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COUNTRY PROFILE



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INTRODUCTION - 2002 COUNTRY PROFILES SERIES

Agenda 21, adopted at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, underscored the important role that States play in the implementation of the Agenda at the national level. It recommended that States consider preparing national reports and communicating the information therein to the Commission on Sustainable Development (CSD) including, activities they undertake to implement Agenda 21, the obstacles and challenges they confront, and other environment and development issues they find relevant.

As a result, in 1993 governments began preparing national reports for submission to the CSD. After two years of following this practice, the CSD decided that a summarized version of national reports submitted thus far would be useful. Subsequently, the CSD Secretariat published the first Country Profiles series in 1997 on the occasion of the five-year review of the Earth Summit (Rio + 5). The series summarized, on a country-by-country basis, all the national reports submitted between 1994 and 1996. Each Profile covered the status of all Agenda 21 chapters.

The purpose of Country Profiles is to:

- Help countries monitor their own progress;
- Share experiences and information with others; and,
- Serve as institutional memory to track and record national actions undertaken to implement Agenda 21.

A second series of Country Profiles is being published on the occasion of the World Summit on Sustainable Development being held in Johannesburg from August 26 to September 4, 2002. Each profile covers all 40 chapters of Agenda 21, as well as those issues that have been separately addressed by the CSD since 1997, including trade, energy, transport, sustainable tourism and industry.

The 2002 Country Profiles series provides the most comprehensive overview to date of the status of implementation of Agenda 21 at the national level. Each Country Profile is based on information updated from that contained in the national reports submitted annually by governments.

Preparing national reports is often a challenging exercise. It can also be a productive and rewarding one in terms of taking stock of what has been achieved and by increasing communication, coordination and cooperation among a range of national agencies, institutions and groups. Hopefully, the information contained in this series of Country Profiles will serve as a useful tool for learning from the experience and knowledge gained by each country in its pursuit of sustainable development.

NOTE TO READERS

The 2002 Country Profiles Series provides information on the implementation of Agenda 21 on a country-by-country and chapter-by-chapter basis (with the exception of chapters 1 and 23, which are preambles). Since Rio 1992, the Commission on Sustainable Development has specifically addressed other topics not included as separate chapters in Agenda 21. These issues of trade, industry, energy, transport and sustainable tourism are, therefore, treated as distinct sections in the Country Profiles. In instances where several Agenda 21 chapters are closely related, for example, chapters 20 to 22 which cover environmentally sound management of hazardous, solid and radioactive wastes, and chapters 24 to 32 which refer to strengthening of major groups, the information appears under a single heading in the Country Profile Series. Lastly, chapters 16 and 34, which deal with environmentally sound management of biotechnology, and transfer of environmentally sound technology, cooperation, capacity-building respectively, are presented together under one heading in those Country Profiles where information is relatively scarce.

TABLE OF CONTENTS

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES.....	1
CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES - TRADE.....	4
CHAPTER 3: COMBATING POVERTY.....	5
CHAPTER 4: CHANGING COMSUMPTION PATTERNS.....	7
CHAPTER 4: CHANGING CONSUMPTION PATTERNS - ENERGY.....	10
CHAPTER 4: CHANGING CONSUMPTION PATTERNS - TRANSPORT.....	13
CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY.....	15
CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH.....	16
CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT.....	17
CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING.....	21
CHAPTER 9: PROTECTION OF THE ATMOSPHERE.....	23
CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES.....	25
CHAPTER 11: COMBATING DEFORESTATION.....	27
CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT.....	29
CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT.....	31
CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURE AND RURAL DEVELOPMENT.....	33
CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY.....	35
CHAPTER 16 AND 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING.....	36
CHAPTER 17: PROTECTION OF THE OCEANS, ALL KINDS OF SEAS, INCLUDING ENCLOSED AND SEMI-ENCLOSED SEAS, AND COASTAL AREAS AND THE PROTECTION, RATIONAL USE AND DEVELOPMENT OF THEIR LIVING RESOURCES.....	37
CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES.....	40
CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC IN TOXIC AND DANGEROUS PRODUCTS.....	42

CHAPTER 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES	43
CHAPTER 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS.....	46
CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS.....	49
CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT.....	50
CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING.....	52
CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES.....	58
CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS.....	59
CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS.....	60
CHAPTER 40: INFORMATION FOR DECISION-MAKING.....	61
CHAPTER: INDUSTRY.....	63
CHAPTER: SUSTAINABLE TOURISM	64

LIST OF COMMONLY USED ACRONYMS

ACS	Association of Caribbean States
AMCEN	Africa Ministerial Conference on the Environment
AMU	Arab Maghreb Union
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CARICOM	The Caribbean Community and Common Market
CBD	Convention on Biological Diversity
CIS	Commonwealth of Independent States
CGIAR	Consultative Group on International Agricultural Research
CILSS	Permanent Inter-State Committee for Drought Control in the Sahel
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CSD	Commission on Sustainable Development of the United Nations
DESA	Department for Economic and Social Affairs
ECA	Economic Commission for Africa
ECCAS	Economic Community for Central African States
ECE	Economic Commission for Europe
ECLAC	Economic Commission for Latin America and the Caribbean
ECOWAS	Economic Community of West African States
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FIDA	Foundation for International Development Assistance
GATT	General Agreement on Tariffs and Trade
GAW	Global Atmosphere Watch (WMO)
GEF	Global Environment Facility
GEMS	Global Environmental Monitoring System (UNEP)
GESAMP	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GLOBE	Global Legislators Organisation for a Balanced Environment
GOS	Global Observing System (WMO/WWW)
GRID	Global Resource Information Database
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEA	International Atomic Energy Agency
ICSC	International Civil Service Commission
ICSU	International Council of Scientific Unions
ICT	Information and Communication Technology
ICTSD	International Centre for Trade and Sustainable Development

