Proceedings of the international conference on trade, environment and development: The North-South Dimensions

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Proceedings of the International Conference on Trade, Environment and Development: The North-South Dimensions

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1. Introduction

1.1 Background

Over the past few years, the trade and environment debate has matured rapidly. Initially, discussion was restricted to a number of relatively technical issues concerning the GATT/WTO regime. It was widely assumed that the debate on trade and environment was primarily a concern of the developed countries. Indeed, many developing countries articulated their fear that environmental requirements would emerge as another layer of protectionism for developed country markets. Since then, the trade and environment agenda has expanded to include many of the WTO agreements as well as regional trade negotiations and investment agreements.

A southern perspective on trade and environment has been emerging. This focuses on the development dimension, drawing on the discourse on sustainable development, and includes a number of issues of immediate concern for developing countries, such as the relationship between the genetic resources and intellectual property rights (IPRs), issues of market access, and the role of environmental measures in agricultural support policies. The decision to include a range of environmental issues in the Doha mandate was reached with the active support of several developing countries.

1.2 About the Conference

This report presents the proceedings of the second International Conference of the Concerted Action on Trade and Environment (CAT&E), which was held at the Trippenhuis of the Royal Netherlands Academy of Arts and Sciences (KNAW) in Amsterdam, The Netherlands on November 1st and 2nd 2004. The topic of the Conference was 'Trade, Environment and Development: The North-South Dimensions'. The Conference aimed to provide a forum for the presentation of recent research on various topics related to the nexus between trade, environment and development issues, and for consideration of the implications for policy. The Conference was organised in six sessions revolving around six priority issues:

- Trade and sustainable development: systemic issues;
- Trade and sustainable development: regional, national, and local case studies;
- Trade in commodities, including genetically modified organisms;
- Sustainability Impact Assessment;
- Genetic resources and intellectual property rights (IPRs);
- Market access, including (eco-)labelling.

The two-day Conference was attended by over 60 participants from both developed and developing countries, and from a variety of backgrounds (see Appendix II for the list of participants).

Information on the first CAT&E Conference, 'Moving forward from Cancún', which took place in Berlin, Germany on October 30th and 31st 2003 can be found at the website of Ecologic (http://www.ecologic-events.de/Cat-E/).

1.3 About CAT&E

The trade and environment policy and research agendas have expanded rapidly in recent years. Following conclusion of the Uruguay Round the agenda of the World Trade Organisation (WTO) expanded to incorporate a number of environment related issues. The rapid expansion of the trade and environment agenda has created a major area of research that is attracting researchers in virtually all member states. The Concerted Action on Trade and Environment aims to ensure the debate between these research centres and to draw new participants into the process. CAT&E includes participants from almost every member state and also provides for dialogue with policy makers. The concerted action is structured around a series of substantive questions and will also respond to the dynamics of this evolving research agenda and generate new impulses for research. The major issues addressed are: issues arising from existing trade agreements, issues arising from related environmental policies and institutional issues.

The objectives of CAT&E are:

1. To foster an in-depth debate on the broad range of issues arising in the trade and environment agenda involving policy makers, other stakeholders and researchers;
2. To hold annual members' meetings and conferences for three years to develop and focus research in the trade and environment agenda;
3. Promotion of EU research leadership and improvement of research networking and capacity building between EU countries.

CAT&E is funded by the EU 5th Framework Programme and is expected to run from 1/12/2002 until 1/12/2005.[1]

For more information on the CAT&E network, the latest versions of the State of the Art reports, as well as further documentation of this Conference (including the presentations), see the CAT&E website: http://www.cat-e.org.

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[1] The European Commission, Directorate-General Research, 5th Framework Programme, Contract no. EVK2-CT-2002-20017.

2. Conference proceedings[2]

2.1 Opening

Konrad von Moltke of the Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands opened the conference by stating that the linkages between trade, environment and development are among the most intractable issues in the trade and environment debate.

The keynote speech of the conference was given by Prof. **Paul Ekins** of the Policy Studies Institute, UK, whose presentation addressed the defining issues of trade, environment and development, which will determine the lives of both researchers and human beings in general.

Three aspects of the 'big picture' are first presented: globalisation, multilateralism and environmental pressures. Globalisation can be seen as a process of growing international interaction. Gaining knowledge about this process is extremely challenging, which is shown in the discussions about whether globalization is 'good'. It is difficult to judge whether it is a process of liberation or a process of enslavement. Arguments for both sides can be found. The task for scientists is to try to find evidence to come to some sort of understanding. Multilateralism is a concept related to globalization, which has been challenged recently (notably by the US national interests). The WTO is a centrepiece of the multilateralist endeavour. Regional integration, of which the EU is a prime example, is also an important element. Emerging developing country superpowers (China, India Brazil) are increasingly entering into the processes of regional integration. Terrorism may or may not be important depending on the way nations respond to it. The role of the Islam is also important, because of the number of people it affects. With regard to environmental pressures, including climate change, biodiversity/biosafety, and chemical pollution, we have to ask how important this is. Does it matter that there is only 10% of the global fish stocks left? We may never know this definitively, which is an extraordinary situation. By the time we do know, abating environmental degradation may be either very costly or impossible, which emphasizes the need for precaution, which is very difficult to implement in policy.

The evolution of trade issues is discussed next. The traditional trade issues (GATT, non-discrimination, liberalisation, comparative advantage etc.) are not really questioned, although at the theoretical level some of the explicit assumptions are no longer valid. Commodities and agriculture represent very interesting areas. For commodities, the complexity at the institutional level is astonishing for even one commodity. Agriculture is related to food security in a fundamental way. Can we be sure that the market will work? With regard to the issue of development, it is remarked that alternative approaches to mainstream economic liberalisation seem extraordinarily ill represented in the trade negotiations. Two of the most important crosscutting issues are governance and

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[2] The authors of this report would like to thank Kyla Tienhaara, Chris Evans, Sliman Abu Amara and Francesco Sindico for their valuable assistance before, during and after the Conference.

the (sustainability) impact assessment of trade liberalisation. The international need to be integrated in a world where nation states are both too small and too big. At the nation state level, the trade departments still sometimes do not communicate with other government departments. Also at the international level, we cannot keep this separation of issues. With regard to the integration of the WTO and multilateral environmental agreements (MEAs), there has been a complete lack of progress.

Paul Ekins presents his 'big picture'.

There are lots of strongly held opinions on the subject of trade, environment and development, but what we know is very little. Policy-makers, however, are dependent on our advice and we therefore have a responsibility to enlarge our knowledge base and share it. Knowledge is contextual, but the big picture can change quickly and tremendously. In order to cope with a situation like this, we need to keep our analyses broad and flexible. It is important to be able to actually say something when the political window is open. Therefore, we need to do the fundamental work now so that we are ready when the policy space opens up.

2.2 Trade and sustainable development – systemic issues

The Chair of the first session, **R. Andreas Kraemer** of Ecologic, Germany, highlighted many difficulties, stressing that we need to look in various perspectives, not only environment vs. trade, but also look at the impacts on developing countries. That is why we have this conference on the Southern agenda.

After the introductory remarks, **Shaheen Rafi Kahn** of the Sustainable Development Policy Institute, Pakistan gave his presentation on the Southern agenda for trade and environment, in which the Southern concerns with regard to trade and environment are highlighted.

Southern unity is becoming increasingly evident. At Seattle, the Southern countries stances were still incoherent but in Cancun they were far more unified. As a consequence of the Cancun deadlock, the North continued to engage in bilateral and regional trade agreements. It is quite clear, however, that the Doha Round needs to be put back on track and that multilateralism in trade negotiations suits both the North and the South. There is scope for common ground that should be identified.

The issue is now no longer whether trade and environment are linked. The challenge is how best to address environmental problems within a rules-based multilateral trading system. The Doha mandate leaves negotiating space for the South. The challenge for the South in this changed scenario is to craft a Southern agenda which can counterbalance – as well as benefit from – asymmetries related to affluence, bargaining power, science, technology and institutional capacity. There are two negotiating principles for the South:

- Persisting with sustainable development;
- Taking a uniform approach in special and differential treatment (SDT).

Clearly, the South needs to persist with its stance that the environment cannot be divorced from its broader context of sustainable development. Environmental compliance should be built around a level playing field. The South, however, needs to recognise that compliance with environmental standards can generate win-win results. With regard to SDT, the South is a heterogeneous group, therefore adopting a common position is difficult. There is also intra-country heterogeneity. Therefore, SDT needs to be invoked for the lowest income level quintile.

There are also two negotiating premises for the South:

- Dealing with multinational corporations and market realities;
- Recognizing global-regional synergies.

The South also needs to understand that the North more often than not negotiates on behalf of multinational corporations (MNCs). Understanding that they are negotiating with 'the profit motive' should create bargaining chips. The South should also accept market realities. This includes the fact that businesses in the North need to comply with certain 'voluntary' environmental and quality standards. Regional and bilateral approaches are viable ways to deal with trade and environment linkages, but should be oriented towards WTO consistent agreements.

In establishing a Southern agenda there are a number of regional issues, including the Agreement on Agriculture, trade and environment, GATS and TRIPS. What kind of regional construction can one imagine? With regard to trade and environment, the South is entering into more intense competition and lower tariff barriers; there is a need to become lean, clean and socially aware in order to survive. Moreover, it is not only expedient but also profitable to comply with standards, through access to niche markets. Furthermore, compliance is not a one-way street; it is also in the public interest.

National and regional standards need to be brought in line with international standards. TBT & SPS principles already exist. The volume of interregional trade is so large that these standards become important. However, there is a problem of the need to comply and how to comply. Capacity building is needed, because now the Northern standards do not reflect Southern culture. The WTO should play a more proactive role to strengthen-

ing capacity for compliance in developing countries. The suggested framework for capacity building is a regional infrastructure linked to key national standard bodies, which should promote the harmonization of standards globally against international standards.

