

The Effects of the Production and Consumption Patterns of Industrialised Countries on the Environment in the South

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Yhteenveto (Summary in Finnish)

Teollisuusmaiden tuotanto- ja kulutusrakenteet vaikuttavat monin tavoin kolmannen maailman ympäristöön. Viime aikoina tiedotusvälineissä on eniten esillä ollut ilmastomuutos. Sen ovat aiheuttaneet pääasiassa Pohjoisen päästöt mutta haitoista tulevat pahiten kärsimään Etelän köyhät. Tämä on vain yksi monista "ympäristöepäoikeudenmukaisuuden" muodoista. Tämän raportin tarkoitus on antaa yleiskatsaus yhteiskuntiemme monenlaisista globaaleista ympäristövaikutuksista, joista yleensä vain yksi kerrallaan on julkisuuden ja akateemisen yhteisön valokeilassa.

Maailmanlaajuisiin yhteisalueisiin kuuluvat ilmakehän ohella valtameret. Myös niiden rasituksena ovat ennen kaikkea teollisuusmaat kalastuslaivastoineen ja saasteineen. Kalakantojen heikkenemisestä taas kärsivät ennen kaikkea Etelän ihmiset.

Kolmannen maailman metsiä, peltoja ja maaperä ei sen sijaan lueta yhteisalueiksi. Siitä huolimatta ne ovat olleet ja ovat edelleen teollisuusmaiden ankarassa käytössä. Tehtaamme ja automme pyörivät huomattavalta osaltaan kolmannesta maailmasta (ja neljännessä maailmasta eli alkuperäiskansojen mailta) tulevan energian ja metallien varassa. Tämä osuus on kasvamassa, sillä sekä fossiilisten polttoaineiden että malmien kohdalla etsintä ja uusien lähteiden, louhosten ja kaivosten avaaminen ovat keskittyneet Etelään. Sekä energia- että muiden raaka-aineiden nostaminen esiin maanuumenista ja jalostaminen merkitsevät usein pommituksiin ja kemialliseen sodankäyntiin verrattavaa tuhoa monille seuduille. Vaikka kaivannaistoiminnan vaikutukset ovat pistemäisiä, sen aiheuttaman hävityksen yhteismäärä on niin suuri, että voidaan puhua keskeisestä globaalista ympäristökriisin tuottajasta..

Aamiaispöytämme tee, kahvi ja mehu, vaatteidemme puuvilla sekä lukemattomat muut elämäntapaamme kuuluvat tuotteet ovat peräisin kolmannen maailman pelloilta. Niillä käytetään suuria määriä usein täällä kiellettyjä myrkyjä, mikä johtaa vuosittain satojen tuhansien köyhien ihmisten sairastumiseen tai ennenaikaiseen kuolemaan. Usein nälkäänäkevien maiden peltujen kaukokäytöstä on myös välillisiä ympäristövaikutuksia. Plantaasien alta syrjäytetyt pienviljelijät hakeutuvat viljelylle soveltumattomille maille, mistä seurauksena on eroosiota.

Pohjoisenkin peltujen tuotto on usein välillisesti riippuvainen Etelästä, sillä suurin osa viljelykasveja on alunperin syntynyt kolmannen maailman luonnon ja kulttuurien yhteistoiminnan tuloksena. Teollisuusmaiden yhtiöiden kiinnostus Etelän biodiversiteettiin on kasvanut, ja myös tällä on välillisiä, vaikeasti hahmotuvia ympäristövaikutuksia. Paikallisten kulttuurien tuntemien kasvien kaupallinen kysyntä ja niiden tai niiden käyttömenetelmien patentointi, vaikeuttavat köyhien mahdollisuuksia jatkaa suhteellisen ekologista elämäntapaansa.

Myös vienti Etelään aiheuttaa suuria ympäristöongelmia. Myrkyllisten jätteiden, täällä kiellettyjen kemikaalien ja saastuttavan teollisuuden vienti ovat räikeitä esimerkkejä. Mutta myös harmittomalta tai jopa suurelta hyväntekeväisyydeltä näyttävä elintarvikevienti voi aiheuttaa välillisesti ekologista tuhoa. Markkinatalouden nimeen vannovista maista tuleva subventoidun vilja ja muu ruoka

tuhoaa paikalliset elintarvikemarkkinat. Viljelijät kurjistuvat ja valtiot velkaantuvat, mikä johtaa luonnonvarojen riistokäyttöön.

Ehkä kuitenkin suurimmat viennin aiheuttamista tuhoista liittyvät teknologian siirtoon. Saastuttavien ja luonnonvarojen kuluttavien laitteiden lisäksi samalla siirretään tietojärjestelmiä, yhteiskunnallisia rakenteita ja elämäntapoja. Yksityisautoistaminen on yksi kaikkein selvimpiä tapauksia. Teknologian siirto merkitsee useimmiten kulttuurin ratkaisevaa muutosta epäekologisempaan suuntaan.

Samana kulttuurimuutosta edesauttaa turismi, joka on tällä hetkellä maailmanmitassa suurin elinkeinohaara. Se aikaansaa myös merkittäviä välittömiä ympäristövaikutuksia hotelleineen, lento- ja golfkenttineen sekä viidakkojen keskelle rakennettuine kulutuselämäntavan saarekkeineen. Suurin osa kolmannen maailman turismista kertyvistä rahoista virtaa Pohjoiseen.

Vielä enemmän kulutuskulttuuria Etelään siirtää joukkotiedotus, joka on viime vuosina voimakkaasti keskittynyt ja ylikansallistunut. Mainokset ja niitä tukevat tai niitä häiritsemättömät ohjelmat ovat sen toiminnan a ja o. Mainonta ruokkii avoimesti ekologisesti kestäväntä elämäntapaa. Media on keskeinen osa tuotanto- ja kulutusrakenteitamme, mutta sen ympäristövaikutukset jäävät keskustelussa useimmiten sivuun.

Teollisuusmaissa päämajaansa pitävät ylikansalliset yhtiöt ovat lähes kaiken edellä mainitun toiminnan keskeisiä organisaattoreita. Tuotantorakenteina ne ovat erityisen taipuvaisia tuhoamaan ympäristöä. Niillä on kaikille yhtiöille tyypillinen kustannusten ulkoistamistaipumus, mutta koska ne ovat irrottautuneet paikallisten ja alueellisten yhteisöjen normipaineesta, ne voivat toteuttaa taipumustaan vapaammin.

Kansallisvaltion sijasta ylikansallisten yhtiöiden aisaparina toimivat monet globaalit valtioiden väliset elimet. Erityisen tärkeitä ovat Maailmanpankki, Kansainvälinen valuuttarahasto ja Maailman kauppajärjestö. Ne luovat toiminnallaan kolmanteen maailmaan puitteet, joiden tukemana yhtiöiden ympäristölle tuhoisa toiminta voi laajentua.

Kun siis nykyisten tuotanto- ja kulutusrakenteiden vaikutukset Etelässä ovat niin kielteisiä, on moni alkanut miettiä, miten niitä voisi muuttaa. Tämän suuntaisia pyrkimyksiä edustavat toimintasuunnitelmat kestävän yhteiskunnan rakentamiseksi, joita on viime vuosina laadittu noin 30 Euroopan maalle tai alueelle. Näiden suunnitelmien lähtökohtana on, että eurooppalaiset kuluttaisivat vain heille oikeudenmukaisesti kuuluvan, nykyistä paljon pienemmän osuuden maailman luonnonvaroista. Valitettavasti suunnitelmien perustana olevissa selvityksissä tarkastellaan lähinnä vain tuontia Etelästä. Ympäristövaikutukset, jotka liittyvät vientiin, turismiin, mediaan ja Pohjoisen johtamiin ylikansallisiin rakenteisiin jäävät sivuun. Siksi suunnitelmien saksalaiset kriitikot uskovat niiden mahdollisten toteuttamisyrittysten vievän ojasta allikkoon.

Käsillä olevan alustavan selvityksen pohjalla on selvää, että Suomen ja EU:n suhteet kolmanteen maailmaan pitävät sisällään räikeää ympäristöepäoikeudenmukaisuutta, joka ei mitenkään sovi sivistyneinä itseään pitävälle kansoille. Kestävän kehityksen tutkimisen sijasta olisikin selvitettävä, miten — jos mitenkään — olisi mahdollista toteuttaa tuo jo toteutuneeksi luultu eurooppalainen sivistys- ja oikeusvaltio.

Preface

This study has been prepared for, and funded by, the Department for International Development Cooperation of the Ministry for Foreign Affairs of Finland as part of their research program on environment and development. Fortunately, the Ministry did not impose any constraints how the study should be done and I had freedom to do it as I deemed fit. One of the main ideas in my mind when starting the study, was to try to show that sustainability is not so simple a thing as we are given to understand by dominant environmental discourses. The present economy is so deep in unecological and unfair practices that it is impossible to create a sustainable society by technical fixes.

The research for the study was undertaken in spring and summer 1998. Because of the vastness of the topic it would have been impossible to complete it in such a short time if I haven't done research on this field already earlier. Especially when writing the book *Maailman tilan kootut selitykset* ("The collected explanations of the state of the world", in Finnish, Like, Helsinki 1998) I gathered a lot of information which was needed in the study. During the research I met and consulted many researchers and environmental activists from Finland, Germany, the Netherlands and India. My email exchanges, too, with some researchers were valuable. Any listing of these people would be incomplete and unfair but I thank them all - without them this study would be much weaker. Especial thanks to Adam Ma'anit from A SEED in Amsterdam who checked the language of the study and made many valuable comments also concerning the contents.

Of course the report at hand is far too short and superficial for such a big theme. Unfortunately the time limit imposed for the study didn't allow me to write a thick book. However, I hope this will do as an introduction to the field and urges some people to write better and more thorough studies. I hope, too, that this report will evoke discussions in the media and in environmental movements. All comments are very welcome.

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Introduction

It is often thought that industrialised countries help the South¹, and that colonialism is a thing of the past. However, the present functioning of industrialised countries depends on the resources of the South and on the resources common to all. The use of these resources brings about many negative environmental effects which are often suffered most severely in the South.

It is important to recognize that a part of the South is inside industrialized countries. Accumulation of riches depends also on resources taken for areas of indigenous people living within state boundaries of Northern countries.