IEEA	Integrated Environmental and Economic Accounting
IFAD	International Fund for Agricultural Development
IFCS	Intergovernmental Forum on Chemical Safety
IGADD	Intergovernmental Authority on Drought and Development
ILO	International Labour Organisation
IMF	International Monetary Fund
IMO	International Maritime Organization
IOC	Intergovernmental Oceanographic Commission
IPCC	Intergovernmental Panel on Climate Change
IPCS	International Programme on Chemical Safety
IPM	Integrated Pest Management
IRPTC	International Register of Potentially Toxic Chemicals
ISDR	International Strategy for Disaster Reduction
ISO	International Organization for Standardization
ITTO	International Tropical Timber Organization
IUCN	International Union for Conservation of Nature and Natural Resources
LA21	Local Agenda 21
LDCs	Least Developed Countries
MARPOL	International Convention for the Prevention of Pollution from Ships
MEAs	Multilateral Environmental Agreements
NEAP	National Environmental Action Plan
NEPAD	New Partnership for Africa's Development
NGOs	Non-Governmental Organizations
NSDS	National Sustainable Development Strategies
OAS	Organization of American States
OAU	Organization for African Unity
ODA	Official Development Assistance/Overseas Development Assistance
OECD	Organisation for Economic Co-operation and Development
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Papers
SACEP	South Asian Cooperative Environment Programme
SADC	Southern African Development Community
SARD	Sustainable Agriculture and Rural Development
SIDS	Small Island Developing States
SPREP	South Pacific Regional Environment Programme
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNCED	United Nations Conference on Environment and Development
UNCCD	United Nations Convention to Combat Desertification
UNCHS	United Nations Centre for Human Settlements (Habitat)
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNDRO	Office of the United Nations Disaster Relief Coordinator
UNEP	United Nations Environment Programme

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
UNIFEM	United Nations Development Fund for Women
UNU	United Nations University
WFC	World Food Council
WHO	World Health Organization
WMO	World Meteorological Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organization
WWF	World Wildlife Fund
WWW	World Weather Watch (WMO)

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES

Decision-Making: According to a decision by the Swedish Government in 1998 the Swedish development co-operation shall contribute to a sustainable development and the care for the environment. Environmental and development goals should be linked in Swedish development co-operation in accordance with the commitments in the Rio-declaration, Agenda 21 and the international environmental conventions.

The follow-up to the UN Conference on Environment and Development (UNCED) and the UN Special Session on Environment and Development (UNGASS 19) is carried out in many different areas in Sweden and the thinking on development co-operation and sustainable development evolves gradually. An overarching policy and an action programme have been worked out for the integration of environment and sustainable development in all development assistance through the establishment of environmental management systems. Environmental impact assessments for example are obligatory for all development co-operation inputs and a strategic environment assessment is being established for each partner country. Special help desks for for strategic environmental assessments (SEA: s) and environmental impact assessments (EIA: s) have also been set up.

For all country and regional strategy processes, the Swedish International Development Agency (Sida) is seeking the active involvement from Swedish civil society involved in development co-operation. Their input is requested both in the result analysis and in strategy formulation and consultations are held throughout the process. Political decisions and decision-making processes have a very important bearing on success in the pursuit of sustainable development. Agenda 21 has pointed to the necessity of developing democracy and facilitating civic participation in the local decision-making process. The bottom-up perspective recommended in Rio and subsequent Agenda 21 work has proved successful. Swedish Agenda 21 activities have mostly been developed locally and been transmitted upwards in the political hierarchy. The opportunity to participate actively in the political decision-making process is a precondition of the continuation and development of the vigour of local involvement. In some of the major cities in Sweden, a system of district boards has been developed to which a number of decision-making functions previously vested in at central level in the municipality have been delegated. Other municipalities are trying other means of decentralizing decision-making, e.g. by directly involving NGOs, neighborhood committees etc. in the Agenda 21 activities. The aim is to develop democracy by facilitating civic participation in the decision-making processes and reducing the gap between resident and elected representative.

Some 300 NGOs receive governmental support for development co-operation activities in the East and South. A substantial part of the Swedish development co-operation is in different ways channeled through Swedish NGOs. Support for organizations active in the field of environment and sustainable development in the receiving countries is to a great extent channeled through Swedish NGOs. This has also helped to broaden Swedish non-governmental activities concerning such questions. Church organizations and trade unions, for example, are also financing development co-operation measures through contributions from their members.

Programmes and Projects: Swedish development co-operation supports a large number of programmes in developing countries with the goal of accelerating sustainable development. Following is a short summary of a few of these projects, as illustrative examples:

- 1) Sweden supports environmentally adapted production and exports from developing countries as well as improved information and transparency in international trade co-operation. One example is the support for so called Fair Trade-labeling. A certification organization promoting fair trade, above all in agricultural products was formed in Sweden in 1996. Fair Trade-labeling products are purchased directly from small farmers and co-operatives at the minimum price above the market price, and producers have access to credits and long-term agreements. In addition, the producers pledge themselves to conform to certain social conditions;

- 2) Production and exports of ecological cotton from Uganda and Mozambique are receiving Swedish support. Cotton is the first export product in a major project for the promotion of production and exports of ecologically grown produce from Africa. During 1995 about 4000 smallholders in Uganda and 200 in Mozambique were taking part in projects for growing and exportation of ecological cotton, and the level of interest was high in both countries. Ecologically grown sesame was also exported from Uganda. These projects are being conducted in association with local organizations and Sida's support has mainly comprised technological counseling and market contacts; and
- 3) Sida, in co-operation with Dutch CBI, supported the production of the report "Environmental Quick Scan – Textiles" containing detailed information on provisions, environmental standards, technical solutions and packaging requirements in textile industry. The target group comprised producers, suppliers, exporters, and importers in the industry.

Status: A formal Environment Management System has been established and substantial progress has been made with regard to mainstreaming environmental considerations into all areas of Swedish development co-operation. The action programme on sustainable development comprises action covering all parts of Sida's activities.

Capacity-Building, Education, Training and Awareness-Raising: Global sustainable development requires that the developing countries will be given opportunities of democratic, economic, technical and social development. Resource utilization must be more evenly distributed and financial resources, modern technology and know-how made available to all countries. Swedish development co-operation put special emphasis on the development of knowledge, capacity and institutions in the partner countries. Development co-operation measures have increased and hundreds of projects directly connected to Agenda 21 are currently being supported. A special environmental funding allocation is being devoted above all to develop methods, experimentation and pilot measures, e.g. through the use of environmental indicators.

Education is a vital factor in the promotion of a sustainable development and in improving peoples ability to solve environmental and development problems. A number of educational projects on environment and sustainable development have been carried out in developing countries with support from Sida in recent years. This work has primarily focused on formal education with a priority for integration of sustainable development in curricula, teachers training and educational material and on adult education through mass media and cultural activities. Sida has put particular emphasis on support of NGOs in the South working with environmental education measures. Sida has developed an overall policy for education on sustainable development and is currently implementing this policy in all its education efforts. A few examples of projects that Sweden supports in developing countries in this field are:

- Teachers training on local production of educational material with focus on sustainable development in Ethiopia, Kenya, Uganda and Zambia;
- In service training in ecology and environmental care for engineers in South East Asia at the Asian Institute for Technology; and
- Education on sustainable development for journalists from India and a number of African countries.

Work is also underway to improve the integration and focus on sustainable development in administration developing countries through support to capacity building on environmental statistics, environmental economics and environment assessments.