The second speaker in this session, **Stefan Giljum** of the Sustainable Europe Research Institute, Austria presented his paper on 'North-South trade and global patterns of natural resource use: implications for governance of trade and the environment'. The motivation for this study is the recognition that current development paths are environmentally unsustainable and that the expectation of developing countries 'catching up' tends to ignore environmental constraints. The increasing empirical evidence of global environmental problems illustrates that the present level of global anthropogenic environmental pressures, to a large extent determined by industrial economies production and consumption activities, does not comply with environmental sustainability. The insight that the globally available environmental space is limited, albeit with flexible boundaries, adds a new environmental dimension to the question of international justice and the sustainability of the global economic system. This raises arguments over the desirability of trade liberalisation. Although liberalisation may increase global economic growth, it may also result in an unequal distribution of environmental pollution.

This study is a product of the EU funded MOSUS project (Modelling opportunities and limits for restructuring Europe towards sustainability). From an ecological economics perspective, the role of international trade for worldwide resource extraction and for the formation of different patterns of resource use in North and South is assessed through a global material flow model. Using material flow analysis (MFA) based indicators, such as the physical trade balance, it is illustrated that trade liberalization increases the total scale of resource throughput and leads to an unequal distribution between North and South of natural resource consumption on the one hand and environmental burdens on the other hand. In terms of material intensity, North America and Europe have the lowest rates and transition countries and Africa have the highest. There is evidence of leakage of environmentally intensive production to the South.

Based on these empirical findings, it is argued that the current design of the world trade system, in particular the focus on economic growth as the main strategy for both upgrading environmental quality and alleviating poverty, threatens the environmental and social sustainability of the global economic system. As an alternative, a framework is presented for reconciling trade and the environment from a resource use perspective. It is argued that the key objective for a reform of world trade towards environmental sustainability is a decrease of international physical trade flows, as part of a more comprehensive strategy towards an absolute reduction of global resource use. A set of policy measures for dematerialisation is presented, aiming at drastically reducing the Northern share in the use of global environmental space. Heavy taxation on resource use can be expected to cause significant unemployment and so an argument is made to reduce taxation on labour. At the same time, policy strategies for stimulating structural change towards production of exports with higher value-added in the South are required to counterbalance the likely negative impacts of decreasing Northern demand on resource-exporting economies. Developing countries need to diversify both horizontally and vertically away from resource intensive production.

Anna Kukla-Gryz from the Department of Economics at Warsaw University, Poland presented her paper on 'Use of Structural Equation Modelling to examine the relationships between Trade, Growth and the Environment in developing countries'. This title is different from the one given in the abstract for this paper as the presentation focuses more on developing country issues. The key question addressed by this paper is whether openness to trade is good or bad for the environment in developing countries.

According to the Environmental Kuznets Curve (EKC) hypothesis, environmental degradation increases in the early stages of growth, but it eventually decreases as income exceeds a threshold level. It is thus often argued that if international trade increases incomes then it can also have a positive impact on environmental quality. On the other hand a reduction in trade barriers may lead to a shift in pollution intensive production away from countries with stringent environmental standards towards those with weaker environmental regulations (pollution haven hypothesis). Moreover, developing countries may reduce their environmental standards in an attempt to attract foreign investment (race-to-the-bottom hypothesis). The testing of these hypotheses has already received considerable attention but without producing a definitive conclusion. The major difficulties in testing these relationships in developing countries are the scarcity of the environmental related data (poorest countries have also the least developed methods of accounting and monitoring), the need to aggregate across different environmental indicators, and the limited comparability of such data between countries. Kukla has attempted to solve these problems by defining environmental quality, health care and development as latent variables in a structural equation model (SEM). SEM allows the combination of many structural relationships into one model giving the possibility of including many mechanisms in one model, e.g. between openness and economic growth, openness and environmental quality, economic growth and environmental quality. It is further assumed that these variables are correlated with each other and are described by their available outcomes: access to an improved water source, health-adjusted life expectancy, fertilizer use intensity, industrial carbon dioxide emissions etc., and indicators: structure of international trade by region and by product, the amount of international aid received by country, foreign direct investment, income per capita etc. Using LISREL Software, these structural relationships are combined into one comprehensive model and further estimated and compared for developed and developing countries. The results show that we should be more sceptical about the existence of a simple and predictable relationship between openness to international trade and per capita income. GDP growth produces environmental gains and losses in different areas – negative impacts through carbon dioxide emissions per capita and fertilizer use intensity but positive effects through an increase in the proportion of the population with access to clean water and sanitation and the area of forest cover. No significant relationship was found between the variables ‘exports to developed countries’ and ‘openness’ and the ‘quality of the environment’. This study does not therefore find evidence to support the ‘pollution haven hypothesis’.

The final speaker in this session, **Michelle Pressend** of the Sustainable Development Research and Policy Support, Department of Environmental Affairs and Tourism, South Africa, presented her paper on ‘Environment in the International Trade Agenda: A Perspective from the Experience of the Southern African Custom’s Union (SACU) – United States Free Trade Agreement (US FTA) Negotiations’.

The dichotomy in the trade, environment and sustainable development agenda has caused developing countries to view the inclusion of environment in international trade negotiations with much sensitivity at the multilateral, regional and bilateral levels. As environment related text in trade agreements is perceived to often work against developing countries because environmental measures imposed may often restrict market access and be disguised as non-tariff trade barriers.

The Southern African Custom's Union (SACU) and the United States of America is presently negotiating a free trade agreement (FTA). The US Trade Promotion Authority requires that all FTAs include an environment and labour chapter. This paper seeks to share the experience gained during the negotiations of the environment chapter and the potential environmental implications in the other negotiation chapters such as intellectual property rights, market access, and investment and trade in services. Pressend argues that an environmental focus on the international trade agenda in the current global context might pose more harm than good and that with the reciprocal nature of FTAs it is often the case that the Southern country gives more.

The environment chapter of the US FTAs all have common articles. The provisions seek to protect and preserve the environment and effectively enforce environmental laws so that governments do not weaken their environmental regulations to attract trade and investment are fundamental negotiating objectives of the US Trade Promotion Authority. Furthermore, situations of non-enforcement of domestic environmental laws of the trading Party are subject to dispute settlement.

For SACU it is crucial that the environment chapter should be based on principles agreed to in international environmental governance upon which SACU members have based their national environmental policies and legislation to ensure environmental and natural resource protection and that the FTA does not pose a threat to the livelihoods of communities that are dependent on natural resources. Pressend argues that the environment chapter of the FTA should not be subject to a separate dispute settlement mechanism and that cooperation on technology transfer and exchange, capacity building, etc. should be pursued through efforts to meet MEAs. In terms of capacity and resources to monitor breaches of the FTA rules and trigger dispute mechanisms, the US has a considerable advantage. Capacity problems and insufficient public pressure in SACU may result in US companies not being challenged for non-compliance.

The ongoing work on the SACU-US FTA revealed the huge scope and complexity of issues related to trade, environment and sustainable development and the need for the Department of Environmental Affairs and Tourism's (DEAT) and Trade and Industry (the DTI) to deepen their understanding of the implications of the international trade and environment agenda. A key concern is that the FTA must not undermine SACU's ability to deliver on other key policy objectives such as economic development for poverty alleviation and job creation. There are also concerns regarding trade in environmental goods and services and technology transfer. Trade in environment goods and services under the auspices of the FTA with US may open SACU to inappropriate and expensive technologies without improving local capacity and products.

A number of suggestions are made for ensuring that trade supports sustainable development. A strengthened role is seen for the UN organisations such as UNCTAD, which could support a sustainable development agenda in trade. In addition MEAs need to have

stronger focus on the impacts of trade. To prevent and mitigate contradictions, trade discussions should be encouraged in the UN system within a sustainable development framework. There is also a pressing need for improvement in the institutional and resource capacity of Southern countries to deal with trade and environment concerns at a national government level. In SA, the trade department needs to establish a competent complement of officials to be able to manage South Africa's trade and environment policy.

In conclusion, Pressend points to the need to understand the complex implications of trade for jobs, food, and environment. In the current context of global trade, especially in light of the de facto barriers imposed by environmental factors in trade, a critical consideration is the 'real costs' to local development and the livelihoods of communities dependant on natural resources in the South. Critical elements to ensure sustainable production and consumption and that the wealth derived from trade benefits the poor need to be pursued through other mechanisms and particularly through a strengthened role for the UN in supporting a sustainable development agenda in trade.

In the following **discussion**, it was remarked that the presentations gave a kaleidoscope of views on trade, environment and development. They looked at modelling from the North, as well as negotiations from the South. It was recognized that the modelling is important to the South, but added that there is a need to translate quantitative analyses into policy recommendations for the South.

One participant wondered how international standards could be implemented in poor countries and why foreign direct investment (FDI) is going to 'closed' China instead of 'open' Africa. With regard to international standards, it was stated that the South is a standard taker, not a standard-setter. But what if there is Northern disagreement over setting the standards. Is this empowering the South or will it have adverse effects? With regard to the FDI question, it was stated that openness is but one of the factors attracting FDI. Political stability, infrastructure and institutional frameworks are also required. Another speaker made the connection to the freedom index.

Another participant saw the outlines of a Southern agenda. In response to this one speaker indicated that the Southern agenda relates to the issue of capacity. There should be an infrastructure, also with regard to standards. There is a potential for standards, which we are not yet using.

2.3 Trade and sustainable development – national and local case studies

The Chair of the second session, **Onno Kuik** of the Institute for Environmental Studies, Vrije Universiteit Amsterdam, the Netherlands, noted that three out of the four following presentations address the negative aspects of export-promoting policies.

The first presentation is by **Paul Sarfo-Mensah** of Kwame Nkrumah University of Science and Technology, Ghana, who discussed the linkage between external timber trade in Ghana and the increased incidence of illegal chainsaw operations.

The paper presented is based on data gathered by talking to policymakers, and also statistical data. Ghana has gone through dramatic economic changes in the past years: first there was a free fall of economy, then an intervention of the World Bank through a re-

covery programme. The political economy has also changed various times, since 1992 Ghana has been a democracy.