Besides effects caused by direct resource extraction, the consumption and production patterns of industrial countries have many other environmental effects on the South. These effects can be divided into six categories:

1. effects on global commons
2. effects of imports
3. effects of exports
4. effects caused by tourism
5. effects of mass communications
6. effects of transnational social structures

Global commons

Global commons are such parts of the earth which are difficult to consider belonging to any specific country, region or people. Primarily, it is referred to the atmosphere and the oceans. Industrialised countries are responsible for most of the environmental degradation incurred to global commons but the effects are most severe in the South.

The atmosphere

Climate change is a prime example of this. According to the United Nations Environmental Program, more than 80% of the global atmospheric increase in carbon dioxide between 1800 and 1988 was caused by industrialised countries.² Even though in some Southern countries global warming gas emissions are increasing rapidly, over half of the output still comes (according to 1996 statistics) from the old industrialised nations.³

The disparity is more striking when per capita emissions are compared. For

¹In this text “the South” means about the same as following phrases in many other texts: “the third world”, “the third world and the fourth world”, “developing countries”.

²Sachs et al 1998; different comparisons between Northern and Southern share of CO₂ emissions in Subak 1993

³Flavin & Dunn 1998, 114-116, Climate and Equity...1997, Lehtonen 1997, New Internationalist January/February 1997

example, in the year 1988, the per capita emissions of CO₂ and methane in North America was 6.02 tons, in Western Europe 2.62, but in the least developed countries only 0.87 tons per capita.⁴ According to another source, current per capita emissions of CO₂ in North America is at approximately 5 tons per year, in Europe 2.5, and in the South less than 1 ton.⁵

The inequality between the North and the South is still increased when natural sinks of CO₂ are taken into account. The oceans and earth absorb about half of the CO₂ emitted to the atmosphere. If these sinks are allocated equally to every human being, the total sink of many Southern countries is almost equal to their CO₂ emissions. Thus, their net emissions would be negligible. Populous countries with low per capita emissions such as China, India and Indonesia fall into this category.⁶

However, many studies — for example, the report released in December 1997 by the Intergovernmental Panel on Climate Change (IPCC) — show that poorer countries will be particularly affected by a rise of sea-level, droughts, other weather extremes and more frequent hurricanes or storm-tides. They are more dependent on stable weather conditions, and for them it would be financially more difficult to adapt to a new situation.⁷ Bangladesh, a country that contributes about 0.3% to global gross greenhouse emissions, could lose as much as 17% of its land area if the sea-levels would rise one metre.⁸

The same disparity exists with the depletion of the ozone layer in the stratosphere. Until the late 1980's, almost all the production and consumption of CFC-gases and other ozone-depleting substances occurred in industrialised countries. Because of the ban agreed in the Montreal Protocol, the use of CFCs has decreased substantially in the industrialised countries — but far from eliminating them, the protocol allows for consumption up to 15% of the level in late 1980's. However, the production didn't decrease correspondingly because the main Northern producers of CFCs have moved their production facilities to the South where the protocol allows these producers to continue business as usual. This shift of the production of CFCs and other ozone-depleting agents to the South does not absolve industrialised nations of any responsibility with regards to the atmosphere.⁹

Other ozone-depleting substances such as HCFCs (hydrochlorofluorocarbons) and methyl bromide are still mainly produced in the North. New annexes of the Montreal Protocol demand their phase-out but more slowly than CFCs.¹⁰

The consequences of ozone depletion are strongly felt in the southmost parts of the globe where an alarming level of depletion is already evident. Nations such as Southern Africa, Chile and Argentina as well as Australia and New Zealand will suffer the most direct effects. These effects include an increase in skin and eye diseases against which the

⁴In tons of carbon equivalent, Bhaskar 1995, 105, Elliott 1998, 178.

⁵Liikkanen 1997, 84; cf. also Carley and Spapens 1998, 43.

⁶Lipietz 1995; this argument was originally put forward by Anal Agarwal and Sunita Nerain in 1991.

⁷Jaura 1998, Sachs et al 1998, 72, Entwicklungsland Deutschland 1997, 28-29, Sachs 1996, Meyer-Abich 1993

⁸Elliott 1998, 171.

⁹Sachs et al 1998, 73, Report on the ninth... 1997, Stalled negotiations... 1997, Full of holes 1995, CFC production and related issues 1996, New Internationalist January/February 1997, Bridges, Weekly Trade Digest, Vol. 2:28, July 13, 1998

¹⁰Report on the ninth... 1997 CFC production and related issues 1996 Elliott 1998

poorer regions will be unable to defend. Increased ultraviolet radiation will also reduce photosynthesis of plants and marine production. Food production would thus be adversely affected, leading to higher costs and resulting in further impoverishment of already undernourished populations.¹¹

The oceans

Industrialised countries are also mainly responsible for the environmental damage afflicted on the world's oceans.

Ozone depletion was already mentioned as one of the major causes of harm to marine life due to increased ultraviolet radiation. Another important cause for distress in the world's seas is over-fishing. It disrupts the whole marine ecosystem — maybe irreversibly. According to the Food and Agriculture Organisation (FAO), about two thirds of the world's fisheries are over-fished. The number of large fishing vessels (trawlers) doubled from 1970 till 1990 facilitating increased disruption of marine ecosystems. Now the world's fish-catch is declining dramatically. However, it is important to point out that this precipitous over-fishing has not been for essential human needs. Approximately one-third of world fish harvests are not used as a food directly, but instead used to make animal feeds, oils and fish meal.¹²

Fishing fleets of the industrialised countries take approximately 50-60% of the catch of the oceans. Additionally these countries import a great amount of fish from the South.¹³ About half of the fish caught today are traded between countries and most of this comes from the South. Industrial countries account for 85% of fish imports by value.¹⁴ In the period 1988-1990, people in the North consumed almost three times as much fish per capita than people in the South.¹⁵

The oceans suffer also from pollution — once again, mainly from industrial countries. One significant source of pollution is nitrogen from car exhausts. It comes primarily from the North where 80% of the world's automobiles are found. Chemical fertilisers play a significant role as well in pollution of the seas, and in this problem too, the responsibility of industrial countries is heaviest. For example, in Germany farmers spread an average of 25 times more fertiliser per hectare of arable land than African farmers.¹⁶

Poor people are more vulnerable to the adverse effects of disturbing ocean ecosystems. It is estimated that in the South, about 100 million people depend on fishing and its auxiliary trades. In Asia, people obtain 30% of their animal protein from fish and

¹¹Sachs et al 1998, 73

¹²Hundsdorfer 1997, Hagler 1995, McGinn 1998, Elliott 1998, 226, Entwicklungsland Deutschland 1997, 49, Loftas 1996, Weber 1993

¹³Hundsdorfer 1997

¹⁴McGinn 1998, 70, Hundsdorfer 1997

¹⁵Kent 1995

¹⁶Sachs et al 1998

in Africa 21%. In Europe it is less than 10%, (as mentioned above, this 10% is however more in kilograms than in poor countries).¹⁷

Imports

Energy

High consumption of energy is essential for a social system based on industrialisation and consumerism. In most countries, this energy is usually imported. In this respect too, industrialised nations place a heavy burden on the South.

The North consumes most of the world's *oil*, however, most of the world's oil reserves are in the natural resource-rich South. ¹⁸ In the year 1995, 63% of the world's supply of oil came from Southern countries.¹⁹ Additionally, a large portion of the Russian and the US oil comes in fact from areas inhabited by indigenous peoples and minority ethnic groups (the South in the North).

In Russia, for example, the largest oil fields at the moment are in western Siberia which is the home of the Khanty, Mansi and Nenets people. In the past, oil came from the area between the river Volga and the Ural mountains where the Tatar and the Bashkirs live.²⁰ In the US, oil is extracted from land of Native Americans, such as the Cherokee, and the Inuits of Alaska.²¹

As the world's oil reserves are dwindling, Northern oil companies, with the latest technologies, are seeking out new reserves to exploit. Increasingly, these are in remote areas with fragile and pristine ecosystems such as in the Amazon of South America, and many areas of sub-Saharan Africa. With the financing of institutions such as the World Bank, exploration is taking place with enormous devastation to fragile ecosystems and local and indigenous communities.²²

The environmental impacts of routine oil exploration, drilling, extraction, refining and transport are severe. In processes of exploration, seismic waves resulting from explosions are so strong that they even kill the surrounding fauna. To facilitate exploration, roads are built in previously inaccessible regions.

The drilling and extraction of oil extensively pollutes the land, rivers, lakes, seas and air by releasing oil and polluted underground water and by burning the gas associated with oil. Forests are destroyed and large tracts of once rich land are transformed into

¹⁷Sax, Haber & Wiener 1997, 27-28, Loftas 1996, Weber 1993

¹⁸Statistical Yearbook of Finland 1995, 558, the IEA's web site www.eia.doe.gov/emeu/iea/table31.html, older statistics: Kiljunen 1989, 169, Odell 1981, Tanzer 1980, 97.

¹⁹Calculated on the base of figures from the IEA's web site www.eia.doe.gov/emeu/iea/table31.html

²⁰The Indigenous... 1997, 33, Schmidt 1996 and 1997, Durning 1993, Eronen 1982, Vakhtin 1992, Projektatorium 1994

²¹Henriksson 1982

²²The World Bank and the G-7 1997 Rowell 1997 Grigoriev 1995

wastelands.²³ Furthermore, in arctic regions, such processes melt the permafrost thereby disturbing the whole ecosystem.²⁴ With these activities there are always risks of severe accidents, such as oil spills and fires, where negative environmental impacts are even more excessive.²⁵ Many Southern countries suffer heavily from the consequences of oil production — for example Nigeria, Ecuador, Venezuela and Indonesia.²⁶

The consumption of *natural gas* is concentrated in the North even more predominantly than that of oil. In 1995, 79% of natural gas imports went to the North.²⁷ Approximately 29% of total natural gas exports were from the South — from countries such as Indonesia, Turkmenistan and Algeria. Canada and Russia accounted for most of the rest.²⁸ Even in these countries, gas came mainly from the lands of indigenous peoples — in Russia from the territory of the Nenets²⁹ and in Canada from the lands of the Cree and other indigenous people.³⁰

The environmental effects of gas exploration and extraction are similar to that of oil.³¹ Additionally, there are great risks of explosion in the storage and transport of liquefied natural gas.³²

Coal has traditionally been an important product of the industrialised countries, but now about 20% of coal traded in the world market comes from the South.³³ In the US, coal production takes place in the reservations of the Dineh, the Cheyenne, the Navajo and other Native Americans.³⁴

Coal mining often results in total disruption of the local environment, especially in open cast mines.³⁵ As with oil and gas extraction, mining requires infrastructure such as roads, heavy machinery and electricity, further disrupting the local environment and cultures. In Indonesia, for example, such mines have destroyed rainforests, severely polluted rivers and disintegrated the life and culture of local peoples.³⁶

²³Rowell 1997, Schmidt 1996 and 1997, Moring 1995, Rademaker 1993

²⁴Orzechowska & Müller-Wille 1982

²⁵Lovins & Lovins 1982

²⁶Fentiman 1998, Greer & Bruno 1996, Rowell 1997, Karliner 1997, 85, Bassey 1997, Gedics 1993, Bryant & Bailey 1997,

²⁷The IEA's web site www.eia.doe.gov/emeu/iea/table42.html

²⁸Ibid.