Information: Following are some specific measures undertaken to promote public awareness and information about sustainable development in the Swedish development co-operation:

- Sida publishes various newsletters, papers etc directed to persons working with development co-operation;
- Various guidelines for information have been developed and a number of training courses are carried out of development co-operation personal;
- In the autumn of 2000 a media campaign was carried out in Sweden both in television and newspapers about sustainable development in the Swedish development co-operation; and
- A special study called “African Perspectives on Sustainable Development” has been carried out with EU/Denmark and Finland.

Research and Technologies: Sida co-operates with the academic world through its Department for research co-operation. The major part of this co-operation consists of support to researchers and research in developing countries, through for example tutoring of post-graduate students. It also consists of support to research is also carried out in Sweden in the field of development research. Sweden also promotes research and methodological programmes like the Farm-level Applied Research Methods Programme for East and Southern Africa (FARMESA) - together with FAO - and Regional and Land Management unit (RELMA) to develop new approaches to sustainable agriculture.

Financing: For the 2000 budget year, 0.72 percent of the estimated Gross National Product (GNP) was allocated to international development co-operation with developing countries, within the Swedish development assistance framework. The framework will amount to 0.73 percent of GNP for the 2001 budget year, and 0.74 percent in 2002, rising to 0.81 percent of GNP in 2003.

Within this framework, 30 percent of the total is devoted to multilateral development co-operation (including Swedish contributions to European Commission assistance) and 60 percent to bilateral co-operation. The remaining 10 percent is used to defray the cost of refugees in Sweden, administration and other expenses. The aim is that Sweden should restore the 1 percent target when the national finances permit. The increased level of assistance in 2003 is an important step towards reinstating this long-standing goal. Around 15 percent of bilateral Official Development Assistance (ODA) is specifically assigned for the purpose of supporting sustainable development in developing countries. For another 40 percent of bilateral ODA sustainable development has been recognized as one of the objectives.

Measures with Agenda 21 connections include the build-up of an environmental economics programme and resource base. Sida has started a co-operation with the Swedish National Chemicals Inspectorate and the National Environmental Protection Agency in this regard. Examples of development co-operation in the field of sustainable development are projects concerning aspects of the marine environment, training measures concerning environmental statistics, co-operation between Swedish and foreign local authorities in the environment sector. Other activities are frame credits with an environmental focus for certain development banks, promotion of exports of ecological products from developing countries, measures for the encouragement of environmentally adapted trade.

Cooperation: The overall objective for development co-operation – the elimination of poverty – also determines priorities in the environmental field. Integration of environmental aspects into all operations is a prime requirement for sustainable development. The following areas are identified as particularly important in bilateral co-operation: integrated management of water resources, sustainable soil and forestry management, sustainable utilization of coastal and marine resources, a sustainable urban environment and energy supplies. In addition, priority is given to support to environmental NGOs and capacity-development in environment.

CHAPTER 2: INTERNATIONAL COOPERATION TO ACCELERATE SUSTAINABLE DEVELOPMENT IN DEVELOPING COUNTRIES AND RELATED DOMESTIC POLICIES - TRADE

Decision-Making: Sweden aims to integrate trade and environment issues in decision-making. Most activities until now relate to eco-labelling of products and services. Consumption and production patterns are subject to intense studies, both domestically and within EU.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Swedish International Development Cooperation (Sida) has contributed to the production of a manual for trade with ecological products. The purpose is to increase the knowledge of the environmental demands applicable within the EU. The manual deals e.g. with Agenda 21 and environmental regulations within the EU. The target groups are trade councils and exporters in the developing countries that deal with countries within the EU. More information is available on www.sida.se.

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CHAPTER 3: COMBATING POVERTY

Decision-Making: Sweden has a well functioning welfare system. More information will follow.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information:

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Increasing the standard of living of the poor is the overall objective of Swedish development co-operation. One starting point is a strategy document *Shaping the 21st Century – The Contribution of Development Co-operation*, which has been adopted by the OECD Development Assistance Committee (DAC), representing all major donors. The goals for international development reflect an approach involving the integration of economic and social development, equality, and environmental concerns, aiming to create a sustainable development. Swedish policies outlined in the Swedish Government's report to Parliament entitled *The Rights of the Poor – Our Common Responsibility* gives particular attention to democracy and human rights as fundamental elements in the development process. In addition, a systematic children's approach is being developed in Swedish development co-operation.

Sweden has striven to analyze more closely the linkages between poverty, environment and other related development aspects. This has e.g. resulted in reports and papers on sustainable livelihoods and conflicts, human rights, democracy and environment, economic growth and environment, poverty and environment, and climate change, poverty and vulnerability. Special newsletters on conflict development and environment as well as sustainable development in general are also being produced.

The elimination of poverty as the objective for development co-operation involves contributing to create conditions that enable the poor to free themselves from poverty. Development co-operation should support national policies for eliminating poverty in a dialogue with the countries concerned. Many countries will be drawing up national poverty reduction strategies during the next few years. The link between debt relief and the elimination of poverty clarified in the extended Heavily Indebted Poor Countries (HIPC) initiative is from the Swedish point of view one of the driving forces in this process. In its guidelines for support for economic reforms and debt relief approved in 1999, the Swedish Government declared that poverty strategies are to constitute key background documents for decisions regarding support of this nature. Sweden has been an active proponent of a stronger focus on poverty in the enhanced HIPC initiative. The decisive factor however, is that the process is led by the countries concerned, preferably with the broad participation of the civil society. Sweden actively monitors and evaluates such processes on an ongoing basis in its major partnership countries.

National poverty reduction strategies – Poverty reduction Papers (PRSP)- and the Comprehensive Development Framework (CDF) previously launched by the World Bank are important tools for donor co-ordination based on the partnership concept. They provide obvious starting points for Swedish country strategy processes, as stressed in the guidelines prepared jointly by Sida and the Ministry for Foreign Affairs. Sweden also participates actively in preparing guidelines for poverty reduction in the development co-operation context within the OECD's Development Assistance Committee (DAC).

The Swedish parliamentary commission's study of Sweden's policy for global development which commenced in the spring of 2000 gives special focus on coherence between policy areas. The commission was assigned to present a comprehensive proposal for the way policies should be drawn up in key areas, based on the overall objective of poverty reduction and the new conditions created by globalization. The ability to assess which development measures have the greatest impact on poverty is a fundamental requirement for effective poverty reduction. In its 1999 annual report, Sida classified for the first time the components involved in the Swedish bilateral development co-operation in terms of their impact on poverty. This breakdown indicated that 42 percent of disbursements involved measures that had a direct impact on poverty or which included poor people, while 47 percent involved measures that had an indirect impact on poverty reduction.