The effects on the timber sector were first a consistent decline in exports, but later increasing exports. Incentives for exporters were provided, which had as result that the more a firm exported, the greater the benefits. The effect was accelerated deforestation, enormous environmental costs, and a neglect of local market, which increased the incidence of illegal logging to supply local market. There has been a policy shift towards sustainable timber industry, including the phase-out of log exports, sustainable forest management for poverty reduction, and more transparency in the process. The overall objective of this shift was to achieve low volume, high value timber exports: exporting less and getting more.

The key issue now is that the export trade in timber and wood has been encouraged, but little attention has been paid to the local market. Now, the local market is supplied by illegal logging. There have been attempts to address this problem through several policies: levies to reduce exports, permits to chainsaw operators and traders, designated formal timber processing firms. However, none of these policies worked. Ten percent of the local supply comes from formal sources, the rest from illegal chainsaw operators. Illegal chainsaw operators are outsiders, but have local co-operators. The majority of illegal operators are itinerant and are difficult to track down. They also use firearms, and attack forest guards and local people. They occupy concessions and destroy equipment. The demand driven nature of illegal logging makes it more complex than the minister recognizes. The environmental implications are that local environmental values are undermined, and that forests are destroyed for hunting. In general, the frustration of the local people is that there are no benefits for local communities.

The conclusion is that the country's forest and tree resources face massive degradation and overexploitation if government does not take a bold decision on illegal logging, especially the activities of chainsaw operators. An option, though unpalatable and politically sensitive, may be the mainstreaming of chainsaw operations through the reintroduction of limited permits to registered local groups of timber traders and their chainsaw operators to supply the domestic market. This should be under a system, which enjoins such groups to be collectively responsible for the activities of their members. And, the government should also strengthen the Forestry Services Division (FSD) to design and operationalise an enhanced monitoring and surveillance system of logging activities.

Eva Tosovska, from the Economics Institute Academy of Sciences of the Czech Republic presented her paper on 'Foreign Trade in Environmental Goods in the Czech Republic'. The growing significance attributed to environmental protection and sustainable development has resulted in an increased focus on trade in environmental goods. Tosovska presented an analysis of the trade flows and tariff rates of environmental goods in the Czech Republic in the period 1993-2002. Data related to exports, imports, per-kilogram prices, net weight and tariff rates have been assigned to each of item of the OECD environmental goods list. The export and import of environmental goods was investigated from the point of view of foreign trade territorial structure. The five indicators have been used to describe the achieved level of liberalisation of trade in environmental goods in the Czech Republic.

The key findings of this analysis are that the total trade balance for environmental goods has been negative throughout the whole period under review. In 2002, the share of environmental goods amounted to 6.4% of total Czech imports and 5.1% of Czech exports in value terms. A comparison of the price per kilogram of environmental goods indicates an existing unutilised potential for improving the technological level of relevant products. Wastewater management goods have the largest share in both the imports and exports of environmental goods.

The overall dynamics of the foreign trade in environmental goods has been determined by the trade with advanced countries, specifically Germany. Czech trade in environmental goods with developing countries has been marked by absolutely contradictory tendencies: only a very low increase of environmental goods exports in the developing countries has been noted, but Czech imports of environmental goods from developing countries have grown very dynamically over the same period.

All the Czech Republic's tariff lines for environmental goods are bound at the level of the applied MFN rate. Around 12% of the tariff lines for environmental goods are duty-free – which is 4 times the EU rate. The simple average of bound customs tariffs on environmental goods imported to the Czech Republic is 4.0. An overwhelming majority of tariff lines on environmental goods are subject to duties of 5% or less. The general conclusion is drawn that the Czech Republic tariff systems support and encourage trade in environmental goods.

Roldan Muradian from the University of Tilburg presented a paper by Clara Whyte, Chloé Cadier, Richard Pasquis, and Geert Van Vliet, titled 'Soy Expansion in the Brazilian Amazon Region: A Local and Social Global Dilemma'. In the context of expanded international trade and a favourable international market, Brazil has become the largest exporter and almost the largest producer of soybean in the world. Soybean production now represents about 6% of Brazilian GDP and employs approximately 5.5 million people. This expansion is similar to past developments in the growing of sugarcane and coffee. Behind this apparent economic success, social and environmental negative impacts are at stake. Social exclusion and rural exodus has resulted from the fact that soybean agriculture is intensive in technology and land use. Economies of scale have favoured intensive modes of production, which have led to water pollution, soil erosion, deforestation and loss of biodiversity. Indeed, the development of Brazilian soybean production has been achieved by extending production, traditionally in the South of the country, to new areas in the Legal Amazon. The process of expansion is characterised by the emergence of an entrepreneurial approach to production and the strong presence of multinational firms. Several actors and agents are involved, each acting globally and/or locally in order to defend their own interests.

The production of soybean represents a classical social dilemma of Common Pool Resource conservation: soybean expansion or environmental preservation? The social and environmental impacts are present at different scales: one is local, as the use of local resources provides benefits, and the other is global, as the global community is affected by this activity. Several solutions have already been implemented but due to the contradictions in environmental and agricultural policies, and because of the dominance of economic interests, attempts to solve the dilemma have failed. Forest law in Brazil is quite strict – forested land is required to be kept 80% forested for the common good – but

there is problems in enforcing this law due to lack of resources. Past experiences show that environmental taxes are very difficult to apply in Brazil. Lobby groups also make it difficult to introduce taxes, and the government is cautious of scaring off the large soybean companies.

One of the main questions of this study is how can we then promote sustainable soybean production in the Amazonian region? It is too simplistic to assume a positive relationship between liberalisation, openness to trade, growth, and positive environmental outcomes. This dilemma needs multi-stakeholder dialogues and a global institutional framework – with possibly some form of compensation from consumers (consumer liability) to where the degradation is occurring. An argument could be made for an international environmental tax.

Next, **Ignace Mchallo** of the Centre for Environmental Economics and Development Research, Tanzania presented the case study of the Tanzanian forest sector in the UNEP project on environmental impacts of trade liberalisation.

The forest sector is relevant to the Tanzanian economy, since Tanzania is a country with many tree and animal species, and since forests are very important for energy, exports, construction etc. The project approach was participatory, multidisciplinary. UNEP provided technical, financial support and a reference manual for assessment. The objectives of the project were to develop in-country methodologies, carry out integrated assessments (IAs) of trade liberalisation for the forest sector, and to develop policy packages. In the development of in-country methodologies for making an IA, the main challenge was data availability.

There have been both positive and negative environmental impacts. The positive impacts include tripled export contribution, increase in employment, GDP contribution, new technologies, inputs availability and investment growth. All have increased capacity utilization. Negative impacts include increased deforestation, loss in agric productivity, and water source destruction. The total economic costs of environmental impacts have been estimated at 80 million dollar, 4% of GDP. The social costs cannot easily be computed. There is revenue loss from smuggled products, and greenhouse costs, because of the loss of sinks. Combining the assessments, the total discounted costs are 520,931 dollar. The environmental costs offset the benefits. This is something policymakers need to be aware of, and take into account in decision-making.

Recommended policies to mitigate the negative impacts include pollution control agreements, forest product charges, proper licensing, certification, and strengthening the existing command and control measures. The Tanzanian government has usually shown a willingness to work on these issues, and they are currently undertaking forest sector reforms covering all of the aspects. However, what is really needed is policy coherence and capacity building.

In the **discussion** after the last presentation, the question was raised whether Ghana and Tanzania would not be better off by simply banning the export of timber. The answer to this was that it was not straightforward. The forest sector employs many people and contributes to GDP. There is a need for sustainable forest management, and their needs to be a balance between exports and supplying the local market. Another participant argued that the export of raw timber produces a net loss. When you do not have the capacity to

police the sector it is easier to ban export of raw timber and focus on value-added products, and export for example furniture instead. It was acknowledged that the latter is important, but that banning is very difficult to monitor. Local participation is important, instead of just government control.

Another participant wanted to know whether we need to focus on stronger, more effective and accountable governments or more on corporate governance (and less government control). It was then argued that democracy and accountability are key and that this has brought much more responsibility in Ghana. Much of the problems are in the governments and that is where the focus should be at.

Someone else was interested in the strong sense of evidence base that came out of the cases. In the two African cases there appeared to be recognition that the natural resources exploitation was wealth destroying and not wealth creating. The question is then whether we need a combination of local, national and global policy. It was felt that local participation is key. The local communities have realised the importance of forests and are now active in advising governments. International policies do not favour developing countries (e.g. World Bank). However, there were calls for a stronger institutional framework.

2.4 Trade in commodities (including GMOs)

The third session was introduced by **Alice Palmer** of the Foundation for International Environmental Law and Development (FIELD), UK, who remarked that all the following presentations dealt with emerging commodities.

The first presenter, **Pieter van Beukering** of the Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands presented his study on the effects of international trade of secondary materials on the economy and the environment.

The aim of the study was to determine the economic and environmental significance of the simultaneous increase in trade and recycling of recyclable materials. One of unsurprising trends in trade and recycling has been the increase in recycling in both OECD and non-OECD countries. The recycling of secondary materials has increased in both as well, whereas international trade of secondary materials has grown at an even faster rate. While the North-North trade has declined, the North-South trade has increased.

The causes of increased trade in recycled materials were studies through a regression analysis. Population density, the openness of the economy and income provided an incentive to recycle, whereas primary endowment and economic growth reduced incentives for recycling.

To study the effects of the trade in recycled materials a model was used, integrating the full life cycle, taking into account an internalisation of external environmental costs. Three case studies were performed, one on Indian waste paper trade; one on Chinese waste plastic trade; and one on used truck tires from Western to Eastern Europe. In each case, trade was banned, due to suspicions with regard to benefits; each time it was discovered that they were important aspects of the trade system. In the Indian case, it was concluded that the quality of recycled paper was improved, environmental damage was avoided, and that the local recovery business was not crowded out – thereby debunking a persistent myth. In China, the recycling industry was encouraged to increase their scale of production, and there was less environmental damage because of greater efficiency in

large-scale operations. Furthermore, paper price fluctuations were mitigated by providing an extra source of supply. The European case showed more negative results. The lifetime of tyres was extended: they were reused in Eastern Europe after deemed too much used for Western Europe.