²⁹The Indigenous... 1997, 33, Chance & Andreeva 1995, Vakhtin 1992, Projektatorium 1994

³⁰Aboriginal agenda 1997, Oil and gas... 1998, IWGIA 1989, 60, Orzechowska & Müller-Wille 1982

³¹Chance & Andreevna 1995, Greer & Bruno 1996, 207, Projektatorium 1994, Pentikäinen 1990, Bent 1989

³²Lovins & Lovins 1982, 89-99.

³³IEA's web site: www.eia.doe.gov/emeu/iea/table55.html

³⁴Statement of the International... 1998, Henriksson 1982

³⁵Ibid.

³⁶Marr 1993 35-37

Uranium is predominantly used in the nuclear reactors of the North. 32% of uranium is mined in the South (1996).³⁷ However, another 54% mined in Canada, Australia and US is, once again, largely located in the lands of indigenous peoples.³⁸

Uranium mining, especially in an open cast, causes enormous immediate destruction of the environment. In uranium mining, chemically and radioactively hazardous tailings are dumped as sludge in special ponds or piles, which emit radioactive substances into the water and the air for thousands of years.³⁹

Metals and other non-energy mining products

A steady flow of virgin materials is still essential for industrialised countries, although many among their elite now imagine living in a non-material information society. The demand for metals and minerals is great, having increased many-fold since the 1950's.⁴⁰ 80-90% of the world's raw metals are consumed by the North.⁴¹ In 1994, West Germany used 238 million tons of different metals and 478 millions tons of industrial minerals — almost all imported.⁴² Many metals and minerals come primarily from the South. Europe, having depleted most of its mineral resources, primarily imports mineral resources from Africa.⁴³

More than half of the iron, aluminium, gold, silver, copper, chromium, tin and phosphates come from the South. In 1995, for example, three-quarters of raw aluminium came from the South.⁴⁴ In 1991, Zaire and Zambia supplied 71% of the world's cobalt; 52% of the world's mined tungsten came from China.⁴⁵ Exploratory activity in the South is on the increase as approximately 60% of investment in exploration by mining companies is now focused there.⁴⁶ Again, we must remember that much of the exploration and exploitation of these resources in the North takes place on the lands of indigenous peoples without their consent.⁴⁷

³⁷The web site of the Uranium Institute: www.unilondon.org/ures.html

³⁸Gedics 1993, Burger 1990, 102, Henriksson 1982, Lehtinen 1997, Forrester 1997, Discrimination against... 1987, the web site of WISE: <http://antenna.nl/~wise/uranium/uip.html>

³⁹Diehl 1997, Uranium... 1996, Edwards et al. 1997, Ydinvoiman terveydelliset... 1986, Saarinen 1980

⁴⁰Roberts 1996

⁴¹Van Brakel & Zagema 1996, 47, van Brakel & Zagema 1994, 6, Kiljunen 1989

⁴²Adriaanse et al 1997. This figure does not include metals in imported semi-manufactured goods, total weight of which was 596 million tons.

⁴³Carley & Spapens 1998, 85

⁴⁴Der Fischer Weltalmanach 1998; in the 1960's, 1970's and 1980's the situation was about the same, cf. Tanzer 1980, Trainer 1985, 132, Kiljunen 1989

⁴⁵Young 1992

⁴⁶New Internationalist, March 1998, 19

⁴⁷The Indigenous... 1997, 50, Vidal 1998, Helminen 1997, Statement of the International... 1998, Arankirli 1996 Henriksson 1982 Burger 1990 102 Bodley 1982 Gedics 1993

The environmental effects of metal and mineral production are very severe indeed. The processes of extracting these resources consume a tenth of total worldwide energy use and generate many times more wastes than all the private households in the world combined.⁴⁸ Thus mining is essential burden in rich people's "ecological rucksack" or the total environmental effects of their lifestyle. Much of this burden is situated in the South, even more than the share of poor countries in the import of metals and minerals, because the environmental effects per kilogram are greater in the South than in the North.⁴⁹

Besides mining itself, metal production from ore includes many other polluting and/or destructive stages. A typical procedure is as follows: The rock that lies above the ore is removed (usually using explosives and/or heavy machinery); ore is mined; it is crushed and run through a concentrator; concentrated ore is reduced to crude metal in a smelter; it is purified, through further melting in a refinery.⁵⁰

In excavation and ore removal, environmental effects include: destruction of plant and animal habitats, human settlements and other surface features; land subsidence; increased erosion; silting of lakes and streams; waste generation; acid drainage and metal contamination of lakes, streams and groundwater. Mining rejects now threaten four out of every ten national parks in equatorial countries.⁵¹

Ore concentration processes have similar environmental impacts. Exceptionally serious are the processes of gold extraction and concentration where great amounts of highly toxic mercury or cyanide are used.

The effects of smelting and refining include air pollution, waste generation and all the various impacts of producing energy that is needed in great amounts for this purpose. This applies especially to aluminium plants which often get electricity at a greatly subsidised price far below production costs.⁵²

Because grades of metal ore are usually very low, much energy is required to extract sufficient quantities. In 1991, the average grade of excavated copper was only 0.91%. It meant that for 9.1 million tons of copper produced in that year, 990 million tons of waste was generated. For gold, the average grade was only 3.3 ppm (parts per million). This implied that for 2 tons of gold 620 million tons of waste was generated.⁵³

In 1972, Rio Tinto, the British mining giant, set-up copper mining operations in Bougainville — an island in Papua New Guinea. It dumped 130,000 tons of tailings each day into the Kawerong River. This once vibrant river was quickly transformed into a lifeless mudflow. The tailings covered 4,000 hectares, turning fertile river valleys into wastelands. Local anger at the destruction was the major cause of the civil war in 1988.⁵⁴ This is but one example of the devastating effects that metal and mineral extraction and processing can have on local communities and ecosystems.

⁴⁸Ride 1998

⁴⁹Sachs et al 1998, 77

⁵⁰Young 1992, 18

⁵¹Young 1992, Ride 1998

⁵²Young 1992, Breikopf 1998, Ride 1998, Bunker 1994, Makhijani 1992, 12-15, Heering and Zeldenrust 1995, 44-45, Bryant & Bailey 1997

⁵³Young 1992

⁵⁴Gillespie 1998 Young 1992 20 Renner 1996 52 Ride 1998

Forest products

Almost all of the world's tropical forests are in the South. A large amount of *tropical timber* is imported to industrialised countries. In the year 1988, the EU, Japan and US imported 85% of all tropical timber traded in the world market.⁵⁵ A substantial part of the finest hardwood on the planet is wastefully converted to cheap single-use items such as pallets, packing crates, concrete building frames and disposable chopsticks.⁵⁶

Timber export is one of the main causes of destruction of the rainforests. In Africa, more than 70% of rainforests have been decimated — cut almost entirely for timber exports.⁵⁷ In Southeast Asia, logging is the major cause of primary rainforest destruction.⁵⁸

Disappearance of a rainforest is a great loss. They are the richest ecosystems. Tropical forests, making-up approximately 6% of the world's total land mass, are home to 50-90% of the world's species. Very often many species inhabit only a small area, and so are extremely vulnerable to destruction of their habitat — often faced with the threat of extinction. Approximately 140 million indigenous and local peoples get all their material needs from forests and rely on them also for cultural and spiritual identity.⁵⁹

According to the FAO, 70% of all *paper and paperboards* consumed in Europe, North America and Japan.⁶⁰ Most of this is produced in the North, usually in the country of consumption. Only 20% of pulp (raw material for paper), and 26% of paper crosses national borders.⁶¹ Again the situation is such that a significant part of the northern raw wood comes from the lands of indigenous people in Scandinavia, Russia, the US and Canada.⁶²

However, more and more of traded pulp and paper is produced in the South. In 1994, Brazil's share of world pulp exports was 7% and that of Chile at 5% — the share of a traditionally important exporting country, Finland, was also 5%.⁶³ The export destination is often an industrial country.⁶⁴

Current forest practice employs more and more monoculture plantations of fast-growing tree species like eucalyptus. Often this means clearcutting closed natural forests and using the cut natural trees for fibre, pulp or paper making.⁶⁵

⁵⁵Kuhlman 1990

⁵⁶Carley & Spapens 1998, 41

⁵⁷Carley & Spapens 1998, 99

⁵⁸Elliott 1998, 83

⁵⁹World Rainforest Movement quoted in Elliott 1998, 84

⁶⁰Counted on the base of a diagram in Poranen 1998

⁶¹Poranen 1998, Carrere & Lohmann 1996, 41

⁶²Vakhtin 1992, 24, Innes 1995, Mccrory 1995, Taiga-news no. 23 and 24 (January 1998 and April 1998)

⁶³Carrere & Lohmann 1996

⁶⁴Ibid.