During 1999, Sida started a poverty project, divided into three phases and ending in June 2001. This project was designed to achieve a learning process, based on Sida's experience, which will provide new information regarding the links between poverty and resource distribution, growth, employment and the institutional prerequisites. Sida has reinforced its emphasis on methods to achieve popular participation in development co-operation. As Sida's action programme progresses, the links between the overall poverty objective and the equality, environmental, human rights and democracy goals will become clearer.

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CHAPTER 4: CHANGING CONSUMPTION AND PRODUCTION PATTERNS

Decision-Making: The Ministry of the Environment and the Swedish Environmental Protection Agency Sustainable Development Department are responsible for sustainable consumption and production. Furthermore, the Ministry of Industry, Employment and Communications, the Swedish Business Development Agency (NUTEK) and the Swedish National Energy Administration are responsible for production affairs; and the Ministry of Justice and the Swedish Consumer Agency, for consumption affairs. Local authorities administer sustainable consumption and production at the local level. The Consumers and the Environment Action Plan for Sustainable Development includes measures related to product testing and information on environmentally sustainable consumption. The Consumer Agency and the Environmental Protection Agency have formed a joint partnership for the purpose of implementing the Action Plan. The most important obstacles in implementing effective programmes that promote sustainable consumption and production are related to (1) human behavior and habits, including lack of interest, information or time; (2) inappropriate price incentives and market failures regarding the internalization of costs; and (3) major shortcomings in the way that society is organized, such as unsustainable infrastructure. In May 2000 the Government presented a strategy for the establishment of an Integrated Product Policy on national and EU level to address these problems. The purpose with a product policy is to reduce the negative impact on environment and health from products and services during the entire lifecycle. Involvement of all stakeholders is stressed. During the Swedish EU Presidency Council conclusions on the ongoing work with an Integrated Product Policy at EU level was decided upon.

The Environmental Code entered into force on 1 January 1999. The Code covers the whole range of environmental legislation. The aim of the Code is to promote sustainable development that assures a healthy and sound environment for present and future generations. The Code includes general rules of consideration. One of them states that raw materials and energy shall be conserved and reused or recycled wherever possible. Chapter 15 of the Code sets the legislative framework for a number of ordinances targeted at industry to reduce, reuse and recycle waste materials. Industry has been legally responsible since 1994 for ensuring the reuse or recycling of materials in certain types of packaging. The same responsibility applies in some chosen product areas, such as cars and car tires, newspapers and similar products, and electronic equipment. The Code also opens up for setting environmental requirements related to products in permits for environmentally hazardous activities. Regulations related to sustainable consumption and production patterns are also found in consumer legislation.

In Sweden all sectors have a common responsibility to achieve sustainable development within their respective policy areas. To this end, a government committee has been established with the objective of putting forward proposals on how sectors can contribute to achieving the comprehensive environmental quality targets proposed by the Government. Most of the major groups are well organized in Sweden where there is a strong tradition of forming various types of associations. A broad range of consultative mechanisms is used to involve the Major Groups. One of the most important is a written procedure that invites comments from all parties concerned on major policy Government proposals, before taking final decisions.

Programmes and Projects: A wide range of voluntary initiatives to promote sustainable consumption and production patterns have been launched in recent years. The examples include the application of Environmental Management Systems, development of environmental product declarations based on life-cycle analysis and the recent agreement on criteria for sustainable forestry. A voluntary Nordic Eco-labeling scheme was introduced in 1989. The range of products is wide but fall into three main categories: everyday commodities; office supplies and commercial buildings; and housing construction and household products. Furthermore, a number of other organizations provide consumer information on the extent to which goods are environmentally friendly. Another environmental label is used on ecologically grown and manufactured products. The Committee for Ecologically Sustainable Procurement has developed a tool to actively promote public procurement as a means of achieving ecologically sustainable development and promoting sustainable consumption patterns of public authorities. The government has through the Environmental Advisory Council initiated a dialogue with two sectors of the business society with the purpose to raise environmental standards and ensure more efficient use of resources while taking

into account the need for enterprises to improve their performance in increasingly environment-oriented markets. The sectors in focus have been Construction and management of building and Trade with everyday commodities.

Status: There is generally no shortage of freshwater in Sweden. Industry consumes about seventy percent, agriculture five percent and households fifteen percent. Total waste deposit in Sweden amounted to approximately 4,800,000 tones per year in 1997 compared with 6,000,000 tones in 1994. Households are responsible for almost fifty percent of environmentally harmful emissions. The total use of energy in Sweden has been relatively stable since 1970 (450 - 500 TWh/year). There are no specific quantifiable targets related to energy or material efficiency per se, but the Government has stated that a substantial improvement in material and energy efficiency will be needed in the medium and long term. Statistics in Sweden is developing physical environmental accounts, i.e. a statistical system in which environmental impact and resource use, expressed in physical terms, are linked with economic statistics on production and consumption. The system serves as a basis for analyses and indicators, e.g. environmental and economic profiles. "Sustainable Development Indicators for Sweden – a first set 2001" was published in May 2001 (www.scb.se)

Capacity-Building, Education, Training and Awareness-Raising: Several campaigns directed towards awareness-raising for sustainable consumption and production have been launched by Swedish NGOs, including the concept of "Environmental Space and Fair Shares", the "Lighter Packaging" project, the promotion of so-called "Eco-teams" and others. Perhaps one of the most important government initiatives in this regard is the reorientation of education towards sustainable development including, for example, Eco-labeling schools. At the local level, many local authorities have offered some or all of their employees various types of educational programmes on sustainable development, often as a part of the local Agenda 21 process. Most of them also provide information for local inhabitants on various forms of sustainable consumption and production, including the promotion of Eco-teams, distributing written information and facilitating building Agenda 21 networks. The reorientation of education towards sustainable development and increasing public awareness is treated in the section on Education. Since 1997 more than 135 public authorities are working with environmental management systems and since 2001 these systems are also incorporated within the Government Offices.

Information: Different types of information on sustainable consumption and production have been developed and provided, for example, by the authorities involved in the consumption and production decision-making. The Swedish EPA is responsible for monitoring environmental trends in Sweden, including sustainable consumption and production patterns. Furthermore, the Consumer Agency and local consumer counselors provide information, advice and guidelines on issues related to sustainable consumption and production patterns. The Agency is currently setting up a database with information related to households and the environment. At the local level, a number of local authorities have developed their own guidelines and brochures, addressing the local inhabitants. Information on consumption and production can be accessed via Internet. The Swedish Government has stated that a set of key indicators for sustainable development should be developed and included in future Budget Bills.