In sum, developed countries are talented in recovery, and developing countries are more suited to the usage of secondary materials. Trade facilitates this. However, market distortions upset an idealistic balance between recovery and utilization, which may cause serious health effects for low-income citizens in developing countries if imported waste materials from the North are not utilized properly. It is recommended that the monitoring of trade of secondary materials is improved; that trade networks of secondary materials are established, and; that positive policies are needed (provide positive incentives, instead of banning trade).

The second speaker, **Francesco Sindico** of the Universitat Jaume I, Spain, provided an overview and analysis of the dispute on genetically modified organisms (GMOs), which is currently before the dispute settlement system of the WTO.

The United States of America, Canada and Argentina are the most important producers of GMOs in the world. From 1998 to 2003 no genetically modified product has been authorised to enter the European market. The affected countries have challenged the European Community's denial under WTO's dispute settlement system claiming that the EC is violating its WTO obligations. The WTO panel had to give its decision in September 2004 but it has been delayed to 2005.

Francesco Sindico.

Three issues are challenged: the general moratoria, certain product-specific moratoria (the refusal to approve GMO applications) and national bans on the import of GMOs. The alleged violations of WTO law concern firstly the special and differential treatment principle. It is argued that the EC has violated this principle, because they deny food to people who are starving through USAID. However, the EC countered that the US refusal to give money to food programs shows that the US are using food programmes as a platform to further their own interests. Other violations concern the national treatment principle of the GATT, the TBT Agreement (although the EC argues that there are no 'technical' barriers to trade), and the procedural and substantive requirements of the SPS Agreement. With regard to the latter, the EC argued that the measures can be justified under Art. 5.7 of the SPS Agreement. This argument is based on the precautionary principle, since the EC argues that sanitary measures can be adopted even in case of lack of full scientific evidence.

There are two issues with regard to the WTO and international law. Firstly, can the WTO Panel use international law norms? The second relates to the legal nature of the precautionary principle. The EU considers it to be a norm of international law, Canada maybe, while the US see it as an 'approach'. The WTO now has an opportunity to take a step towards recognising the precautionary principle. If it does not do that, the WTO could become more isolated from the rest of international law. It is argued that the WTO could interpret the legal nature of the precautionary principle by looking at the existing body of international law, including the Cartagena Protocol on Biosafety. It could use this in interpreting Art. 5.7 of the SPS Agreement. Therefore the issue of the legal nature of the precautionary principle is not a purely theoretical one. The GMO dispute gives the WTO a chance to recognize this principle. This would represent a big step for the trade and environment debate. However, if it is not recognised, it could entail a step back, reducing the WTO's status at the international level. The speaker is fairly optimistic about the results, which are due in 2005.

The next joint presentation by **Aarti Gupta** of Wageningen University, The Netherlands, and **Robert Falkner** of the London School of Economics, UK also dealt with the topic of GMOs, albeit from a different perspective. The presentation focused on the influence of the GMO trade and biosafety regimes and inter-regime conflicts (including the transatlantic dispute now before the GMO) at the global level on policy choices in developing countries, an aspect that is often overlooked in analyses of the relationship between trade and environment agreement related to GMOs. In this regard, the most relevant regimes include the WTO Agreement on Sanitary and Phytosanitary Measures (SPS) and the Cartagena Protocol on Biosafety (CPB) under the Convention on Biological Diversity.

The project presented covered two case studies: Mexico (an OECD country, but it shares many characteristics with developing countries) and China (less integrated into the global/regional trade and biosafety regimes). Mexico is very much integrated in regional and multilateral trade systems, and has also ratified the CPB. Mexico's biotechnology policy first followed a promotional approach until 1998. Later, cautionary elements were introduced, although there was no direct shift from promotion to complete precaution. It can be seen that there were trade influence that pushed for more openness with regard to GMO trade, whereas there were also biosafety influences introducing cautionary elements in Mexican policy. The result is that the policy path remains open, and the overall direction is uncertain; some policy contradictions exist as a result of messy democratic

processes since 2000. China is characterised by economic liberalisation since 1979. Furthermore, China has gradually been integrated in the international system, with as a landmark the accession to the WTO in 2001. As a result, China is more exposed now to international norms, perhaps more than it wants to. Chinese biotechnology policy was also at first promotional, but since 1999 there has been a shift towards cautionary policy. There has been a moratorium on new authorizations, and new, stricter biosafety rules have been introduced. International forces are influencing this to a great extent, which is a surprise in the Chinese context. The impact of trade is mixed. There is fear of loss of export markets, WTO disciplines may see biosafety laws as non-tariff barriers, US pressure drives a restart of GM soybean imports, and at the same time, domestic demand is rising for GM imports. The impact of the biosafety regime promotes a cautionary shift. The CPB legitimized biosafety concerns, promotes the exchange of ideas, and allowed biosafety institutions in China to get 'inside' the domestic debate and influence policy. The transatlantic GM conflict is influencing the debate within China, but it is difficult to ascertain how. There has been no straightforward impact, but political space has been created. There is a problem of policy incoherence. The paradox is that China's domestic autonomy has both been limited and enhanced through the international influences.

The conclusions are that market and global trade forces are driving policy choices (both Mexico and China see international issues as support/guidance for their domestic policies) and open up domestic processes in previously closed policy arenas (China). The biosafety regime can act as a counter to trade disciplines, open up policy space for differing views and may potentially empower the environment and agriculture ministries. Global trade-safety conflicts create room for policy choices in developing countries and promote more democratic domestic governance of contested technologies, but are also a source of policy incoherence. They create a paradox in which state autonomy is increased and limited at same time.

The final presentation of this session was given by **Jean-Frédéric Morin** of the Institut du développement durable et des relations internationals (IDDRI), France, who analysed the desirability and feasibility of an international certificate of origin scheme for genetic resources in the light of the international trading rules determined by WTO.

Ten years after the signing of the Convention on Biological Diversity (CBD), the objective of fair and equitable sharing of the benefits arising from the utilization of genetic resources —one of the three objectives of this convention— is far from being achieved. This is one of the reasons why the objective of the action plan of the World Summit on Sustainable Development was to create an 'international regime' on access and benefit sharing. This has generated new discussions. One of the ideas mentioned to be included in this international regime is a certification scheme in order to ensure transparency in genetic resources transactions.

There are many types of certification schemes, compulsory or voluntary, private or public, etc. It is a very flexible tool, which can be used to achieve equity between users and providers and for conservation purposes. The link between the use and conservation of genetic resources is not as clear as in forestry or other areas. A roundtable of stakeholders concluded that the certification system must be mandatory because consumer awareness is close to zero and the market is not the best tool for implementing certification, since the biotechnology market is characterised by inelastic demand. The scheme

should be based on standards that are developed by the provider country standards. They should not be supplied by the private sector and an internationally developed set of standards is not appropriate right now (there is no consensus). A potential source of inspiration for the provider country standards could be the US Lacey Act. Certification should not only cover certification for patent applications, but should regulate international transfer. However, is this certification compatible with WTO law? The non-tariff barriers provision of Art. XI GATT and Article 2.2 of the Technical Barriers to Trade (TBT) Agreement may be violated. The first has been broadly interpreted by WTO panels. challenge is however unlikely to happen since the certification scheme will improve the enforcement of the law of provider countries. International coordination of national schemes could improve the consistency with WTO (in conformity with the Shrimp/Turtle decisions of the WTO Appellate Body). Moreover, there could be an authoritative interpretation such as the one on TRIPS and public health. But first, CBD parties need to clearly build consensus on the definition of a certification scheme.

In the **discussion** after this presentation, the problem of policy incoherence in developing countries was acknowledged. It was asked whether there was a way to create an international regime that protects Southern countries. It was answered that the CPB was designed to assist developing countries, but that it is difficult to implement this if there is no existing capacity for risk assessments (e.g. testing facilities). The question is then if you can quickly build up the capacity on the ground? Bilateral agreements entail the danger that the developed countries avoid this issue.

Another participant argued that the precautionary principle was already a clear international legal principle, and that the WTO is in fact trying to destroy the CPB? In the opinion of this participant, the conclusions were too optimistic. In reply, it was said that WTO case law is international case law, which is something we must look at when we are deciding on the legal nature of the norm. This dispute, depending on the outcome, could give more strength to the notion that it the precautionary principle is indeed a legal principle. With regard to the optimism, it was said that it is too early to see. However, if the EC loses the case, then the public opinion could really turn against the WTO and those countries in the dispute that are pushing the GM products.

It was also asked whether it is not problematic to move governance to the North through certification when the CBD is all about national sovereignty over natural resources. Wouldn't this reverse the progress on the access regime that developing countries are pushing for? In response, it was stated that certification would be only one part of the whole regime, but it is the developing countries that want the user measures, since they pay the regulation costs. Therefore they want monitoring. Certification should rely on standards defined by developed countries.

A following question related to the methodology in the project of Gupta and Falkner. They use two different countries, but get more or less the same outcomes. How can this be explained? The similarities could point to one overriding factor, but insofar it has not been yet determined what this could be. The central challenge for biotechnology policy is to be simultaneously cautious and open; hence the differences become somewhat irrelevant. Another answer is that this shift has been in the making, as a combination of long-term trends and biosafety. The concerns about biosafety arose in the developing countries first in the 1980s – they worried they would be the dumping ground or the test-

ing ground for this technology. The CPB helped people gather the attention of their governments about their concerns over biosafety.

Finally, there were several questions with regard to the trade in secondary materials. It was wondered whether the results of the first presentation were too optimistic. What about the cases when exports are reimported for environmental reasons, such as lead? Furthermore, container loads of plastic bottle go to China and at the same time we are importing plastic bottles. It was asked what was wrong with this scenario. As long as environmental standards are met there is nothing wrong with it from an economic perspective.