⁶⁵Ibid n 70

In Indonesia, and often in other countries, too, pulp is first produced from virgin or semi-virgin rainforests which are cut to get space for plantations.⁶⁶ Thus, pulp and paper production in tropical countries contributes to an enormous loss of biodiversity. Furthermore, the plantations have many serious environmental impacts: critical changes in the water cycle; erosion and other forms of soil deterioration; pollution by herbicides and pesticides; and pollution from accompanying pulp and paper mills.⁶⁷

Agricultural products

A large percentage of food, fodder and stimulants used in the North is supplied from the South. In 1994, 51% of food imports to the EU were of Southern origin.⁶⁸ Most of the bananas, rice, corn, sugar and peanuts are imported from the South, as are many spices, fruit juices and vegetable oils.⁶⁹ 80% of the orange juice consumed in Europe comes from Brazil.⁷⁰ Almost all tea, coffee and cacao and a majority of tobacco are produced in the South as well.⁷¹ Much beef consumed in the North is produced in the South⁷², and an increasing proportion of vegetables.⁷³

The bulk of natural fibres are also “colonial products”. Approximately 79% of cotton is produced in the South (1993),⁷⁴ and more and more flowers also, particularly from Columbia and Kenya.⁷⁵

The importance of these agricultural imports is often undervalued in monetary terms — blurring their real value to humanity. Since 1920's, the general trend of real prices of commodities produced in the South has been downwards — especially after 1975. Reasons for this include political and economic dominance of the North over the South as well as undemocratic structures inside Southern countries maintained by the North.⁷⁶ If imports were accounted for in working hours, by environmental impact, or in suffering caused to human and other beings rather than in purely monetary terms, the amount of dependence on production in the South would be more evident.

The land area required for all this production is vast. Growing export-oriented “cash crop” agriculture, has created large-scale ecological dislocations. Rich and diverse ecosystems of forest dwellers and subsistence farmers have been transformed into monoculture plantations cultivated first by slaves and then by “free” labourers working for mere

⁶⁶Byron 1998, Junaid & Tjahyono 1998

⁶⁷Carrere & Lohmann 1996, 60-86

⁶⁸Höhmann-Hempler 1997, 15, 18

⁶⁹Kiljunen 1989, Scheewe 1993, Hansi 1997, Der Fischer Weltalmanach 1998

⁷⁰Schmidt-Bleek 1997

⁷¹Kiljunen 1989, Voipio 1993, Neuberger et al 1993

⁷²Zum Beispiel Umwelt 1987, Lappé & Collins 1988, 34-35

⁷³Thrupp 1996

⁷⁴Weber & Parusel 1995

⁷⁵Björklund 1998, Vorsicht: Blumen 1990, Entwicklungsland Deutschland 1997

⁷⁶Windfuhr 1996 Cooté 1992. 8 Massarat 1996 and 1997

pittances.⁷⁷ Most export-oriented agriculture makes use of fertilisers and pesticides to "maximise output" with high costs to the environment and the health and safety of workers who must work under poisonous conditions with little or no protection. Every year, many hundreds of thousands of people contract illnesses related to acute pesticide poisoning.⁷⁸ According to the World Health Organisation (WHO), 30,000 cotton plantation workers die prematurely every year from chemical poisoning.⁷⁹

All this is directly harming the environment, yet there are also many serious indirect environmental effects. Often people from whom the land has been taken have no choice but to cultivate marginal lands or rainforests. In an effort to survive, they over-exploit these areas which results in erosion, loss of biodiversity and other problems.⁸⁰

Besides large plantations, small farmers produce a part of export commodities. Since the best land and resources have been taken from them and the prices are low and fluctuating, it is nearly impossible for them to produce without wreaking ecological havoc.⁸¹

Thus all this export production in the South causes even more environmental problems than current agricultural practices in the North. It has been estimated that although only 30% of German imports of unrefined agricultural products come from the South, about 70% of the environmental effects directly related to their production wreak havoc in the South — far removed from the reality of the Northern consumer.⁸²

Industrial products

The North now imports many industrial products from the South which it used to fabricate itself. Textiles and clothes, sport shoes, toys as well as many electronic devices, electrical components and chemicals are manufactured in the South for Northern consumption. In 1970, the South produced 7.5% of all manufactured goods; in 1996, it produced 24%. In 1995, China and Taiwan combined were the biggest producers of fertilizers, steel, televisions, fridges, washing machines, cigarettes, man-made fibres and cotton cloth.⁸³ From 1965 to 1986, the share of manufactured goods in Southern country exports rose from 24% to 45%. Two-thirds of this went to industrialised nations. In the 80's and 90's, manufacturing output increased, on average, many percentage points higher in the South than in the North.⁸⁴

⁷⁷Bryant & Bailey 1997, 7-, Lappé & Collins 1988, Groeschke 1995, Auer 1990, Coote 1987, Hayter 1981, 42-44, Espiritu 1986, Hensman 1975, 94-95

⁷⁸Weir & Schapiro 1984, 39-40, Lappé & Collins 1988, 38, Kolonialwaren 1989

⁷⁹Musiolek 1997

⁸⁰Coote 1992, 118, Siebert 1990, 27, Lappé & Collins 1988, 30

⁸¹Ibid.

⁸²Sachs et al 1998

⁸³Der Fischer Weltalmanach 1998, Kumppani 2/1997, 12

⁸⁴Redclift 1996, 69, Kiljunen 1989, 184, Britannica Online "Table I. Annual Average Rates of Growth of Manufacturing Output 1989-96" <http://www.eh.com:180/cgi-bin/s?DocF=table/ob8huin001t1.html> 1998

Some branches of industry have all but disappeared in the North. In a period of 35 years, 90% of jobs in the West German clothing manufacturing industry was lost. In East Germany, the same loss took only five years.⁸⁵

When production for the Northern consumption happens in the South, it is in many cases because of migration: In order to maximise profits, Northern transnational corporations (TNCs) have "migrated" to the South where they benefit from cheaper labour and raw materials. However, in many other cases, the reason for relocation is that the production has just shifted out: one company has stopped production of certain goods and buyers have to look somewhere else which gives expansion opportunities for another transnational or domestic company in the South.

The third reason for the North to consume products of the South is the overall expansion of the global industrial system. Since the preponderance of the expansion has been in the South but the bulk of purchasing power is still in the North, the old colonial flow of riches continues.⁸⁶

In any case the North is living on the environmental resources of the South. Besides shifting pollution and other problems to the South, relocation of production also increases the overall ecological burden. Industrialisation wreaks more havoc in the South than in already industrialised countries. There are many reasons for this.

Even if the pollution level of an industry were the same everywhere, it would have greater impacts in the South. There, the effects of pollution are aggravated by widespread destitution and lack of basic needs, including lack of health services and adequate water supply.⁸⁷

In reality usually the standard of pollution control in the industries of the South is definitely lower than in Western industrialised countries. The space for environmental movements, trade unions and other citizens' activism is usually very limited, due to lack of, or severe limitation of basic political rights. State bureaucracies are normally weaker in their control of society⁸⁸. For these reasons environmental regulations of the state and their implementation and control are usually lax. Accordingly domestic profit seeking industries have had no reason to develop or invest in cleaner technologies. These are often subcontractors of a foreign TNC and have little possibilities but to produce as cheap as possible or to lose their only client.⁸⁹

Northern TNCs, which have generally been forced to comply with relatively higher standards in their home countries, find the lower standards in the South more appealing because they can employ much cheaper technologies which are much worse-off for the environment. According to a United Nations survey of the Asia-Pacific region, TNCs regularly "adopted lower environmental standards in their operations in developing countries than those in developed countries."⁹⁰

⁸⁵Musiolek 1997

⁸⁶Heerings & Zeldenrust 1995, 38, Karliner 1997, 148-159

⁸⁷Karliner 1997, 150

⁸⁸See e.g. Clapham 1992

⁸⁹Bryant & Bailey 1997, 55-72, 112, 121-126, Karliner 1997, 154-155, Korten 1995, 229-233

⁹⁰Environmental Aspects of Transnational Corporation Activities in Pollution-Intensive Industries in Selected Asian and Pacific Developing Countries, United Nations, Economic and Social Commission for Asia and the Pacific. New York 1990 referred in Karliner 1997

Additionally, relatively dirtier branches of industry are migrating or shifting out to the South more than on the average. This is what Lawrence Summers, former World Bank chief economist, referred to as the “comparative advantage” of “under-polluted” countries. In a leaked internal World Bank memo he added that, “just between you and me, shouldn't the World Bank be encouraging more migration of dirty industries to LDCs (least developed countries)?”⁹¹

One of the most immediate reasons why TNCs shift their production to the South is lower standards concerning workers' safety and the environment. An example of this is when German trade unions succeeded in making occupational safety regulations more stringent, Deutsche Kap-Asbest-Werke dismantled its asbestos factory and moved it to South-Africa.⁹²

In 1986, a Sandoz (now Novartis) chemical plant near Basel, Switzerland leaked 30 tons of extremely toxic organic phosphorus compounds, disulfoton and parathion. The result was a catastrophe where plants, fishes and other animals died-out along a few-hundred kilometre stretch of the Rhine river. The company “cleaned-up” its production by moving it to Brazil and India.⁹³

One of the most blatant forms of exploitation is evident in the so-called free trade zones or special economic zones. In these special deregulated economic zones created to attract TNCs to set-up shop there, people work in near slave-like conditions. Independent trade unions are forbidden and social and environmental regulations almost non-existent. These places can be found in countries such as Mexico, the Dominican Republic, Honduras, Guatemala, Costa Rica, El Salvador, Brazil, India and China. Along the US border in Mexico, there are more than 3,400 factories known as *maquiladoras*. In these sweatshops, over half-a-million Mexicans, many of them teenage girls, sacrifice their health to eek-out a living working at some of the lowest wages in the world, for some of the wealthiest TNCs.