Research and Technologies: Environmentally sound technologies are increasingly being applied, as a result of several different driving forces. First, environmental laws and regulations relating to the Polluter Pays Principle, as well as product testing with regard to environmental aspects, have had an important role in promoting new technologies. Second, consumers have requested better products and cleaner production technology. Third, a number of voluntary initiatives have resulted in application of new technologies, including e.g. eco-labeling (see above) codes of conduct, environmental policies and environmental management systems. Another important driving force is greater awareness of sustainable production at the work place.

Financing: The Government has launched a large-scale local investment programme, directed towards investment in municipalities for environmentally sustainable development, some of which relates closely to consumption and production. The total amount amounts to approximately SEK 7 billion (USD 900 million) over a five-year period. The Government also offers financial support -SEK 8 billion or USD 1 billion for a three-year period for energy efficiency and renewable energy programmes. Moreover, the so-called Eco-cycle billion (SEK 1 billion or USD 80 million) has been established to provide financial support for innovative environmentally sound technology.

Cooperation: At national level the Government has initiated stakeholder dialogues and networks on the development of an integrated product policy with the aim to promote sustainable production and consumption patterns. The Swedish Government is involved in numerous bilateral and multilateral projects related to consumption and production. As an example, Sweden has contributed financially to a number of projects on renewable energy, energy management and other related activities in the Baltic region and Eastern Europe. Programmes promoting the use of bio-fuels and electric vehicles have also been initiated. Sweden is also actively involved in the work of the International Energy Agency and the UN Economic Commission for Europe on projects concerning energy efficiency. Sweden also plays an active role in the Nordic Council of Ministers that, for example, has initiated the Nordic Environmental Labeling System. The Council has initiated projects on eco-efficiency and also set up a joint program for the environment, industry and consumer sectors on product oriented environmental policy. The Government has further stated that Swedish ODA should be directed towards sustainable development. Sida has therefore produced an action plan, which includes aspects on sustainable consumption and production.

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CHAPTER 4: CHANGING CONSUMPTION AND PRODUCTION PATTERNS - ENERGY

Decision-Making: Government energy organization consists of the following: Central government bodies; Regional authorities; and Government supervisory bodies. Sweden has a unitary Government, but active local authorities. Development of energy policy rests with the central Government. Within Government, the lead responsibility resides with the Minister of Industry, Employment and Communications. In order to clarify and reinforce the central government function, The Swedish National Energy Administration was established on 1 January 1998, as the central government body responsible for the main part of the authority functions within the energy area. The authority has the responsibility for the main part of the implementation of the Energy Policy Programme. It is also assigned a coordinating responsibility for the programme. The authority should monitor the implementation of the energy policy programme. The former responsibilities of the Swedish National Board for Industrial and Technical Development (NUTEK) within the energy area are hence transferred to the new authority.

The Swedish Council for Building Research (Bygghälsningsrådet) is responsible for energy-related building research while the Swedish Board of Housing, Building and Planning (Boverket) is responsible for the sub-programme for reduction of peak load in households as well as the sub-programme for substitution from electrical residential heating to other heating methods. Government recently froze the former sub-programme and revisions of the use of the funds remaining are expected to ensure better cost efficiency. The Swedish Consumer Agency (Konsumentverket) is responsible for testing, labelling and certification of energy use in household equipment etc while the Swedish Nuclear Power Inspectorate (Statens Kärnkrafts Inspektion, SKI) is responsible for regulation of nuclear activities with regard to safety, nuclear waste management and nuclear non-proliferation. SKI is also responsible for government-funded nuclear safety research. Moreover, SKI manages a special government-funded programme for cooperation and support to Eastern and Central Europe in nuclear safety and related radiation protection areas.

The Swedish Environmental Protection Agency (Naturvårdsverket) does not have an operative responsibility for the implementation of the energy programme, but is rather the government agency responsible for the supervision of environmental issues. The Swedish Natural Science Research Council (Naturvetenskapliga forskningsrådet) and The Swedish Research Council for Engineering Sciences are responsible (Teknikvetenskapliga forskningsrådet) for energy-relevant basic research within their respective areas of competence.

The Swedish Transport and Communications Research Board (Komunikations Forsknings Beredningen) are responsible for energy-related transport research. The transport authorities (Vägverket, Sjöfartsverket, Luftfartsverket, Banverket) has a responsibility within their sectors to promote efficient use of energy. The regional authorities are responsible for the implementation of the parts of the sub-programmes, which are directing towards private households on behalf of the Swedish Board of Housing, Building and Planning. According to the Parliament decision from 1997, the state-owned utility Vattenfall that produces 50 % of Swedish electricity is to play an active role in the con-version process of the Swedish energy system, on competitive terms.

Programmes and Projects: The overall purpose of Sweden's energy policy, launched through the Governmental Bill A Sustainable Energy Supply (1996/97:84), is to create the conditions for efficient use and cost-efficient supply of energy, with minimum adverse effect on health, the environment and climate. While at the same time assisting the move towards an ecological sustainable development. An extensive energy policy programme has been started to facilitate restructuring and development of the energy system. The main thrust of this work is in the form of a substantial long-term concentration on research, development and demonstration of new energy technology.

As energy policy by definition is inter linked with environmental and climate issues it should be mentioned in this context that a new Swedish climate strategy have been proposed recently and also a revised environmental strategy. To begin with the climate strategy it comprises objectives and an action programme for achieving them. The action programme includes measures, policy instruments and planning as well as organizational proposals for implementation. The strategy relates to the period up to 2050 and the action programme covers the period up to 2010. A new improved policy for how to achieve a sustainable development has also been proposed, by the

Committee on Environmental Objectives incorporating representatives of all the parties in the Swedish Parliament. Both these two proposals will most likely result in new measures to improve the possibilities to hand over to the next generation a dynamic but sustainable society in which the major environmental problems have been solved.

Status: The total energy supply in Sweden has increased by 8 % between 1990 and 1999, see table 1. During the period the use of biofuels and peat has increased the most. Biofuels and peat are used in three main areas: district heating plants, the pulp and paper industry and house heating. It is the district-heating sector that accounts for the largest increase. The use of oil and natural gas has also increased, while the use of coal and coke has declined. Fossil fuels accounts for about 40 % of total supply of energy in Sweden.

Total energy use has increased in the industrial and transport sectors, but has been relatively constant in the residential sectors. Certain shifts have occurred in the breakdown between energy sources and sectors. In transport sector the use of petrol has declined while diesel and bunkers oil have increased. Electricity and district heating use have increased in the residential sector at the expense of oil. In the industrial sector the use of bio fuels and district heating has increased.