2.5 Technology transfer and investment

Mombert Hoppe, from DG Development, European Commission, presented his paper on 'Technology Transfer as an Additional Benefit from Trade - A Theoretical and Empirical Assessment'. This paper examines the role that trade plays in economic development through the channel of technology transfer, approximated by total factor productivity. Three strains of factors influence the process of technology transfer: the direct effort that is taken to transfer technologies, the capacity to adopt technologies, and differences in the underlying conditions between donor- and receiving countries. In this context, trade in (capital) goods allows the import of technology and improved input decisions. Second, trade opens export markets, allowing learning-by-doing. Third and most importantly, trade increases the set of accessible technologies, increasing the scope for imitation. The extent to which imitation takes place depends on the knowledge gap between the developed country and the developing country. The availability of human capital is important in this process. For sophisticated technologies there is a need for labour with tertiary education, but this is not necessarily the case for less sophisticated technology. The cultural closeness between donor and recipient countries may also play a role in the transferability of technology.

The theoretical insights are compared to the empirical literature that deals with trade and technology transfer. Not surprisingly, it turns out that openness and the availability of human capital have a positive influence on the transfer of technology. Yet methodological problems with the data weaken the practical significance of the results, especially as the precise and fundamental mechanisms that condition the degree of technology transfer are not profoundly illuminated. These underlying processes have to be better understood in order to be able to give valuable policy recommendations that will go beyond the general advice of increasing openness and human capital formation. There are a number of variables that are not well defined in the literature and constrain this type of analysis. Regarding the 'spillover' variable, it is not clear how to measure the effect of trade on the host country's knowledge base. The observation is made that intra-industry trade is much more efficient that inter-industry trade in the transfer of technology. This suggests that some developing countries that don't have certain industries yet may face problems in these sectors.

In conclusion, Hoppe argues that there is a low correspondence between theory and empirics and that it would be useful to integrate micro- and macroeconomic analyses of value transfer. This, however, is difficult due to a lack of empirical data on the micro-

economic level. It is difficult to draw conclusions from the empirical data as it stands and there is need for much more research.

Rüdiger Haum, Institute for Ecological Economy Research, presented his paper on 'Conflict within technology transfer projects of the clean development mechanism'. The Clean Development Mechanism (CDM) is considered a means to promote sustainable development through the transfer of clean technologies to developing countries. It has been described as a 'triple win' instrument in that greenhouse gas emissions are reduced, firms from industrialised countries can make profitable investments, and host developing countries benefit from local development. In a conceptual model of technology transfer, there are different types of technology flows, i.e. flows in goods, skills, knowledge and expertise. These flows lead to creation of new production capacity or accumulation of technology capacity (in the case of knowledge transfer). CDM projects are required to contribute to sustainable development in the host country but there is not a clear set of criteria that defines what this means. In this paper, technology transfer is defined as contributing to sustainable development if it is deep enough to allow local adaptation and innovation of technology.

This paper examines the prospective technology transfer from German wind turbine manufacturers to China through a series of structured interviews. It is shown that German wind turbine manufacturers are willing to expand their technology transfer activities, but that they will always hold back key technology which is essential for Chinese local sustainable growth. From the point of view of German firms, for further technology transfer to take place it is essential that there is more finance available and better political support for wind energy in China. There is a degree of conflict regarding the depth of technology transfer and the sustainability requirements of the CDM. Raising the sustainability goals might reduce the willingness of developed country firms to participate. Haum argues that the potential for conflict over technology transfer is higher than is acknowledged in the political rhetoric surrounding the CDM. Finding a compromise between all actors will most likely entail a trade-off between economic and environmental goals.

The last presentation of this session was by **Konrad von Moltke** of the Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands, who focused on investment issues, which were addressed in a project of the International Institute for Sustainable Development (IISD).

The aim of the project was twofold: to draft a model multilateral agreement on investment which will meet the needs of sustainable development and good governance; and to work with developing countries to put together a 'Southern Agenda' on investment. Previous efforts at creating a multilateral agreement on investment (e.g. OECD MAI, WTO) have failed because the agenda was wrong, and as such the key issues were not being addressed. By applying 'problem structuring institutional theory' to investment, it is concluded that the real issue that needs to be addressed is how to balance investor rights and public goods in a legitimate, transparent and accountable manner. In order to achieve such a balance one must apply the criteria of good governance. If one applies the criteria of good governance to existing investment agreements (bilateral investment treaties and regional trade agreements with investment rules) then the conclusion will be that they do not pursue a legitimate purpose in a legitimate fashion.

It is not disputed that investor rights need to be protected from arbitrary discrimination, but it is argued that investor obligations also need to be included in investment agreements, along with host state rights and obligations and home state rights and obligations. Any attempt to develop binding codes of conduct for investors will be too difficult, but there are ways to strengthen voluntary codes (for example by denying access to investor-state dispute mechanisms to companies that do no behave in accordance with minimum standards). The dispute settlement process itself is also in need of reform, which is a fairly straightforward task: have a standing roster of arbitrators; develop an appellate process; make hearings and documents public; and allow the submission of amicus briefs. The speaker is convinced that the WTO is the wrong forum for negotiations on investment. He suggests that it is far more appropriate to deal with investment in for example the climate regime, which he argues is essentially an investment agreement.

In the following **discussion**, it was questioned whether the political will existed for the negotiation of an agreement like the model put forward. It was agreed that at present the political will is not there, but also argued that the will can be created, particularly as investment issues become more controversial.

2.6 Sustainability Impact Assessment

Clive George of the University of Manchester, UK started this session with a presentation on 'Sustainability Impact Assessment: the European Union's SIA programme for trade negotiations and agreements'. This presentation is made from two perspectives, one as a contractor to the EU and the other from the perspective of an academic. Part of the reasoning for starting the impact assessment work was to defuse some of the tensions that blew up at the WTO Ministerial Conference in Seattle and inject a degree of rationality into the public debate. Impact assessment work didn't receive much attention at Seattle, but a platform was set and the European Commission put a lot of effort into it after Doha. There is pressure from a number of directions for this kind of work. One is the need for regulatory impact assessment – the explicit evaluation of the impacts of regulations before they are introduced. The Commission has a process for this and SIAs link into it. Secondly there is a need for impact assessments of trade. The NAFTA assessments were groundbreaking assessments of the impacts of trade. UNEP also became involved in trade and environment studies and there are also some influential NGO studies as well. The Commission approach is much more ambitious than other methods. Whereas the US/Canadian assessments looked purely at the environmental impacts of trade agreements in home countries only, the EU approach is to assess a broader set of impacts in Europe and in its trading partners. The aims of the EU SIA programme are to produce better-informed negotiations and policies, to inform the design of mitigation and enhancement measures, and to provide information for development assistance programmes. The current EU SIA studies are on the WTO negotiations and regional trade agreements. The Doha agenda of the WTO is a very large agenda so the SIA has started with a broad assessment and then homes in on the sectors that require detailed studies. The SIA process is both horizontal (consultation, negotiation and policy making) and vertical (screening/scoping, initial assessment and final assessment).

The assessment methodology is based partly on an evaluation of other peoples work. An assessment is made of the relevance, validity, and significance of preceding results. Con-

flicting data are compared and lessons are extracted. The process is a combination of straightforward logic and more detailed analysis (economic modelling, causal chain analysis). A simple example of causal chain analysis would be to start with the particular trade measure under investigation, consider how it affects incentives, how this affects consumer and producer behaviour, and in turn what the resulting economic, social, environmental and process impacts are. Evaluating the significance of results uses some quantitative information but is largely judgmental. A scenarios approach is used in which a base scenario is compared to alternative policy scenarios. The intention is to identify what might happen rather than predict what will happen, because this is dependent so much on policy processes as well as on economic systems. The SIA methodology does not attempt to evaluate all of the trade-offs or the overall impact on sustainable development globally, regionally or nationally as to do so would be usurping the role of government officials and decision makers. The method does, however, identify weaknesses in decision-making mechanisms and imbalances.

An important observation from the stakeholder consultation process is that external contractors should not lead SIAs because they cannot be totally independent – the Commission has to take a key role. Another key issue regarding the effectiveness of SIA is that assessment should focus on what is achievable but also keep and eye on other issues that are left out of the analysis. The main thrust of impact assessment is to predict potential effects but it is also necessary to monitor actual observed effects.

Clive George (left) and Konrad von Moltke (right).

The presentation was followed by a **panel on SIA methodologies**.

Konrad von Moltke opened with an introduction to the panel and explained that they represent a consortium of institutes that will shortly begin work for the EU on SIA. Von Moltke's past experience with SIA includes involvement in an impact assessment of China's accession to the WTO. This assessment focused on the automobile, textiles, forestry, agriculture, aquaculture, and energy sectors. The starting premise of the SIA methodology work to be undertaken by this consortium is that trade agreements involve

a wide-range of issues that pose a number of different methodological problems. Rather than invest in developing a grand method of SIA, this project will conduct 8 different studies that take specific issues or approaches to an assessment. The Institute for Sustainable Development and International Relations (IDDRI) will take the lead, and will be responsible for the modelling side.

Paul Ekins next introduced the work package led by the Policy Studies Institute (PSI). The main research question is what policies and/or institutions will improve the environmental and social outcomes of trade in commodities and what methodologies seem most useful in analyzing these outcomes. The current work for the EU on SIA is an important starting point. This work will be pursued through two case studies. One is likely to be on fish or food and the other is likely to be on metals. The case study analysis will involve the study of supply chains in some detail. The rationale for this approach is that once the outcomes have been identified, it is possible to identify the policy responses. The policy options to be analysed include consumer responses and labelling schemes, international commodity agreements, international aid, and regulatory and governance responses at various levels.