One quarter of surveyed TNCs considered strict environmental regulations in the United States and weaker ones in Mexico to be either the main factor or an important factor in their decision to shift from the States. The *maquiladoras* region along the US-Mexico comprises a 3,000 kilometre-long toxic wasteland. The New River, which flows from Mexico's Baja Peninsula to the US, is considered to be one of the most polluted rivers of the world — occasionally catching ablaze! US health officials advise people not to go anywhere near this body of water.⁹⁴

Know-how and genetic information

A common misconception is that, although industrialised countries may do some harm to Southern nations, they also help by imparting information and know-how to assist them

⁹¹Low and Yeats 1992, Mabey & McNally 1998, Karliner 1997, 148, Raffer 1997

⁹²Zum Beispiel Umwelt 1987, 92-93, Castelman 1985, 71

⁹³Greer & Bruno 1996, 132, Karliner 1997, 152

⁹⁴Lemoine 1998, Mabey & McNally 1998, Karliner 1997, 154-156, Johnston & Button 1994, Korten 1995 129 French 1993 29-33 Lewis et al 1992

in "development". However, this view rests on a very limited and narrow concept of knowledge systems. Often, it is only the knowledge systems and information production institutions of industrialised countries, and their clones in the South, that are regarded in such arguments. At the same time, nature, and indigenous peoples' and other cultures' knowledge systems are often misconstrued as essentially passive and therefore irrelevant in an increasingly information-based society. Yet nature in its evolution has actively gathered an enormous amount of information over billions of years. Indigenous and local communities of people, be they hunters and gatherers, fishermen or farmers, have from generation to generation been passing-on valuable life-sustaining information and developing their own knowledge systems, with a much higher regard for nature.⁹⁵

When referring to this information, the buzzword "biodiversity" has been used more and more widely since the late 1980's.⁹⁶ Most of the world's biodiversity, that is to say most species, can be found in the South. Tropical forests are home to more than 70% of all known species. Of the 12 "mega diverse" countries, 11 are in the South: Brazil, China, Columbia, Congo (Democratic Republic of), Ecuador, India, Indonesia, Madagascar, Malaysia, Mexico and Peru.⁹⁷

Northern countries and TNCs have freely exploited the biodiversity of the South for centuries without offering any compensation. Often, local gatherers, cultivators and herbalists have been the key to finding useful flora and fauna. Passing-on information freely has usually been the norm in local cultures, and therefore sharing it also with Northerners was only natural. The problem is that the knowledge has in this way fallen into another economic system whose basic logic is opposite to that of local cultures. The system aims to restrict access to know-how and resources so that it can generate profits and capital for a small minority.⁹⁸

An example of this is in the pharmaceutical industry. In the US, for example, 25% of all prescription drugs' active ingredients come from higher plants. Approximately 120 active components of herbal origin are used in modern medicine today. Of these, 75% show a positive correlation between their modern therapeutical use and the traditional knowledge of their use. These are not made freely available to those whose life depends on them — even in the countries from where the plants were taken. Instead they are priced to make profits. The worldwide annual turnover of medicaments originating in the tropics is estimated to be up to US\$17 billion.⁹⁹

Creating monopoly control for periods of 20 or so years by patents, has been one of the ways to close or restrict access for the poor to products derived from the information that their culture and their natural environment have generated. This practice of patenting to secure monopoly control over natural and indigenous knowledge has been on the increase in recent times. Patenting of life-forms has become possible, first in the US and now also in the EU.

Companies can patent parts or properties of an organism, and even whole organ-

⁹⁵See e.g. Shiva 1996, 121 & 1998 & 1997; on different systems of knowledge see e.g. *Dominating Knowledge* 1990

⁹⁶See e.g. Shiva et al 1991

⁹⁷Sachs et al 1998, 78, Elliott 1998, 73, Bell & Pimbert 1996

⁹⁸See e.g. Spehr 1996

⁹⁹Sachs et al 1998 78 *Trins and Biodiversity* 1996

isms when some minor changes are made by genetic manipulation. In some cases, no "inventive step" was even necessary for a company to be granted a patent. Additionally, TNCs have sought to monopolize traditionally-used plants by patenting simple processes utilised by people for hundreds of years. For example since 1988, a North American company W.R. Grace & Co., has had a patent on a process for extracting and preserving an insecticide from seeds of the neem tree. However, for centuries, villagers in India have done the same thing using traditional methods. Later other Northern transnationals, such as US-based Monsanto, have filed dozens of patent claims on neem — a tree which until now has been freely used for medicinal purposes and as a natural insecticide in agriculture.¹⁰⁰

After the UNCED conference in Rio and the Biodiversity Convention made there, some companies have stopped such practices, commonly referred to as "biopiracy", and signed agreements to compensate for the Southern biodiversity they are profiting by. The problem is that the communities and bodies who have recently been receiving such compensation, have not necessarily been the ones who deserve such compensation and the amounts of compensation have not been adequate. For example in the US government-financed International Cooperative Biodiversity Group project in Peru, indigenous people were offered 0.25-1.00% of sales in royalties, while Monsanto and Washington University got the rest. On the other hand when Diversa Corporation decided to collect samples in Yellowstone National Park, the National Park Service negotiated a deal in which Diversa will pay the US government up to 10% of sales in royalties.¹⁰¹

Regardless, there are reasons why in principle one cannot fully compensate commercialisation of local and natural knowledge itself. An indigenous knowledge system is an integral part of a culture. One cannot measure the value of a culture in monetary terms. Therefore, also its essential parts are not commensurable with money.

The North commits an even greater injustice when it attempts to monopolize the agricultural biodiversity of the South. Most of the world's cultivated plants come from a few, comparatively small areas in the world — so-called Vavilov centres, named after a Russian plant geneticist Nikolay Vavilov. Almost all of these centres are in the South.¹⁰² Over millennia, hundreds of generations of horticulturalists, peasants, farmers and gardeners, most of whom have been women, have from an original natural species developed thousands of different varieties or cultivars — each adapted to specific natural conditions.¹⁰³ The North has profitted freely from the results of this relationship between local and indigenous people and nature.

Now TNCs are attempting to monopolize this genetic information created in the biodiverse South. Since the 1980's, "life-industry" or "life-science" corporations, the likes of Monsanto and Novartis (the present incarnation of earlier Sandoz and Ciba-Geigy), have been acquiring seed trading companies and seed banks (storehouses of genetic

¹⁰⁰Eugenics 1998, McNally & Wheale 1996, Euroopan ääni, May 1998, Shiva & Holla-Bhar 1993, RAFI's web page <http://www.rafi.ca/rafi/misc/outofcontrol.html>

¹⁰¹Colchester 1996, Zerner & Kennedy 1996, Shiva 1996, Rafi Communique September/October 1997, <http://www.rafi.org/communique/fltxt/19975.html>

¹⁰²Global biodiversity... 1995, 72, Sachs et al 1998, 78

¹⁰³Shiva 1998 & 1996, Shiva & Mies 1993, 165-173, Global biodiversity... 1995, 72-74, Ramprasad 1998

material). Their ultimate goal is to make farmers all over the world dependent on their seeds. They seek to achieve this in two ways: One, by hybridization or by genetic manipulation (so-called "terminator technology") they produce seeds which can't be regenerated, so that a farmer must always buy new seed — ensuring the company of a steady market; and the other, they impose legislation or a patenting regime that would make it illegal for a farmer to use or to spread the seeds she/he has grown without paying royalties to the company that holds the patent for them. In any case, the result will be that agrobiodiversity will be radically diminished and its continuous development — by local and indigenous farmers in the South — obstructed. This all makes it more and more difficult to pursue locally adapted, ecological farming and gardening.¹⁰⁴

Exports

Toxic trade

Many exports from industrialised countries have serious environmental effects in the South. The most obvious case is the export of hazardous waste, of which approximately 400 million tons are generated each year. The North produces most of these highly toxic or otherwise dangerous wastes. It is estimated that more than 90% of them are generated in the OECD countries (Organisation for Economic Cooperation and Development, the club of the 29 most industrialised countries).¹⁰⁵ The amount has increased rapidly since the 1970's at the same time when regulations for waste disposal in OECD countries have tightened-up.

To offset the higher costs facing companies that need to dispose of hazardous wastes, they are increasingly exporting to the South. According to the perverse rationality they use, this imposition of the toxic burden upon the South is economically sound and logical decision. This was stated in the World Bank internal memo of Lawrence Summers cited above. His justification was, among other things, that the costs of illness and premature death are lower in countries where the average lifespan and incomes are lower.¹⁰⁶

It is very difficult to keep track of all hazardous waste exports since they are often undisclosed transactions. However, experts estimate that in recent years, approximately 30 million tons of hazardous wastes a year have crossed national borders — often heading to the South. In the period 1990 to 1993, Australia, Canada, Germany and the US exported more than 5.4 million tons of toxic wastes to Asian countries.¹⁰⁷

Because trade in hazardous wastes is blatantly unethical — although not contrary to current economic rationale — and due to the campaigning by environmental NGOs and

¹⁰⁴Eugenics 1998, Lehmann 1998, James 1998, Clunies-Ross & Hildyard 1992, 60-65, Corbitt 1994, Shiva 1998 & 1997 & 1996, Jury 1998, Biosefdom... 1997, Kuka omistaa... 1997, Weir & Schapiro 1984, 50

¹⁰⁵Sachs 1996, Elliott 1998, 45, *The Ecologist* Vol. 25:1, C4 (January/February 1995)

¹⁰⁶Trade and the Environment 1994, 71, Puckett 1994

¹⁰⁷Middleton et al 1993, 162-166, Center for... 1990, Toxic Terror 1989, Sachs 1996, 144, Greenpeace according to Helsinkiin Sanomat February 2. 1994

Southern countries, international agreements to curb the trade have come into force to regulate the sector. In 1989, the *Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* or the *Basel Convention* was adopted. While setting a precedent, it however didn't do too much to curb the trade of hazardous wastes. In 1995, the Convention was amended to prohibit the export of all hazardous wastes from OECD to non-OECD countries. This ban was due to enter into force in the beginning of 1998, but at the time there weren't enough member countries that had ratified. It remains to be seen if the waste trade really stops. The US had ratified neither the Basel Convention nor its amendments until October 1998. In the summer of 1998, hazardous wastes were still exported from the North to the South.¹⁰⁸

Normal North-South trade, too, includes export of many hazardous chemicals. Often their use is forbidden in industrial countries due to environmental and human health concerns. This applies especially to pesticides. According to the United States' General Accounting Office in 1989, 25% of pesticides exported from the United States were unregistered or severely restricted/banned for domestic use. Another big exporter in the 1980's was the United Kingdom which traded with eleven domestically-banned pesticides. In the 1990's, pesticide exports from North America have increased rapidly. In 1995, pesticides forbidden in the US left its harbours at a rate of nearly 16 tons a day. The majority was destined for ports in the South.¹⁰⁹

Food dumping

The terrible environmental effects of the exports discussed above are obvious. It is much more difficult to grasp, however, how the North's food exports may also have detrimental ecological consequences in the South. One would imagine that, in this case, it is the South which is exploiting the environment of the North.