Hydropower and nuclear power produce most of Sweden's electricity. Combined heat and power plants, oil-fired cold condensing plant, gas turbines and wind power also produce some electricity. Oil-fired cold condensing plants and gas turbines have been used as reserve capacity. The restructuring of the electricity market has resulted in several reserve power stations being taken out of use for economic reason. The capacity of wind power has increased substantially since 1990, but the contribution from the wind power plants to the total electricity balance is still very small, 0,4 TWh in 1999. Hydropower production has varied widely between the years during the 1990's, due to variation in precipitation.

The guidelines for the Swedish energy policy, decided by the Parliament in June 1997, nuclear power is going to be phased out. In 1999 the first reactor was shut down. Decommission of the Swedish nuclear power will continue, provided that the loss of generation capacity can be compensated by reduced electricity consumption and increased supply of electricity.

Capacity-Building, Education, Training and Awareness-Raising: For three years now (1998, 1999, 2000), the Swedish National Energy Administration has been touring Sweden with two trailers filled with alternative energy systems for heating. The main goal with the exhibition is to reduce the amount of houses that uses electricity as a main heating source. There are people from the community in the trailers who inform the visitors "water warms better". The interest for a change of system regarding heating of houses is high. During these years the trailers have been touring about 300 cities and each time approximately 200-300 people have visited the exhibition.

Information: Energy statistics are an important instrument when evaluating the development of the energy system. Swedish Statistics (SCB) produces energy statistics on behalf of the Swedish National Energy Administration. Different kind of data is collected with different samples and frequency. Example of statistic publications are: Monthly oil-, gas-, and stock statistics, Monthly electric energy statistics, Quarterly fuel statistics, Annual electricity, gas and district heating statistics, Annual energy statistics of manufacturing, Prices on electricity and transmission of electricity, etc.

The National Energy Administration exercises surveillance of the grid companies and operation of the deregulated electricity market. For these purpose prices of network services from all network utilities are collected and compiled. The Administration is also responsible for the country's energy emergency planning and compile data of oil storage, prices of crude oil at all refineries, consumer prices of petrol, diesel and oil from some companies in Sweden. Finally, the Administration administrate the investment grants to combined heat and power plants (CHP) and wind farms and is therefore collecting information about the new plants' power generation, use of fuel etc.

Research and Technologies: As a consequence of the oil crises during the seventies Sweden shifted its energy system away from oil and coal to for example nuclear power. Though as the problems generated by nuclear power became more evident during the early eighties the Swedish Parliament decided to lessen its dependence on nuclear

power through increased use of renewable energy sources. Since then this energy policy has been manifested over time. Sweden has made great efforts and succeeded to increase energy supply from renewable energy sources, primarily biofuel. The conditions in Sweden are of obvious reasons indeed suitable for bio-fuel and that is why a great deal of improved technologies is being developed within this area.

The Swedish geography is also suitable for wind power and an increased interest in new wind power technologies have been witnessed during the last years. For example ABB recently launched a completely new and improved wind power technology called wind former. ABB has received financial support from the Swedish National Energy Administration. Regarding hydropower continuous efforts are made through research programmes to lessen its negative effects on the environment.

Financing: Sweden devotes large resources to research and development. In fact, Sweden's R&D expenditure at 3,85% of GDP is the highest in the world. The R&D expenditure per capita is the second highest in the world, after the USA. Swedish industry has during the 90's devoted increasing resources to research and development. In 1997, industry's share of the R&D funding amounted to 2,66 % of GDP. The main areas for industrial R&D are transport, telecommunications and pharmaceuticals. The public R&D funding has also increased during the 90's. In 1997, 27% of Swedish R&D was publicly funded, while 68% was funded by industry. Research foundations contributed the remaining 5%. The R&D efforts are mainly carried out in industry (68%) and in universities. Only 4% of the R&D is carried out in research institutes.

The Swedish Parliament has decided to allocate 2 262 247 million SEK to energy related projects and programmes for 2001 (within the framework of the overall cost of the energy programme 9,2 billion SEK). The total national budget amounts to 711 135 767 million SEK for 2001. The total funding for energy R&D in Sweden is 2500 million SEK per annum. (1997). The sources of the funding are about one-third each from government, electricity companies and other industry, respectively. As a member of the European Union Sweden participates in the 5th Framework Programme and its fourth thematic programme Energy, Environment and Sustainable Development and its sub-programme ENERGIE. The budget for ENERGIE amounts to 1042 million Euro for the period 1998-2002. Sweden receives approximately 4% of the total budget.

Cooperation: Besides actively participating in IEA, including 27 implementing agreements, Sweden is involved in essentially all of the European Community's energy programmes, e.g. the Fifth framework programme for R&D, the Multi-annual energy framework programme, SAVE II and ALTENER II. Sweden is also an active member of the European Energy Network, EnR. The Nordic Ministerial Council (Sweden, Finland, Denmark, Norway and Iceland) is also financing the Nordic Energy Research Programme.

The Swedish National Energy Administration is the host of one office in the Organization for the Promotion of Energy Technologies (OPET) Network. The OPET network consists of 45 OPET offices where of 38 in Europe and 7 OPET associates in Russia, Caucasus, India, China, South Africa and South America. In Sweden there are two OPETs, OPET Sweden and OPET Arctic. The European Commission in cooperation manages the network with a host organization for each OPET. The OPET offices work nationally and internationally in actions based on the market actors needs. OPET Sweden is active in 18 international actions.

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CHAPTER 4: CHANGING CONSUMPTION AND PRODUCTION PATTERNS - TRANSPORT

Decision-making: The Swedish Parliament adopted a new national transport policy in 1998. The transport policy will contribute to a socially, culturally, economically and ecologically sustainable development. The overall objective for the national policy is to ensure socially, economically, efficient and long-term sustainable transport resources for the public and industry throughout Sweden. The overall objective is supplemented by a set of subsidiary objectives. These objectives prescribe the level of ambition in the long term. The subsidiary objectives aims for:

- an accessible transport system;
- a high transport quality;
- a safe traffic;
- a good environment; and
- a positive regional development.

The subsidiary objectives are not subject to any ranking in priority. All the subsidiary objectives will be achieved in time. Concrete subsidiary objectives are established on the way towards a sustainable transport system. The objectives are guided by certain principles, which include:

- Freedom of choice – households and companies should themselves decide how they are to arrange transport;
- Decentralised decision making – decisions on transport matters must take place in the most decentralised forms possible with a clear division of roles between various planning levels and actors; and
- Collaboration – an increased collaboration between various modes of transport should be combined with effective competition between various suppliers of transport services.

The use of economic instruments is emphasised in the transport policy. The socio-economic marginal costs attributed to transport (e.g. wear and tear of transport infrastructure, accidents, air pollution) should be covered by variable taxes and charges. To attain environmental objectives technical requirements on vehicles and fuels will play a significant role also in the future.

