where initiatives early were developed in co-operation between businesses and civil society organisations. After critique from NGOs of unsustainable timber logging, Forest Stewardship Council (FSC) was established in 1990'ies as an international association of representatives from environmental and social groups, the timber trade and the forestry profession, indigenous people's organisations, corporations, community forest groups and forest certification organisations from around the world. Focus was on timber projects and on certification of timer logging (Forest Stewardship Council 2003a). Around 2002 critique of FSC's activities was aired, for example by the Rainforest Foundation, who pointed to flaws in certifications being carried out in FSC's name. The Foundation said that one of the main problems was the "*inability or unwillingness of the FSC to properly control it's accredited auditors, or 'certifiers', of logging companies and to ensure that the FSC's standards for forestry are actually upheld. In addition some of the FSC's rules have allowed for easy abuse of the certification process*" (Rainforest Foundation 2004). FSC admitted that they had been problems in some areas (Forest Stewardship Council 2003b) and the certification of one logging company was suspended (Rainforest Foundation 2004). The case shows that also in business-NGO initiatives is it important to focus on the coherence between policy and practice. Furthermore, that changes of business practice takes time and that transparency of business practice, including the auditing practice, may be difficult to obtain. It also shows that disputes about the level of commitment, the speed of changes etc. may become topics for disputes among

different organisations involved in environmental and social initiatives within the same field.

The Ethical Trading Initiative (ETI) is a joint initiative between retailers, trade unions and environmental NGOs in the UK. The reporting from the ETI members' meeting on 16 November 2006 shows several problems experienced by companies sourcing in transnational supply chains, but also examples of good practice. The problems seem, in some cases, to be based on limited auditor skills and in some cases on fraud from supplying companies, when they try to hide their real labour practice. The analysis of the background part of the problem points also to the practice of the customer companies themselves as part of the problem. If a customer company uses a very short lead time (from the time for ordering products to the time for requesting to receive them), it is said to be more difficult for a supplying company to have time for adapting to conditions required from the customer and the risk of fraud becomes bigger (ETI Forum 2006).

Another new stakeholder is the Business Social Compliance Initiative (BSCI), which is a business-driven platform for the improvement of social compliance in supplier countries and for consumer goods. The membership comprises more than 80 retailers, industry and importing companies from 10 countries. Through pooling efforts and resources, the members are promoting a common monitoring and factory development system. The initiative is supposed to show that these companies also take responsibility for the improvement of the working conditions under which the goods they purchase are produced. The pooling efforts and resources created by the BSCI is supposed to put the

member companies in a stronger position to require their suppliers to improve the working conditions in the sourcing factories. The BSCI claim to advocate a development oriented approach enabling the companies and the suppliers to work together on practical solutions to reach the required standards (BSCI 2007).

The last new type of stakeholder within environmental management in transnational product chains to be mentioned is MADE BY, which is a company and a label developed by a Dutch NGO, Solidaridad. MADE-BY makes it possible for a garment to be sustainable produced from start to finish. Solidaridad and MADE-BY work on this together with local social organizations and the fashion brands affiliated to MADE-BY. The fashion brands take care of the collections and Solidaridad and MADE-BY make sure that the production of the clothing is both "fair and clean". One way of doing this is to support producers in obtaining social certification, and another is to set up organic cotton projects (Solidaridad 2006). MADE BY describes their activities as (MADE BY 2005)

1. The creation of a consumer preference (communication).

2. Involving as many garment brands as possible with MADE-BY (marketing).

3. Building a network of certified suppliers (producer development).

4. Creating chain transparency and guarantee of origin (supply chain management).

Concluding remarks

The role of the involved nation states in transnational product chains is often limited. In some cases international regulatory initiatives may influence some aspects of the environmental management in transnational product chains. The interpretative elements in ISO 14001 imply that some companies are sceptical about this kind of management in supply chains and in stead practice direct control of suppliers based on more specific demands. New types of stakeholders which may have different types of facilitating roles in environmental management have developed. The analysis has shown that the handling of an issue in a transnational product chain demands knowledge resources and structures for the translation and evaluation of environmental concerns. Parts of such a capacity can be built by a number of different – both traditional and new - stakeholders:

- A company
- A product chain (with different types of partnerships between suppliers and customers)
- Business initiatives for sourcing companies like BSCI
- NGO's and NGO-initiative like Solidaridad and MADE BY
- International institutions like FAO
- Multistakeholder initiatives like FSC and ETI

The cases discussed in the paper show that the level and the focus in time and space of the environmental management in a transnational product chain is influenced by

- The strategic interpretations made by the involved companies of the level of environmental protection and the perspective on competence development in the product chain.

- The international and national regulation of companies, foreign investments, products and materials etc.

- The pressure for transparency and control from customers, public debate and NGOs

- The competencies of second party and third party auditors

There is a need for more analyses of environmental (and social responsibility) management in transnational product chains. This includes a need for more knowledge about the interaction between different stakeholders and different national and international schemes, labels etc. Furthermore, there is a need for capacity development projects with focus on how national and international schemes, labels etc. could become part of stronger socio-technical networks. Some initiatives could be:

- Stronger demands for transparency in product chains, including the potential role of the development of national and international registers of emissions from companies, like the PRTR-register (Pollution Release and Transfer Register), based on the Århus Convention about access to information, public participation in decision-making and access to justice in environmental matters

- Better national and international guidelines and standards with more focus on the level of responsibility companies should practice in sourcing and outsourcing, and in product stewardship.

- Better education and control of auditors and use of local stakeholders in auditing in transnational product chains.

- A more efficient use of public procurement as driver in market development for more environmentally sustainable products.

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