However, food exports from the US and Europe have a special nature — one in which the North seeks to establish dominance in this sector. Since the 1950's, the US has continuously "dumped" grain to the South at a price far below even its own production costs and thus under-sold local producers. Much of this has been in the form of "food aid" which hasn't necessarily meant a free gift: often food has been paid for in local currency by which the US government has pursued its military and other policies in the recipient country. The European Union has had a similar practice. It has exported great amounts of grain and dairy products to the South. The EU has also given a lot of its surpluses as food aid. It has become the second largest agricultural exporter after the US with great influence in the global food system.¹¹⁰

The result has been that these industrialised countries, which usually pose as market zealots, have completely disrupted local food markets and production systems in the South. Dumping has ruined many peasants' lives, who haven't been able to sell their

¹⁰⁸Elliott 1998, 47-50, Basel Ban 1998, The web site of the ICTSD <http://www.ictsd.org/html/review2-1.2.htm>, The Basel Action Network's web site <http://www.ban.org/>

¹⁰⁹French 1993, Castleman 1985, Pesticides... 1998

¹¹⁰Friedmann 1990 & 1995, Duncan 1996, 110-114, Höhmann-Hempler 1997, Globalisation of agriculture. 1996 Lanné & Collins 1988 92-98

produce at the heavily subsidised import prices. Many have had to abandon their reasonably ecological lifestyle and to migrate to swelling cities. Over time, local food production has declined and food habits have changed to demand American and European wheat, and Southern countries have become trapped to European food imports. This has often meant a heavy burden for the national economy and has forced nations to borrow heavily — sending them further into debt and reliance on the North. To pay the interests of the debts or to meet the demands of creditors, most countries of the South have expanded export-oriented "cash crop" agriculture or industries in order to raise the much needed foreign currency, with all the resultant damage outlined above.¹¹¹

Transfer of technology

The mass production of industrial goods in the North has been a trend for a long time. As markets in the North become "saturated" with goods — and growth being the paramount objective in market economics — exports to the South ("emerging markets") are increasingly important to Northern industries. Since most of the exported goods are polluting either in use or as waste, this means again another burden on the ecosystems of the South.

The automobile is a good example. In recent decades, the number of automobiles in the South has grown about twice as fast as in the much saturated North.¹¹² One of the main reasons for that has been export and other efforts of Northern car manufacturers. The result of this "automobilization" has been, among other things, appalling pollution and congestion of many Southern cities. In Mexico City, for example, the health impacts of the city's air pollution are estimated to cost US\$1,500 million per year. In Bangkok, an average car spends the equivalent of one and a half months a year stopped in traffic.¹¹³

If the cars didn't move at all, it would probably be quite difficult to sell them. However, to get the fleet moving isn't a simple thing. In fact, the automobile is not a self-mover as the etymology of the word would suggest. It needs a complicated and extensive technological system to mobilize itself. Gasoline, petroleum-based lubricants, thousands of spare parts and a system to distribute all this are required. Further requirements include paved roads, bridges, tunnels, motorways, grade separations, parking lots, garages, petrol stations, and other infrastructure. Additionally, an army of people are needed to run and construct the system and another smaller army to educate the first one. Often, the import of automobiles is not enough and car manufacturing plants are deemed necessary, which is now the case in a few Southern countries.¹¹⁴ The consequences are another wave of new "needs" for society. All this leads to further pollution and destruction of the environment on a grand scale. Both physical and social structures of society are transformed into much more ecologically harmful constructions. Such destructive transformations are being pushed by Northern countries and their corporations.¹¹⁵

¹¹¹Ibid., Friedmann 1990, Goodman & Redclift 1991, Lynas 1998, Watkins 1996

¹¹²Renner 1988, Dunn 1997

¹¹³Ibid., Isomäki 1991

¹¹⁴See e.g. Greider 1997, 112, Dunn 1997

¹¹⁵See e.g. Greer & Bruno 1996 163

Similar transfers of technology to the South have been taking place for centuries but now they are more frequent and devastating. Often, in different environments and cultural requirements, a technology is even more disastrous than in its place of origin, as the values and orientation of different cultures can be incompatible with those inscribed in the technology.¹¹⁶ The exceptional destructiveness of such technology transfer is also due to reasons mentioned above when dealing with export industries in the South.¹¹⁷

A small but illustrative example is the introduction of the snowmobile to indigenous people of the arctic. In a period of only a few years during the 1960's, the livelihoods, social structures, ecosystems and almost all other aspects of the nomadic Saami's lives were dramatically transformed. With the new, petroleum based technology only big herds of reindeers were economical. Therefore reindeers were concentrated to a few rich families. The relationship between animals and people got more remote when the Saami didn't migrate anymore with reindeers during the winter.¹¹⁸

In agriculture too, the North has transferred environmentally destructive technologies to the South — such as pesticides and more recently, gene technologies as mentioned earlier. Other destructive aspects of imported agricultural technologies from the North are such things as chemical fertilizers, petroleum-based heavy machinery, monoculture and the seeds developed to thrive only in these technological systems.¹¹⁹

A major step in the North's imposition of agricultural technologies was the so-called "Green Revolution". Ostensibly, this phrase referred to the spread of new high-yielding varieties of wheat, maize and rice which started in the 1960's. These varieties were supposed to revolutionize agriculture in the South and solve the world's hunger problem. By the mid-80's, Green Revolution seeds were used on roughly half the rice and wheat acreage in the South.¹²⁰

Total production of cereals did actually increase but so did the number of people suffering from hunger. Wealthy farmers became wealthier and the poor lost their farms or became otherwise poorer. At the same time pollution, land degradation and erosion increased.¹²¹

In reality, The Green Revolution wasn't simply a matter of providing new seeds but a technological packaged deal which also included pesticides, chemical fertilizers, machinery and irrigation facilities to make it all work. Often, an agricultural policy packet, copied from the US or Europe, was attached with price support, marketing arrangements, education, and credit. It was a technology and policy kit for capitalist farm entrepreneurs — not for peasants. Especially in the context of already highly uneven distribution of power and wealth, these Northern imports succeeded in exacerbating the problem of inequality.¹²²

¹¹⁶See e.g. Khor 1995, How a technology is embedded in a specific historical and cultural place see e.g. Hill 1988, Ullrich 1992, Alvares 1979, Christians 1985, Tammilehto 1998

¹¹⁷See also e.g. Ives 1985

¹¹⁸Pelto 1973

¹¹⁹Dinham 1996, Lappé & Collins 1988, 37, Weir & Schapiro 1984, 48-49, Siebert 1990, 61

¹²⁰Glaeser 1987, Patnaik 1990, Lappé & Collins 1988, 41

¹²¹Middleton & al 1993, 115-, Shiva 1991, Trainer 1989, 107-108, Lappé & Collins 1988, 43; about wide-spread soil erosion and its costs see Khor 1996, Brown & Wolf 1984

¹²²Goodman & Redclift 1991 214-215

The packages were developed and marketed by Northern or Northern minded scientists and agro-industries seeking to expand their market share in the "frontier markets" of the South. In their world-view, they saw peasants only as poor farmer-capitalists — not people who were facing the threat of losing their land in the capital accumulation of the rich and whose livelihoods were threatened by stark social realities. The environmental costs were considered as minor details and not something which would question the whole assumed superiority of their methods compared to those of local and indigenous peoples.¹²³ This is emphasised by the fact that during recent years even strictly economic benefits from the Green Revolution are being nullified by environmental factors. Because pests have developed resistance against pesticides and because land has been degraded, yields have in some areas begun to drop¹²⁴.

In forestry, the situation is very similar. The expertise and technology, developed for boreal forests and Northern society, are imposed inappropriately in tropical countries. Northern forest practices are supposed to bring 'order' to 'chaotic' forest utilisation in the South and conserve as much forest as is realistic. 'Forestry master-plans' overrule local knowledge systems through the implementation of scientific 'forestry management' systems — legitimizing large-scale logging and clear-cutting practices. After plans come deals to sell engineering expertise, heavy machinery for forestry, wood-working and papermaking, as well as the transport infrastructure to facilitate international trade in timber products. When pollution from pulp and paper mills is more serious than in the North, the blame is of course placed on the South.¹²⁵

Tourism

Tourism is the world's fastest growing industry. In the past 10 years, revenues from tourism have almost tripled, and today it is the largest sector in the world economy. It comprises about 10% of gross global product.¹²⁶ Tourism is increasingly playing a significant role in the life style of people in the North.

Tourism to the South is growing rapidly — more even than between industrialised countries. The South's share of international arrivals was 22.1% in 1991. Southern countries received in 1994 nearly 10% of their total foreign exchange earnings from travel.¹²⁷

For many, this is just a positive trend helping these countries in their economic difficulties. However, suspicion may arise when one learns that two-thirds of total earnings in Southern tourism goes to airlines, tour companies, hotels and restaurants

¹²³About the difference between peasants and farm entrepreneurs see e.g. Bennholdt-Thomsen & Mies 1997; about effectiveness and ecology of traditional agriculture based on diversity see e.g. Altieri 1991, Agriculture in Ladakh 1991, Shiva 1989 & 1997

¹²⁴Khor 1995 & 1996

¹²⁵See e.g. Carrere & Lohman 1996, Tropiikin vihreä... 1998

¹²⁶Madeley 1996, Kinnunen 1997, Tietoaika No 6/1998, 28

¹²⁷Madelev 1996

owned by foreign companies. According to one study, 13 TNCs dominate the global tourism industry — six from the US, four from France and one each from Australia, Britain and Canada.¹²⁸

Tourism may seem to be predominately a service industry, and therefore fairly benign to the environment. Yet modern tourism requires a great deal of supporting infrastructure and material. It requires new airports, hotels, roads, golf-courses and so on. All these wreak havoc on the local environment and cause substantial increases in sea, air, land, and noise pollution for large areas — not to mention the disruption to local cultures and societies. In order to accommodate Northern golf players, vast areas of forest are often cut and chemical fertilisers and water (in some cases 3,000 cubic metres of water per day) are required in vast quantities.¹²⁹ In Thailand, thousands of farmers have been expelled from their homes and fields to make room for 600 golf-courses!