R. Andreas Kraemer introduced the work package led by Ecologic. This work package looks at techniques of stakeholder consultation and aims to make recommendations on the optimal design for stakeholder consultation. This study does not deal with why stakeholders need to be involved but rather with how they can be involved. The analysis will follow a classical approach to consider the evidence from previous consultations in SIAs and similar processes. This study will look at stakeholder identification and involvement, communication of information, logistical planning exercise, facilitation of interaction between stakeholders, how to deal with conflicts. There is a need for stakeholder processes to be well timed in the negotiation process. The structuring of a consultation in Europe is complex as it involves a multi-lingual and culturally diverse stakeholder group. The problem of missing or unreliable evidence in an evidence-based analysis is recognised and the study will consider how to make use of expert judgements in such cases.

Rüdiger Haum presented an overview of the work package led by the Institute for Ecological Economy Research (IÖW) on SIA of liberalisation of trade in services. There are several potential positive aspects foreseen from the liberalisation of trade in services, including the strengthening of the service sector even in relatively undeveloped economies; the foundation for overall economic development; economies of scales through large scale investment leading to better prices, quality, and choice. The possible negative impacts include: short term increases in costs and the loss of jobs because of investment costs; poor working conditions because of low labour organisation in developing countries; global sourcing practice may deny local sources benefits of technology transfer; negative externalities in the form of new waste products from infrastructure developments; adverse financial effects such as increased prices for land or rent. Five categories of impact are identified: product effects (range of services traded), technology effects (depth of knowledge flows), scale effects (level of overall activities), structural effects (sectoral composition), and regulatory effects (environmental regulations). In terms of methodology this study will first select case studies (sectors) on specific services and then examine the trade volume, the specific importance and envisioned importance, and

future markets. It is envisaged that a range of qualitative techniques and appropriate indicators will be utilised in the case study analysis.

Dirk Scheer, also from the IÖW, presented the work package on product chain analysis. This work is clearly linked to that of PSI. There is a need to shift environmental policy to deal with the impacts of products and services. One major concern regarding the impact of free trade is what will happen to product chains. Product chains are difficult to regulate and they are not considered in trade agreements. This study will examine what impacts products have – with a focus on environmental impacts but the other pillars of sustainability will also be considered. This study will also look at changes in actor chains – power distributions and emerging markets. These two approaches will be combined in a framework for product chains analysis.

Following these short presentations, it was explained that there are two more work packages in this project, one on investment that focuses on good governance (even though investment is out of the Doha agenda it is included in EU regional agreements), and another that will attempt to integrate the results of the other work packages. It is intended that the results of this project could be used for improving SIA.

In the following **discussion** the question was raised as to how public entities can be encouraged to really take these studies into account? Enhanced public participation and litigation led to incorporation of EIAs. How will the dilemma of addressing a multilateral problem from a unilateral perspective be dealt with? And how will the developing countries be brought on board in this process?

It was responded that it is not possible to say how to deal with the WTO as this is too complex, but in terms of regional agreements it is possible to have more leverage – and countries are working together. It is legitimate to act unilaterally and have some influence in the regional setting. This is not to give the impression that the EU should dictate what other countries should do, but should that it should fund cooperative efforts. In terms of engaging public entities, the public has to pressure the governments. Furthermore, it was argued that moving towards stakeholder involvement addresses some of these issues. In the forthcoming SIA project outlined in the previous presentations, the fifth partner in the consortium, RIDES from Chile, will screen the process from a developing country perspective.

The panel was encouraged to ensure that the study take into account the need to influence other parts of EU work. In response, it was said that looking at programme assessments will be a part of the review undertaken within this project.

A question was raised regarding the capacity of developing countries to comply with SIA demands, and illustrated with the example of South Africa, which receives requests from the EU but finds that it is not in a position to do the sort of analysis that the EU can. In South Africa and other developing countries there are not yet the institutional arrangements present. On this point it was suggested to contact UNEP, as they have tried to address this issue and identified good consultants within developing countries and have managed to get governments to work with them. It was added that the presentation by Ignace Mchallo on integrated assessment of the impact of trade-related policies on the Tanzanian forestry sector came out of that UNEP process. The role of the Commonwealth Secretariat is also important and more responsive to investment work. The Com-

monwealth Secretariat is determined to take the side of ACP countries in the EU-ACP negotiations and can strengthen the developing country position.

A question was raised on the issue of scale and the implementation of impact assessments in developing countries. It was responded that sustainable development means different things at different geographical scales (local, national, regional, global), and that this needs to be kept in mind in designing assessments.

2.7 Market access and ecolabelling

The last session was introduced by Chair **Mar Campins-Eritja** of the University of Barcelona, Spain, who remarked that eco-labelling is a way to change patterns for sustainable development but because of its character related to process and production methods (PPMs), it has been challenged by WTO.

The first presenter was **Parashar Kulkarni** of the Centre for International Trade, Economics and Environment (CUTS), India, who discussed whether importers in the North are able to push exporters in the South towards sustainable production through ecolabelling, with the help of a case study of the Indian lather industry.

The study presented existed of a literature review, participatory qualitative interviews, and stakeholder interviews. Some of the basic characteristics of the North-South supply chains are the lack of brands, the great percentage of business-to-business sales, the fact that 'made in Italy' sounds better than 'made in India', and the fact that the South is a price taker. The buyer profile ranges from small to large buyers. There are various chains of influence at work. First, there is the influence of the supranational institution (e.g. CITES) on the domestic government and their influence on exporters. Furthermore, civil society influences both domestic governments and importers, who in turn influence exporters. The question why ecolabels are not popular can be subdivided into two questions. First, are ecolabels good indicators of sustainability? They are not, since animal rights, child labour, health and sanitation, minimum wages are not taken into account. Second, can ecolabels command price premium or volume gains? From interviews with consumers in Northern countries, it can be deducted that they do not want to pay more for ecolabels. Consumers look more at the fashion than at environmentally friendly leather. From a business perspective, ecolabels hamper innovation because the application for it is a long procedure. Furthermore, the current state of materials in the green market is not good. Finally, ecolabels conflict with brand dynamics. An ecolabel also does not brand a company as a whole, merely a product. From a regulatory perspective, ecolabels are consumer labels that do not reduce pollution, but introduce new technologies. In the policy recommendations, it was stated that there is a need for a more comprehensive labels that includes social concerns. With regard to the methodology, it was pointed out that the 'hidden stakeholder' should be taken into account. The stakeholder changes substantially when you analyse the issue in more detail. The research should be flexible enough to change focus. Furthermore, the study could be linked up with corporate interests. Finally, the large amount of policy recommendations with no substance should be reduced.

The second speaker was **Laura Huici** of the University of Barcelona, Spain, who discussed the generalised system of preferences of the EU with regard to developing countries.

Under the WTO, it is possible to grant preferential treatment to developing countries through the so-called 'enabling clause', introduced in 1979. EU Regulation 2501/2001 provides for special arrangements for least developing countries and for the combat of drug trafficking, and special incentive arrangements for the protection of labour rights and the environment. These special arrangements are intended for a closed list of countries. It can be stated that the establishment of special arrangements under the GSP is not an optimal solution, since the ultimate responsibility rests with developing countries own policy choices.

It can be questioned what 'generalised' in GSP means. Does this mean all developing countries? In the WTO there is no definition of developing countries, so it can be asked id the same GSP can define different developing countries. In a dispute brought before the WTO, it was determined that the non-discrimination requirement demands that identical tariff preferences under GSP be provided to all developing countries without differentiation. However, the Appellate Body of the WTO in that dispute judged in fact that 'developing countries' may mean less than all developing countries. The Appellate Body stated that the arrangements can be modified if this is due to changes in the trade and development situation of a country, and decided that for example the need to fight against drugs is a legitimate reason behind trade and development. However, the EU provided for a closed list and there have been special non-legitimate interests behind the EU decision. The GSP case strengthens the enabling clause in favour of the developing countries.

In conclusion, it can be said that the special arrangements match the EC's tendency to coordinate its policies and different spheres of activities in order to achieve greater efficiency. The EC's GSP turns into an instrument of the Community's Foreign Policy, which is not only useful in the cooperation for development but also to protect the environment, security and health. However, in a context where the international trade is increasingly subject to multilateral regulations, the GSPs are used as unilateral instruments whose operation is subject to limitations. Progressive liberalization of international trade and the relations between developed and developing countries require a certain degree of flexibility when using the GSP. Differences in treatment granted to Developing countries do not necessarily amount to discrimination. If they respond to different and specific situations and, if they are based on objective criteria seeking 'development, financial and trade needs', they are not incompatible with the terms of the enabling clause. Flexibility, however, needs a more precise definition of the terms 'development, financial and trade needs'. It becomes necessary to determine whether some specific interests, such as protection of the environment or labour rights, are included. There is a growing consensus that these are general interests and that real development needs a certain level of environmental and labour rights protection. This should be as much as possible discussed and agreed multilaterally. Finally, GSPs are quite unilateral instruments in a context of multilateral international trade regulations. The unilateral character of GSPs should be tempered through more multilateral elements. This would allow developed countries to adjust the operation of their GSP and would limit the discretion with which they have been acting. Maybe a more effective application of the principle of common but differentiated

responsibilities that would amount to larger GSPs would permit a much better use of these instruments.

The third presentation came from **Roldan Muradian** of the Development Research Institute of the University of Tilburg, The Netherlands, who gave his presentation on sustainable labelling and the global coordination gap of the coffee chain.

There is a global coffee crisis. The cartel regime that existed in the coffee areas has been dismantled in 1989. This had lead to a global oversupply, driven by Brazil and Vietnam, and consequent decreases of coffee prices. Brazil increased its productivity due to technical innovation, Vietnam through cheap labour costs. In short, there is a situation of market control and oversupply, leading to a global governance deficit.