Examples on economic instruments introduced during the 1990's are:

- Environmental classification of vehicles and fuels as a basis for a differentiation of the energy tax and annual vehicle tax;
- Environmentally differentiated landing charges, which reflect the aircraft emissions of nitrogen oxides and VOC; and
- Environmentally differentiated fairway and port dues, which reflects the emissions of sulphur and nitrogen oxides from the vessels.

The main agents for the implementation of the national policy for sustainable transport are the national transport authorities (the Swedish National Railway Administration, the Swedish Civil Aviation Administration, the Swedish Maritime Administration and the Swedish National Road Administration). In environmental issues the transport authorities have a close co-operation with the Swedish Environmental Protection Agency.

The main legislation for planning and construction of new transport infrastructure is the Road Act, the Railway Act and the Environmental Code. According to the legislation Environmental Impact Assessments (EIA) ought to be carried out by the exploiter. A regional authority, the County Administration, checks the quality of the EIA.

According to the sector responsibility the transport authorities are not only obliged to integrate sustainability concerns in their own activities but also to promote and encourage other actors in the society to take action for a sustainable development. The sector responsibility implies that different groups in the society like transport companies, purchasers of transport services and individuals are involved. Public participations in the planning of new transport infrastructure are safeguarded through legislation, e.g. the Road Act and the Environmental Code. The legislation stipulates that consultations with the public should take place throughout the whole planning process.

Programmes and projects: The national transport authorities carries out a great number of programmes and projects in order to attain a sustainable transport system. These activities includes inter alia further development of objectives and targets for the sector, pricing initiatives, development of the infrastructure, research and development, information activities, capacity building among companies etc.

Status: Further action is needed in order to attain a sustainable transport system. From an environmental point of view the emissions of sulphur, nitrogen oxides and VOC are decreasing. Noise from transport is still a vast problem. Emissions of carbon dioxide from the transport sector have increased with some 8% between 1990 and 2000. A continued increase of CO₂-emissions is predicted if no additional measures are introduced.

Capacity building and Information: Capacity building and information activities are an important part of the transport authorities sector responsibility.

Research and Technologies: According to the national transport policy the following areas will be given priority within strategic transport research:

- Long-term sustainability;
- The importance and role of communications in the society; and
- Processes and models for planning, management and follow-up

The following areas will be given priority within applied transport research:

- Environmentally adapted transport and fuels;
- Public transport and special transportation services;
- Safety in transport;
- Logistic and co-ordinated goods transport options;
- Transport telematics; and
- Operation and maintenance of infrastructure

Financing: The national and regional road and railway network is financed by state appropriations. Investment decisions are based on the national transport objectives and socio-economic considerations. In the long-term, all socio-economic marginal costs ought to be covered through variable taxes and charges.

Cooperation: Sweden is an active member of several international organisations dealing with sustainable transport. Important organizations are the European Union, ICAO, IMO, UN-ECE, OECD, CEMT. During the Swedish Presidency of the European Union the first half of 2001 environmental concerns were one of the priorities. Among other decisions during the Swedish Presidency the Council adopted a resolution on the integration of environment and sustainable development in the transport policy. In the Council resolution the member states of the EU has inter alia for the first time agreed on a definition of sustainable transport.

CHAPTER 5: DEMOGRAPHIC DYNAMICS AND SUSTAINABILITY

Decision-Making: The Government performs, within its labor market policy, activities aimed to develop employability for the elderly. Other measures are taken to encourage full time employment and others are meant to integrate disabled and immigrants in the labor market. Furthermore the Government tries to secure continuity in labor supply and avoid lack of labor force.

Programmes and Projects: Special focus is given in certain labor market programs to the elderly, disabled and immigrants for example through work placement scheme, recruitment incentive, employment training or job-seeking activities. The Government also cooperates with labor unions in this field, and there are special programs to support women in the labor market. Some of the labor market programs, as preparatory training, are aimed to create a well-prepared reserve labor force, which can help to secure a stable labor supply. There is also a special "labor supply group", which is developing measures to increase labor supply in the country. Increasing labor supply will help the Government to come closer to its goal that 80 percent of the population between 20 and 64 years old should have a regular employment by 2004.

Status: The labor market programs are ongoing activities. The labor supply group is in its planning phase.

Capacity-Building, Education, Training and Awareness-Raising: The National Labor Market Board is responsible for these issues.

Information: The Ministry of Industry, employment and Communications as well as the National Labor Market Board are responsible for information about the activities above.

Research and Technologies: No information available.

Financing: Spending allocated on labor market policy finances all activities above.

Cooperation: In 1996 the first the first census of population for the entire South African population was accomplished with Swedish support. It had its focus on demographic aspects and the project is still ongoing at the prospect on the census of population in 2001. The intention is that it will provide valuable information for the struggle to combat poverty and also to facilitate a more balanced distribution of the assets. More information is available at www.sida.se

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CHAPTER 6: PROTECTING AND PROMOTING HUMAN HEALTH CONDITIONS

Decision-Making: In a 1994 bill entitled, Invest in health - Health a top priority, the Swedish Parliament emphasized the World Bank standpoint on the necessity of health investments. Sweden considers health matters to be among the most important prerequisites for sustainable development, and Sweden has for many years been and still is one of the main contributors to disease prevention and health promotion activities.

Programmes and Projects: The Swedish Government Office is right now preparing a bill, which will be presented to the Swedish Parliament at the next turn of the year 2001/02. The Government will here present a number of objects of which some aim at health and sustainable development. The environmental efforts in many fields such as car exhaust norms, air quality norms, fresh water quality, noise abatement, heavy metals also aim at improving the conditions for good health. A special investigator has been appointed to draw up an action programme for the reduction of environmentally related health hazards with a view to proposing mitigating actions.

Status: Equality in health is a top priority. Vulnerable groups are, among others, underprivileged women, non-European immigrants and blue-collar men. Unemployment is likely to be a risk factor for health problems for affected persons as well as for their families, including children. Health impacts on issues of consumption patterns in food consumption habits. A decreased use of saturated fats, alcohol and tobacco is promoted, as well as an increased use of dietary fibers. Alcohol use per inhabitant above the age of 18 years is set to decrease by 25% between the years 1990 and 2000.

Capacity-Building, Education, Training and Awareness-Raising: Malignant melanoma is increasing by five percent annually. Through information campaigns, the National Radiation Protection Institute (SSI), in collaboration with other national authorities and health care agencies, is attempting to alter people's sunbathing habits given the linkage between solar ultraviolet (UV) radiation and skin cancer. Information includes daily UV radiation forecasts (the UV index), which has been supplied to news media since 1993 through the Swedish Meteorological and Hydrological Institute. The widespread use of sun-beds has become a new cause of concern regarding increased UV exposure.