Coral reefs are especially sensitive to the decimation caused by tourist industry. In Barbados, pollution is eating away at its vibrant coastline at a rate of 30-40 cm per year because corals get sick from sewage effluents and die.¹³⁰

Tourism is sometimes defended with arguments that to attract foreign visitors, Southern countries will have an incentive to preserve their environment. However, serving "eco-tourism" is often not so ecological. In Nepal, for example, one of the causes of clear-cutting of the mountain slopes is to supply firewood for climbing and trekking tourists. Hotels, roads and gasoline stations are in many cases built in a nature reserve just to serve nature-loving foreigners. It is often the case that the "wilderness" sites visited by tourists are really simulations. When a nature park is established, it is common to expel any indigenous people from their homes despite the fact that they may have lived in the area for thousands of years — forming close links with their natural surroundings. Either this, or they are forced into a situation where they become the 'exhibit' such as with some of the Masai people in Kenya and Tanzania. Another practice is to reconstruct wilderness so that it can be made tame enough for Northern tourists. The gorillas living in a Ugandan national park are too aggressive to appeal to tourists, so they must first be habituated to human presence before they can be shown to tourists.¹³¹

Maybe the greatest environmental impact of Southbound tourism, however, is indirect. It spreads Western, consumerism-oriented culture and lifestyle with all its detrimental effects. People, not knowing the realities in industrialised countries, get a serious misrepresentation of Western societies through tourists. For them, these are people who don't need to work much and have lots of wealth, material comforts, and leisure time. Young people especially develop negative attitudes to their own culture and seek to imitate the Northern lifestyle.¹³²

Mass communication

¹²⁸Kinnunen 1997, Madeley 1996

¹²⁹Kinnunen 1997, Massinga 1996

¹³⁰Kinnunen 1997

¹³¹Peltola 1993, 18, Kinnunen 1997, Guha 1997, Kohnen & Karlowski 1993

¹³²Norberg-Hodge 1991 94-114 Madeley 1996

Tourism is nevertheless only one of the ways through which the North influences cultures of the South. Industrialised countries have even more impact through various new and old forms of mass communication such as posters, books, magazines, newspapers, movies, music, radio and television. While in many countries there is also an influential local media, the dominance of the North and its giant media corporations is getting all the time stronger.

In recent times, large media corporations have grown exceptionally fast. Some have tripled in size just within this decade. The global media system is now dominated by just nine TNCs. They are American Time-Warner, Disney, Viacom, TCI (Telecommunications Inc.), Universal and NBC; German Bertelsmann; Australian News Corporation; and Japanese Sony. These, together with 40 or so other companies, provide the vast majority of film production, TV show production, cable channel ownership, cable and satellite system ownership, book and magazine publishing, and music production in the world.¹³³

The growing dominance of these Northern corporations is partly due to their privileged access to communication satellites and other new technologies. In fact, some of them — such as Sony, NBC-General Electric and Westinghouse — are themselves also large technology corporations. Another reason for their dominance is due to the so-called liberalization of the global economy — which allows TNCs easy access to the media markets of other countries.¹³⁴

A strong Northern influence is also evident in the mass media controlled by companies based in the South. Their programmes and stories are often of Northern import or imitation. Additionally TNCs of every branch employ all forms of media possible in the South, from billboard to TV commercials, to advertise their brands. The signs of Coca Cola, Sony, and others, are more pervasive in the world now than the cross or the crescent has ever been.¹³⁵

Advertising transforms — often at a subconscious level — in people's minds, company products and brands into symbols of everything good in life. Unfortunately this authoritarian propaganda technique works, and people are made to want the products they don't necessarily need. In a survey of company executives conducted by the Harvard Business Review, 85% of the participating CEOs admitted that advertising entices people to buy unnecessary things.¹³⁶

Often, TV, radio, and written content merely serve to support commercial messages or function as a frame for advertisements. The CEO of Westinghouse commented recently: "We are here to serve advertisers. That is our *raison d'être*."¹³⁷

All this commercial media influence from the North has a profound cultural effect on the South. In the South, cultural disintegration and homogenization as well as the

¹³³McChesney 1997, see also Schmid 1995, 26-, Keegan 1997

¹³⁴McChesney 1997

¹³⁵See e.g. Dieterich 1996, 73, Martin & Schumann 1998, 20-27, Veeraraghavan 1997, Idris 1995, Korten 1995, 153, Janus 1984

¹³⁶Gorz 1989, 119; about advertisement in general e.g. McCracken 1988, Leiss 1978

¹³⁷In *Advertising Age* 2/3/97 according to McChesney 1997

adoption of a consumerist lifestyle is rampant.¹³⁸ Such dramatic changes are looked upon approvingly by the media industry, which anticipates more sales as they expand even more. In a recent article, the founder and chairman of the Sony corporation indicated his view that local cultures are barriers to trade.¹³⁹

This cultural change has a major environmental effect. The transformation of society from relative ecologically benign customs and lifestyles to consumption-oriented, energy-intensive lifestyles only results in further devastation to the environment.¹⁴⁰

Transnational social structures

Transnational corporations

In the foregoing discussion on environmental effects in the South, I have often alluded to transnational corporations. We have seen that they export hazardous wastes and industries to the South, run polluting factories, transfer and impose ecologically inappropriate technologies, dump food to quash competition, loot and plunder and monopolise genetic resources and local knowledge, organise tours that exploit nature and the cultures of the South, as well as spread consumer culture worldwide through mass media. Almost all that the North does to the South is facilitated by transnational corporations.

TNCs have a history going back more than a hundred years starting from big oil, electricity and telegraph companies. However, their global dominance is a more recent event. In 1970, there were approximately 7,000 TNCs increasing to approximately 45,000 by the 1990s. These corporations, with their 280,000 foreign affiliates, account for most of the world's industrial output. About 90% of them are based in the North, including all but two of the top 100 wealthiest corporations. The real power lies with the top 500 TNCs. They control 70% of world trade and 80% of all foreign investment. One percent of all transnationals own half of all the investments in foreign subsidiaries.¹⁴¹

In any particular sector, the figures are even more alarming. In many sectors, only 5-10 corporations control over half of the world market.¹⁴² This also pertains to environmentally most destructive fields. For example only six oil companies control most of the world's oil production and distribution. Ten agro-chemical corporations control 70% of the world pesticide market.¹⁴³

On the basis of these facts alone, we can see that we cannot neglect the role TNCs play when we are considering the global effects of production structures in industrialised

¹³⁸See e.g. Becker 1984, Norberg-Hodge 1991, Milbrath 1989, 255, Veeraraghavan 1997, Biltreyest 1996, Sarmela 1988

¹³⁹Korten 1995, 153

¹⁴⁰See e.g. Norberg-Hodge 1991, 96-, Bizimana 1995

¹⁴¹World Investment Report 1997, Karliner 1997, Korten 1995, 124, Elliott 1998, 123; on history of TNCs see e.g. Chandler 1987

¹⁴²Korten 1995, 223, Greer & Bruno 1996, 16

¹⁴³Elliott 1998. 123. Engler 1995. 40: after the merger of BP and Amoco in 1998.

countries. These corporations are not just accidentally destroying nature. As social constructions and processes of the dominant North, they have ecological unsustainability built into them.

They are structured and oriented to devote all their energies to maximise profits and accumulate capital. One of the most important methods in this is to externalize costs, that is to say let other people, generations and creatures pay a substantial part of the production costs. The payment is usually not in pecuniary terms but in terms which cannot be reduced to monetary units. People and other beings pay for capital accumulation in illness, death and environmental degradation.¹⁴⁴

Ordinary companies and enterprises are, however, more or less attached to a local community or a country. Social norms, ethical conceptions and activities of movements usually set limits on how much a company can externalize its costs. This happens either informally through public pressure, or formally through legislation. However, just by being transnational TNCs are less bound to such things. They can freely cut their ties to a location and pass-on costs to others. If pressure to internalize some of their costs gets too strong, they can move, or threaten to move their production facilities to another country 'shedding' workers in the process.

It is difficult to get reliable information about TNC activities, because much of these happens on other continents. Additional difficulty is the sheer size of the companies. Since TNCs command vast resources, they can treat any environmental concern as a PR problem and contract big advertising firms to greenwash their corporate image.¹⁴⁵ Yet the key problem with TNCs is that they can use and mould undemocratic transnational political structures to offset citizens' influence and to enhance their activities.

Global quasi-state structures

Easily all the environmental havoc discussed above is attributed to Southern governments. Isn't it the task of a government to prevent its country from being abused by foreign companies or other invaders? Surely we shouldn't be lulled into believing that that Southern governments are innocent. Quite often they have actively cooperated with TNCs and Northern governments and facilitated environmental devastation.¹⁴⁶

However, in many cases, the structure of Southern states and often also their very existence are historically a creation of Northern colonial powers. Also, governments of the North still maintain tight links with their former colonies. They have created an array of international organizations which trim Southern states to be better targets for TNC activities.

One such institution is the World Bank. Although most of the world's nations are members, the richest industrialized countries have almost complete control over its operations through their sheer voting power which is proportional to the amount of money

¹⁴⁴On capital accumulation and cost externalization see e.g. Kapp 1950, Korten 1995, 77, Massarrat 1997

¹⁴⁵Heerings & Zeldenrust 1995 38-45, Greer & Bruno 1996, Karliner 1997, Beder 197, Korten 1995, Bryant & Bailey 1997, 111, Power... 1992, Jenkins 1987

¹⁴⁶See e.g. Bryant and Bailey 1997, Clapham 1992

a country contributes to the Bank coffers. From its inception, the Bank wanted to develop "underdeveloped" countries by lending money for copying infrastructure of the North to the South. Yet the problem was that initially there weren't in the South suitable institutions demanding the loans. So the bank began from the 1950's onwards to create ones. Through its loans, it fostered creation of many new institutions to Southern states — like electricity boards, finance corporations and development boards. These institutions were created so that they would be able to function relatively independent from their central government but dependent on the World Bank. After this transmutation the trimmed up states were ready to transform their environment by building dams, roads, power stations etc. Northern TNCs benefited from the contracts for such projects. When ready, these structures made the life of corporations much easier in the South.¹⁴⁷

Another North-dominated agent of "world revolution" is the International Monetary Fund or the IMF. It was created originally to assist central governments who have balance of payment problems. Because of the imbalance of power between the North and the South, these problems are recurring in the South, and the IMF comes to the 'rescue' time and again by issuing emergency loans. However, the Fund does not lend money for free. It demands that the government in question implements so-called Structural Adjustment Programmes (SAPs). These are economic 'overhauls' that seek to change the fiscal policies of the debtor nation to be more export-oriented, TNC-friendly, deregulated, and less focused on social spending such as in public health and education. This means, among other things, logging of forests, opening mines and transforming more living fields to agro-chemical wastelands.¹⁴⁸