The environmental effects of the crisis are characterised by a shift from traditional (shade-grown) coffee plantations to unshaded monocultures. Farmers have been using non-environmentally friendly products and have also increased deforestation to win more land for the coffee plantations. To ease the crisis, there have been proposals for reducing supply through controlling quality, promoting crop diversification, and upgrading, mainly through quality improvement and market differentiation. However, there are several problems, including weak institutions at the international level. Therefore, there are calls for a market-based mechanism, such as labelling. Labelling faces many barriers, such as labelling proliferation, consumer responses, and competition with alternative governance schemes. Sustainable coffee now only has a share of 3% in the Dutch market. Nevertheless, we can observe the emergence of new voluntary governance schemes, and we face questions of overlaps, do they complement or compete? Firstly, some transnational co-operations also established their own labelling schemes with the participation of different stakeholders (e.g. Starbucks). These include social, economic and environmental dimensions. Secondly, there have been second party initiatives, such as the Sustainable Agriculture Information platform, which establishes a common sustainability standard for coffee. Thirdly, there are fourth party initiatives, such as the Common Code for the Coffee Community, which involves a plethora of stakeholders and aims at developing a global code for the sustainable growing, processing and trading of mainstream coffee.

In conclusion, it can be said that the current coffee crisis has made evident the existence of a coordination deficit in the global coffee chain. Furthermore, there is a lack of institutional capacity to implement policy recommendations at the national and global level. Market-based mechanisms, such as labelling still face remarkable barriers. Now, novel governance schemes are emerging, which may undermine labelling but also create new opportunities. These emerging institutions constitute a novelty for the governance of the global economy.

Finally **Jona Razzaque** of the Foundation for International Environmental Law and Development (FIELD), UK discussed how to strengthen capacity for improved policy making and negotiation on key trade and environmental issues in developing countries.

Two FIELD projects are introduced: one in Asia, Central America and the Caribbean, and one in Africa. Both projects aim at capacity building. The first project aims to assist the developing countries to deepen their understanding of the complex linkages between trade and environment, improve policy coordination at the national level, and to partici-

pate effectively in multilateral deliberations on trade and environment in the WTO, UNCTAD and other fora. The target countries in Asia include Bangladesh, Cambodia, and China. There is a wide range of beneficiaries, including government officials, business, academics, and NGOs. The scope of the work programme was first to identify key areas of interest (e.g., environmental requirements, market access and export competitiveness linked to Doha mandate), to identify key product area, and to design supportive activities. Next, a national study was conducted, and sub-regional policy dialogues, national workshops and national training workshops were held.

General conclusions from the workshops were that the challenges at the national level in developing countries were to maximise benefit and minimise costs of adjustments to environmental and health requirements; to develop domestic standards that are harmonised with requirements in export markets; how to improve domestic co-ordination and cooperation; to establish an information clearing house and gather information on emerging regulations/standards and certification requirements; and to provide opportunities for training and exchange of experience. At the WTO level, the challenges were the effective use of existing WTO mechanisms to limit undesirable impacts; how to use the WTO as a source of information and activate national TBT/SPS enquiry points; and ensure active participation in pre-regulation setting consultations. At the international level outside the WTO, the challenges were to actively pursue avenues of harmonisation, technical equivalence and mutual recognition of regulations and standards; to participate in pre-standard setting consultations (e.g., in Codex, ISO); the review of trends in environmental/health requirements in international markets; and the development of mechanisms to access, share and disseminate information.

It was recommended firstly that the flow of information on environmental requirements and how to comply with them needs to be improved. Secondly, co-ordination within and among relevant governmental departments and stakeholders needs to be facilitated, nationally, regionally, and internationally. Thirdly, there needs to be effective consultation with developing country stakeholders when the environmental requirements are being developed. Fourthly, the likely impacts of environmental requirements on developing country stakeholders need to be assessed. Fifthly, early notice of environmental requirements should be given. Sixthly, developing countries should be allowed transition periods for compliance. Seventhly, equivalence and mutual recognition of environmental requirements needs to be facilitated. Finally, the environmental requirements and their implementation need to be reviewed.

The second FIELD project was only briefly discussed. This project more or less has the same goals as the first one, but is aimed at a different region.

Following this presentation, there was a short **discussion**. Firstly, one participant wondered whether the focus should be on different leather products, thereby referring to the deal to have sustainable produced soccer balls at the Germany 2006 World Cup. It was answered that this is not a bad idea, but that it must be kept in mind that there are only few consumers who are willing to pay more for a labelled product.

It was then asked what the training of FIELD for capacity building includes. In reply, it was said that in for example Bangladesh they are now ready for the TBT and SPS agreements, but that there is no synergy between the different ministries. What was done was to improve the co-ordination at the national level.

Another participant wondered whether the coffee crisis was the result of a lack of co-operation between governments. In response, it was stated that the international coffee agreement was inefficient to solve the problems. Moreover, there is the problem of subsidies, which still encourage oversupply of coffee.

2.8 Final panel discussion

The final panel discussion was chaired by **Frans Berkhout**, director of the Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands. The panel consisted of R. Andreas Kraemer, Paul Sarfo-Mensah, Alice Palmer, Jona Razzaque, and Markus Gehring. The panellists first gave their view on the sessions in which they respectively participated.

With regard to session 2, the panellist found it remarkable that investors address ethical issues. He wondered what the ethical issues are that underlie investments. The panellist also wondered how we can ensure fair trade. Now the dependence between Africa and Europe is entrenched. We need to decrease this dependency.

In relation to session 3, it was stated that there is a need for rigorous empirical analysis on trade in new commodities. There is still an information deficit. In addition, the panellist noted some more systemic issues. The first was policy coherence, the second international environmental governance. The WTO cannot contribute to international environmental governance, but can do something about policy coherence. Important in this regard is para. 31(2) of the Doha mandate, about the observership of secretariats of multilateral environmental agreements.

The third panellist discussed session 4, stating that the session proved that investment should not be on the WTO agenda, and that the case was made for a new, improved multilateral agreement on investment. There might be a lack of political will and incentives, but there is still a need for discussion. It was also remarked that other Singapore issues (such as government procurement and competition) should remain on our radar.

With regard to session 5, it was emphasised that we need a multidisciplinary approach to SIA. We have quite some experience that needs to be expanded to a wider range of themes, but training and building capacity in partner countries are needed. In addition, it was stated that we need to increase the (political) weight of SIAs. Until now, it has been difficult to show that SIAs have an actual impact. Why should we invest time and resources if they are irrelevant? Therefore, SIAs should be useful to a broader constituency, and should also catch the attention of the public and the media. All this will only be sustainable if the SIAs have an impact on negotiations.

Finally, with respect to session 6 the panellist stated that we should take into account consumer perspectives: environmental issues are mostly irrelevant for consumers.

After sharing their impressions of their respective sessions, there was a general **discussion**. The first participant argued that we need to create a structure with incentives to behave ethically. The adoption of any sort of code is doing that. Corporate social responsibility represents an interesting alternative, if they are combined with mandatory elements that might be acceptable. It also struck this participant that Doha was not discussed to a great extent. Do we consider the Doha agenda as less important? It was agreed by others that the idea of codes is valuable. We can actually discern a race to the top now. How-

ever, there were others that held the opinion that voluntary codes are too vague and that only the top end of the market can comply with them. Instead, it was wondered whether it is possible to develop a comprehensive collection of minimum standards in an investment context. There have been efforts in the work in the UN on developing a code of conduct for transnational corporations. Although this might not be effective, it is an interesting development. Another opinion was that private initiatives are very important. It is not a question of whether we need government control or private governance; we need both.

The Panel. From left to right: R. Andreas Kraemer, Alice Palmer, Frans Berkhout, Markus Gehring, Jona Razzaque, and Paul Sarfo-Mensah.

Another participant stressed the value of an ex-post trade assessment, which identifies both problems and opportunities. It was stated also that an ex ante assessment can act as a model and set an example for trade policy making, provided that they are timely and fast.

One of the other participants was struck by two issues, namely capacity building concerns and the proliferation of international standards in various forms. If you take the two together, capacity is about complying with the international standards, but also about being engaged in the development of international standards. We might have to look more at the second dimension, at new forms of private governance. It was added by another participant that if the provisions of the WTO on special and differential treatment were properly implemented, concerns in this area would already be addresses to a great extent.

There was some slight disagreement between participants on the role of participation of grassroots people in trade and environment policy making. Whereas it was argued that these are heavily disorganised, ill-informed and are only discussing everyday issues, others argued that local knowledge can play a very big role in decision-making with regard to conservation.

3. Conclusion

The second CAT&E Conference provided a great variety of views on issues of trade, environment and development. Besides the fact that the participants came from various academic backgrounds – such as environmental sciences, economics, (international) law and political sciences, different approaches with regard to the Conference topic could also be discerned. Whereas some of the speakers approached the topic from a more theoretical perspective, others took a more empirical approach, examining, for example, the social and environmental side effects of export promotion policies in developing countries.

This multiplicity of views, disciplines and approaches may be characteristic of the emerging 'methodology' by which the CAT&E consortium is approaching questions of trade, environment and development. The session on Sustainable Impact Assessment in particular, showed the contours of this emerging 'methodology'. It also highlighted another important element of the CAT&E approach: the emphasis on stakeholder representation and participation.

With respect to these stakeholders, the Conference was particularly pleased by the strong contributions of researchers from developing countries and countries with economies in transition. If there is one positive development in the 'trade-and-environment' debate of the last decade, it is the growing professional participation in this debate of researchers from both the South and the East. It is a firm belief of the CAT&E consortium that the 'debate' is not going anywhere without the active involvement of these researchers who may well help bridge the often ideological divides in this debate and who may assist their own policy makers and inform the public and so help foster practical solutions with benefits to genuine, long-term sustainable development.

CAT&E – as a network of European researchers – will continue to reach out and continue to try to involve researchers from the 'new' Europe as well as researchers from abroad, especially for the developing countries. We thank all those who have made the Amsterdam Conference such a stimulating exchange of ideas, and we invite everyone to participate in the next CAT&E conference, next year in Paris.