Third important institution in the global quasi-state is the World Trade Organization (WTO). It is the latest incarnation of the General Agreement on Tariffs and Trade, which came into being 50 years ago. This institution too, is dominated by the North. The WTO seeks to achieve on a global scale what the IMF's Structural Adjustment Programmes seek to do to one country. In the name of trade liberalisation, the WTO strongly favours the North and TNCs — the primary controllers of world trade. One of the WTO agreements, the TRIPs (Trade-Related Aspects of Intellectual Property) agreement, imposes American-style patent legislation to all member countries. This allows TNCs to establish monopoly control over such things as genetic resources. It isn't any wonder that WTO rules favour TNCs so strongly, since they were key players already in the Uruguay round negotiations which led to establishment of the WTO.¹⁴⁹

The three organizations discussed above are already providing the North and its companies handfuls of liberties to devour Southern resources and externalize production costs there. However, this is apparently not enough to sustain Northern consumption and production patterns. Northern governments are negotiating still another system of privileges for TNCs. A new proposed agreement, the Multilateral Agreement on Investments (MAI), would be either independent treaty or it would be a part of the WTO. TNCs and their lobby groups, such as the ICC (the International Chamber of Commerce) have been especially active in the development of the MAI. In most cases the MAI would make it

¹⁴⁷Rich 1994, Escobar 1988 & 1992, Korten 1995, 167, Wilks 1997

¹⁴⁸Torfs 1996, George 1992, Dieterich 1997, Carley & Spapens 1998, 173

¹⁴⁹Heerings & Zeldenrust 1995, Northrop 1993, Who makes... 1995, Raghavan 1996, Trips and Biodiversity 1996. Shiva 1996

almost impossible for a Southern government to prevent or regulate the use of its resources by foreign TNCs. Any such attempt to regulate the activities of TNCs, would be quickly interpreted either as discrimination of an investor or as an expropriation of an investment — both of which would be illegal under the proposed MAI.¹⁵⁰

The activities of these three pillars of the global quasi-state are supported and augmented by tens of international special-purpose organisations. Many of these are organs of the UN system, like the Food and Agriculture Organization (FAO). Often representative of TNCs sit in committees of these organizations and steer their policy courses to service business interests.¹⁵¹

On top of the global quasi-state are various conferences where political and business leaders of the North meet. These include the G-8 and G-7 summits, the World Economic Forum in Davos as well as meetings of the Bilderberg Group and the Trilateral Commission. In these fora, the course of the global economy, which is based on exploitation of Southern resources, is charted and plans are made to adjust and tweak aspects that are unappealing to industry and Northern governments — all under the guise of 'free' trade, development, progress, democracy and sustainability.¹⁵²

Plans for a sustainable North

On the basis of all the points above it is obvious that the present impacts of the North on the environment in the South are devastating. What then should be done?

One answer to this question is the process of making various action plans for a sustainable society. Initiators of this work have been various groups belonging to Friends of the Earth International — especially the Dutch organisation Milieudefensie. Friends of the Earth Europe has facilitated groups in different countries in organizing and making sustainability studies. Plans for a sustainable society have been drawn for Austria, Belgium, Britain, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Ireland, Italy, Macedonia, Malta, Netherlands, Norway, Poland, Romania, Scotland, Slovakia, Spain, Sweden, Switzerland and Ukraine. There is also a summary report of all these studies with a European-level action plan.¹⁵³

According to these plans, consumption of energy and materials need to be reduced drastically. For example, the German plan prescribes that in the “Zukunftsfähiges Deutschland” of the 2050 consumption of energy would be 50% lower than today — that of fossil fuels 90% and that of materials 80-90% lower.¹⁵⁴ In the Dutch plan, by the year 2010, CO₂ emissions should be reduced by 60%, aluminium consumption by 80% and

¹⁵⁰See e.g. Vallianatos 1998, MAIgolomania 1998, Clarke & Barlow 1997, Dismantling Democracy 1998, The Multilateral... 1998, The MAI Negotiating... 1998

¹⁵¹See e.g. Hancock 1989, Power... 1992, Dinham 1991, Korten 1995, 179

¹⁵²See e.g. Korten 1995, 137-138, Gill 1990, Szule 1996, Martin & Schumann 1998

¹⁵³Carley & Spapens 1998, which is a kind of summary of various country reports; country reports include von Brakel & Zagema 1994 (Netherlands), Sachs et al 1998 (Germany), Kestävä Suomi 1996 (Finland), Sax, Haber & Wiener 1997 (Switzerland), Vers une... 1996 (France)

¹⁵⁴Sachs et al 1998 37-39

wood by 65%.¹⁵⁵ On a European level, by 2050, there should be a 77% reduction in CO₂ emissions, 85% in non-renewable raw materials, and 50% in the use of land in other countries to generate foodstuffs and other items for European consumption.¹⁵⁶

Evidently, this would all mean that some of the environmental effects on the South would be diminished. However, it is difficult to know would there be a general relief of the burden on the South. In any case in the reports I have gone through several of the environmental effects discussed in the preceding text are mentioned only in passing. The plans pay attention mainly to the imports from the South. The impacts of exports, tourism and media are all but omitted. Most disquieting is that the reports — at least the summary and the German one — are written as if social and political structures of present Northern societies would stay intact in their broad outlines. It appears also that most of the global structures would remain, for example an economy dominated by TNCs and other big corporations. As argued above, all these structures are among the main causes of environmental degradation in the South.

After publishing *Zukunftsfähiges Deutschland* 1996, a vigorous and wide debate ensued in the German-speaking countries.¹⁵⁷ The critics suggested — in addition to the points I mentioned above — that the indicators used in the plan were inadequate, it was too optimistic regarding technology development, it didn't remove itself from the ideology of economic growth, did not consider at all the exploitation of women, and did not analyse the fundamental causes of environmental degradation. Accordingly, the possible — although improbable — realisation of the plan might keep the exploitation of Southern environment on its present level or even aggravate the situation further.

The indicators that the German study, and others, uses are only a few quantities like land area and material consumption in tons. They don't tell much about qualitative aspects of materials and land use. For example, export crops are usually grown on the most fertile lands. Therefore imports reduced substantially in tons might still have serious environmental and social effects.¹⁵⁸

The study is ambivalent regarding economic growth, but it suggests that economic growth could continue. The assumption is that technology becomes more resource-efficient year after year. This may be too optimistic and it doesn't pay attention to the fact that generally, new technology also bring new problems (such as gene technologies).¹⁵⁹

Besides externalizing costs by deteriorating environment, the present production system cuts them by using unpaid or poorly paid work both in the North and in the South. The work is mostly done by women on fields, in factories and at home. This exploitation is tightly connected with the exploitation of nature. The same ideological structures make the contributions of both women and nature invisible and maintain a false image concern-

¹⁵⁵ von Brakel & Zagma 1994

¹⁵⁶ Carley & Spapens 1998, 106

¹⁵⁷ Some of the critical contributions in this discussion can be read in magazines *Lateinamerika Nachrichten*, *Forum entwicklungspolitischer Aktionsgruppen/Alaska*, *Ökologisches Wirtschaft*, links (e.g. an interview with Elmar Altwater, *Armborst* 1996), *blätter der iz3w, ak*, *Politische Ökologie*, *Wechselwirkung*, *epd-Entwicklungspolitik*; in edited books *Zeitgeist mit Gräten* 1997, *Nachhaltig reich...* 1997, *Nachhaltige Welbilder* 1997; and in monographs Spehr 1996, Eblinghaus & Stickler 1996

¹⁵⁸ See e.g. *Ein mann...* 1996, Spehr 1996, 47

¹⁵⁹ See e.g. Ullrich 1995, Spehr 1996, 29-30

ing the efficiency of the present system. Therefore, ignoring gender inequality affects seriously also the social and ecological relevance of the studies.¹⁶⁰

The key problem in the German study — and to a lesser extent in the others — is that instead of analysing the causes of ecological destruction, it implies that the culprit is the ordinary consumer. So it omits any suggestions for major changes in the structures of the economy and the state. Accordingly, the plan's realization could mean a state populated by very slim consumers and by fat command centres of worldwide production system. Meagrely consuming citizens would save resources for glimmering headquarters, staff training centres, business schools, silicon valleys, company recreation facilities and 'peace keeping' armies. Environmentally destructive industries of the North could shift even more to the South.¹⁶¹

Even worse, the study utilizes a concept of net consumption where the resource use of export industries is subtracted from German consumption. Thus, "zukunftsfähiges Deutschland" could also include large production facilities using enormous amounts of global resources. This is possible if the industries are mainly exporting because then you can imagine that the resources are in fact consumed by foreign customers.¹⁶²

However, even "net consumption" may be hard to curtail within the framework of the study. State and corporate structures consume energy and material also independently of any individual consumer. For example, important function of both of these structures is to further armament and space adventures, to build premises and infrastructure for their own bureaucracies, and to maintain various control systems. Furthermore, it is the corporations and state that promote consumption in the most aggressive manner possible. This is achieved through marketing, state education, and by changing physical structures of a society so that it is difficult to live without a car or other new commodities.¹⁶³

This concept that consumption as a way of life is actively promoted and driven is further strengthened when we examine the relationship between consumption and satisfaction. It is common to think that we are shopping and accumulating things because we want to live better. However, according to many surveys and many people's experience, increased consumption hasn't resulted in increased happiness or contentment among people. According to a follow-up study conducted by the University of Chicago, the percentage of people living in the US who regard themselves as happy hasn't increased since 1957. Yet personal consumption has doubled in this period.¹⁶⁴ Research results like this are cited in some of the sustainability studies but no conclusions are made concerning the causes of over-consumption.¹⁶⁵

Thus, the central point in the criticism of the action plans is that they are far too technical and apolitical. In a plan which tries to make the North globally more ecological, you must explicitly deal with power structures — otherwise you risk getting out of the

¹⁶⁰See e.g. Frauen-Fisch-AG 1997, Schultz 1996; on dualistic ideology behind exploitation of women and nature: Plumwood 1993; on historical connection between capital accumulation and subjugation of women: Mies 1986

¹⁶¹See e.g. Spehr 1996, 35

¹⁶²Ibid. s. 46, Eblinghaus 1997, Weigel 1997

¹⁶³See e.g. Spehr 1996

¹⁶⁴Durning 1992

¹⁶⁵F. σ in Carlev & Spanens 1998 141

frying pan into the fire.

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