Appendix I. Conference programme

1st November

09:00 Registration and Coffee

09:30 Opening and Introduction: Konrad von Moltke (IVM, VU, The Netherlands)
Keynote speech: Paul Ekins (PSI, United Kingdom): Trade, Environment and Development: Assessing Issues, Linkages, Challenges and Opportunities

10:00 **Session 1: Trade and sustainable development: systemic issues**
Chair: R. Andreas Kraemer (Ecologic, Germany)

Shaheen Rafi Khan (Sustainable Development Policy Institute, Pakistan): The WTO, trade and sustainable development: a Southern agenda

Stefan Giljum (Sustainable Europe Research Institute, Austria): North-South trade and Global Patterns of Resource Use

Anna Kukla-Gryz (Warsaw University, Poland): Use of structural equation modelling to examine the relationships between growth, trade and the environment in developed and developing countries

Michelle Pressend (Dept. of Environmental Affairs and Tourism, South Africa): Environment in the International Trade Agenda: Experience from the negotiations between the South African Custom's Union (SACU) and the United States Free Trade Agreement (US FTA)

12:00 Lunch

13:30 **Session 2: Trade and sustainable development: national and local case studies**
Chair: Onno Kuik (IVM, VU, The Netherlands)

Paul Sarfo-Mensah (Kwame Nkrumah University of Science and Technology, Ghana): Exportation of timber in Ghana: the menace of illegal logging operations

Eva Tošovská (CEGRE-EI, Czech Republic): Foreign trade in environmental goods in the Czech Republic

Roldan Muradian (Tilburg University, The Netherlands): Soy expansion in the Brazilian Amazon region: a local and global social dilemma

Ignace Mchallo (Centre for Environmental Economics and Development Research, Tanzania): Integrated assessment of the impact of trade-related policies on sustainable development: Case study of the Tanzanian forestry sector

15:30 Coffee and tea

16:00 **Session 3: Trade in commodities (including GMOs)**
Chair: Alice Palmer (FIELD, United Kingdom)

Pieter van Beukering (IVM, VU, The Netherlands): Borderless recycling: the effects of international trade of secondary materials on the economy and the environment

Francesco Sindico (University Jaume I, Castellón, Spain): The GMO dispute before the WTO: lessons from the WTO jurisprudence on trade, environment and development

Aarti Gupta (Wageningen University, The Netherlands) and Robert Falkner (London School of Economics, UK): Trade, genetically modified organisms and biosafety: policy responses in developing countries

Jean-Frédéric Morin (IDDRI, France): Certificates of origin for genetic resources and international trade rules: what compatibility?

18:00 Close for the day

2nd November

09:00 Coffee and tea

9:15 **Session 4: Technology transfer and investment**
Chair: Markus Gehring (University of Hamburg, Germany)

Mombert Hoppe (European Commission, DG Development, Belgium): Technology transfer as an additional benefit from trade: a theoretical and empirical assessment

Rüdiger Haum (IÖW, Germany): Conflict within technology transfer projects within the clean development mechanism

Konrad von Moltke (IVM, VU, The Netherlands): A multilateral investments agreement?

10:45 Coffee and tea

11:00 **Session 5: Sustainability Impact Assessment**
Chair: Konrad von Moltke (IVM, VU, The Netherlands)

Clive George (University of Manchester, United Kingdom): Sustainability impact assessment

Panel on SIA methodologies, including discussion and presentations by:
Paul Ekins (PSI, United Kingdom)
R. Andreas Kraemer (Ecologic, Germany)
Mohamed Marouani (IDDRI, France)
Dirk Scheer (IÖW, Germany)
Rüdiger Haum (IÖW, Germany)

12:30 Lunch

13:30 **Session 6: Market access and ecolabelling**
Chair: Mar Campins-Eritja (University of Barcelona, Spain)

Parashar Kulkarni (Centre for International Trade, Economics and Environment, India): The influence of ecolabels on B2B exports from South to North: Lessons from India's Leather Footwear industry

Laura Huici (University of Barcelona, Spain): What kind of 'generalised' systems of preferences?

Roldan Muradian (Tilburg University, The Netherlands): Sustainable labelling and the global governance of the coffee value chain

Jona Razzaque (FIELD, United Kingdom): Strengthening Capacity for Improved Policy Making and Negotiation on Key Trade and Environment Issues

15:30 Coffee and tea

16:00 **Final Panel Discussion**
Chair: Frans Berkhout (IVM, VU, The Netherlands)
R. Andreas Kraemer (Ecologic, Germany)
Paul Sarfo-Mensah (Kwame Nkrumah University of Science and Technology, Ghana)
Alice Palmer (FIELD, United Kingdom)
Jona Razzaque (FIELD, United Kingdom)
Markus Gehring (University of Hamburg)

17:30 End of the conference

Appendix II. List of participants

1. Sliman Abu Amara, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
2. Harro van Asselt, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
3. Frans Berkhout, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
4. Pieter van Beukering, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
5. Sabrina Bijlsma, Ministerie van de Vlaamse Gemeenschap, Belgium
6. Kim Bizzarri, Friends of the Earth Europe, Belgium
7. Luke Brander, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
8. Nienke van der Burgt, Faculty of Law, Vrije Universiteit Amsterdam, The Netherlands
9. Mar Campins-Eritja, University of Barcelona, Spain
10. Klaus Dingwerth, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
11. Paul Ekins, Policy Studies Institute, United Kingdom
12. Chris Evans, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
13. Robert Falkner, London School of Economics, United Kingdom
14. Volker Fürst, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany
15. Markus Gehring, University of Hamburg, Germany
16. Clive George, University of Manchester, United Kingdom
17. Stefan Giljum, Sustainable Europe Research Institute, Austria
18. Alessandra Goria, Fondazio Eni Enrico Mattei, Italy
19. Nicolien van der Grijp, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
20. Fleur de Groot, Faculty of Law, Vrije Universiteit Amsterdam, The Netherlands
21. Aarti Gupta, Wageningen University, The Netherlands
22. Károly György, National Confederation of Hungarian Trade Unions, Hungary
23. Rüdiger Haum, Institut für ökologische Wirtschaftforschung, Germany
24. Mombert Hoppe, European Commission, DG Development, Germany
25. Laura Huici, University of Barcelona, Spain
26. Shaheen Rafi Kahn, Sustainable Development Policy Institute, Pakistan
27. Markus Knigge, Ecologic, Germany
28. R. Andreas Kraemer, Ecologic, Germany
29. Onno Kuik, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
30. Anna Kukla-Gryz, Warsaw University, Poland
31. Parashar Kulkarni, CUTS Centre for International Trade, Economics and Environment, India

32. Benoit Martimort-Asso, Institut du développement durable et des relations internationals, France
33. Ignace Mchallo, Centre for Environmental Economics and Development Research, Tanzania
34. Fisseha-Tsion Menghistu, Development Services International, The Netherlands
35. Konrad von Moltke, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
36. Jean-Frédéric Morin, Institut du développement durable et des relations internationals, France
37. Roldan Muradian, University of Tilburg, The Netherlands
38. Alice Palmer, Foundation for International Environmental Law and Development, United Kingdom
39. Dae-Young Park, Enhesa-EPC (Environmental Policy Centre), Belgium
40. Philipp Pattberg, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
41. Michelle Pressend, Dept. Environmental Affairs and Tourism, South Africa
42. Jona Razzaque, Foundation for International Environmental Law and Development, United Kingdom
43. Ross-Ann de Rooij, Vrije Universiteit Amsterdam, The Netherlands
44. Paul Sarfo-Mensah, Kwame Nkrumah University of Science and Technology, Ghana
45. Dirk Scheer, Institut für ökologische Wirtschaftforschung, Germany
46. Francesco Sindico, Universitat Jaume I, Castellon, Spain
47. Marije Smit, Faculty of Law, Vrije Universiteit Amsterdam, The Netherlands
48. Gareth Steel, European Commission, Belgium
49. Marta Szigeti, Regional Environmental Center for Central and Eastern Europe, Hungary
50. Kyla Tienhaara, Institute for Environmental Studies, Vrije Universiteit Amsterdam, The Netherlands
51. Eva Tošovská, Economics Institute Academy of Sciences of the Czech Republic, Czech Republic
52. Tom Verbeke, Centre for Environmental Economics and Management, University of Ghent, Belgium

Appendix III. The CAT&E network

CAT&E is a joint initiative of:

IVM, Institute for Environmental Studies	http://www.vu.nl/ivm
Ecologic, Institute for International and European Environmental Policy; and	http://www.ecologic.de
IDDRI, Insitut du Developpement Durable et des Relations Internationales	http://www.iddri.org/iddri/

Member institutes of the CAT&E network

SERI, Sustainable Europe Research Institute	http://www.seri.at
CEEM, Centre for Environmental Economics and Management	http://www.feb.ugent.be/CEEM/Index.html
IOEW, Institut für ökologische Wirtschafts-forschung	http://www.ioew.de
FORUM, The Research Unit Environmental Law	http://www.jura.uni-hamburg.de
The Department of European Community Law at the University of Hamburg	http://www.jura.uni-hamburg.de
FEEM, Fondazione Eni Enrico Mattei	http://www.feem.it
METRO, Institute for Transnational Legal Research	http://www.unimaas.nl
Euronatura, Centre for Environmental Law and Sustainable Development	http://www.euronatura.pt
UBCN, The Public International Law Department of the Universitat de Barcelona	http://www.ub.edu/en
SEI, Stockholm Environment Institute	http://www.sei.se
ICTSD, The International Centre for Trade and Sustainable Development	http://www.ictsd.org
RIIA, Royal Institute of International Affairs	http://www.riia.org
PSI, Policy Studies Institute	http://www.psi.org.uk
FIELD, The Foundation for International Environmental Law and Development	http://www.field.org.uk
IEEP, The Institute for European Environmental Policy	http://www.ieep.org.uk
IISD, International Institute for Sustainable Development	http://www.iisd.org
Uppsala University	http://info.uu.se/fakta.nsf/sidor/universitat.uppsala.idAB.html
University of Turku Law Faculty	http://www.law.utu.fi/english/index.htm