Information: <http://www.sos.se>
<http://www.sverigedirekt.gov.se/>
<http://www.regeringen.se/>
<http://eu2001.se/static/eng/facts/default.asp>

Research and Technologies: No information available.

Financing: Almost all health care services are financed, planned and operated by public authorities, and the financing is derived mainly from general taxation. Through the so-called Dagmar-agreement a special budget is earmarked for health prevention and health promotion.

Cooperation: The first and second World Health Conferences in Ottawa and Adelaide resulted in the Ottawa Charter and the Adelaide Recommendations. The 1991 World Health Conference in Sundsvall, Sweden, pointed out the need for Supportive Environments for Health. In a 1994 bill entitled, Invest in health - Health a top priority the Swedish Parliament emphasized the World Bank standpoint on the necessity of health investments.

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CHAPTER 7: PROMOTING SUSTAINABLE HUMAN SETTLEMENT DEVELOPMENT

Decision-Making: The Environmental Code, which represents a coordinated and more stringent body of environmental legislation, is an important tool in the pursuit of sustainable development. The Environmental Code (of 1999) plays a crucial role in the implementation of environmental policy since it is applicable to all activities that are “not of negligible significance to human health and the environment”. As a result of the Environmental Code being constructed with overarching goals, general rules of consideration and new tools, such as environmental quality standards, better prospects are being created for guiding development towards the goals resolved on. In 1999 Parliament adopted 15 national environmental quality objectives that centre on human health, biological diversity, the cultural environment and nature. The target of a “good urban environment” is of particular interest where the Habitat process is concerned. That target requires cities, towns and other settlements to constitute a good, healthy living environment and to contribute towards a good regional and global environment.

An essential condition for sustainable development is a society based on fundamental democratic values. Participation in planning processes and open decision-making and planning processes in which all citizens have an opportunity to participate are important conditions for the practical work of achieving sustainable development. Transparency, dialogue and citizen influence are therefore essential in connection with all levels of planning. Sweden’s planning system emanates from local self-government, and the municipalities are principally responsible for the planning of settlement development and land use. Sweden, unlike many other Western European Countries, does not have any statutory supra-municipal planning. Regional land-use planning is, however, conducted in the Stockholm region, based on planning and building legislation.

Rules making it compulsory to take environmental concerns into account have gradually been introduced in planning and building legislation, as well as in other legislation relating to operations that involve the use of land, water and other natural resources. The location and design of buildings and other structures must be appropriate from an environmental and health point of view. Due to the fact that the municipalities are legally responsible for planning of their land and water areas (the Planning and Building Act), they have a key role in efforts to achieve sustainable development.

Sweden’s planning system emanates from local self-government, and the municipalities are principally responsible for the planning of settlement development and land use. For a great deal of the 1990s, environmental issues and the aim of sustainable development were powerful motive forces behind municipal physical planning. The legislative amendments enacted in the Planning and Building Act in 1996 to strengthen environmental consideration in the planning process initially impacted on municipal planning and decision-making. At present, 2/3 of the municipalities of Sweden have initiated a review of their comprehensive plans. In addition, more than half the municipalities have officially decided to bring local Agenda 21 activities and comprehensive physical planning closer together. Almost all local authorities have adopted municipal master plans pursuant to the Planning and Building Act.

Programmes and Projects: Boverket, The National Board of Housing, Building and Planning is the Swedish government agency for planning, the management of land and water resources, urban development, building and housing. Boverket has recently (in 2000) reported to the government on progress made regarding the Habitat Agenda. The report proposes thirteen (13) future challenges for planning. Some of the challenges concern, for instance, enhanced possibilities for participation and cooperation, collaboration across administrative boundaries, sustainable physical structures, the built environment, safe and healthy environments, and sustainable transport systems.

The challenges of the Habitat Agenda have proved to be less well known. At the same time, quite a number of activities have been conducted within the ongoing planning and development work of the municipalities. This has been facilitated by extensive amendments to the Planning and Building Act, including the stipulation of environmental impact assessments in planning applications for projects with a substantial impact on the environment. The National Board of Housing, Building and Planning, for example, in its nation-wide campaign “A

city is more than its buildings”, has helped to disseminate the message of the Istanbul Conference and to publicise the commitments endorsed on that occasion by national and local representatives. In the National Heritage Board’s project “The architecture and cultural environment of the metropolitan city”, the focus of attention is on modern development.

The Swedish Government has resolved to earmark a total of MSEK 7,200 (approximately EURO 0.81bn.) in the period 1998-2003 for the support and encouragement of local investment programmes for sustainable development. The aim here is both to accelerate the changeover to sustainable development and to contribute towards the growth of employment. In 1997 the Swedish Government presented a Bill, *Development and justice - A policy for metropolitan areas in the 21st century*, which is to be regarded as the first step in a process in which central government, the regions, county councils and municipalities are working together to create growth in vulnerable metropolitan areas. Almost SEK 2 billion has been allocated by central government for a three-year period from July 1999

The current *Swedish National Committee on Agenda 21 and Habitat* was established in June 2000, in order to mobilize the political interest for the UN review in 2001 and 2002. The committee consists of eleven parliamentarians, representing different political parties, under the chairmanship of the Minister of Housing until the Istanbul+5 meeting, after which the Minister of Environment will take over. Seven experts from different ministries are also part of the committee and an advisory group of experts, from various sectors at different levels in society, is linked to it. The committee’s main task is to provide the Swedish government with the basis for national reports of Habitat and Agenda 21 to be presented to the UN reviews in 2001 and 2002. Other tasks include follow up and stimulating further work on the Habitat agenda and Agenda 21. After the Istanbul+5 meeting the national committee will intensify its work concerning Agenda 21 and the preparatory work to the 2002 review. A final report with proposals and future priorities for ongoing work is to be presented to the Swedish Government in October 2002.

Status: Problems confronting sustainable urban development in Sweden include: the risk of de-populating rural and urban areas; growing traffic needs as they relate to the use of parks and green spaces for roads and highways; loss of services; and increased segregation. The challenge defined for ongoing work remains supremely relevant, even though a great deal has been accomplished in the past few years. It is important in this connection to observe that the Swedish municipalities have a key role, e.g. in the achievement of healthy dwellings and settlement.

The six main issues are:

- Energy conservation and environmental impact;
- The environmental impact of the building sector. In 1998 the Environmental Advisory Council was instructed by the Government to prepare strategies for the development of an ecologically sustainable enterprise sector. Two “dialogue processes” have been initiated. One of them concerns future trade, the other construction and housing. This latter dialogue (“Building/Living”) has attracted representatives of 20 businesses and three municipalities, who have agreed on a vision for a sustainable construction and real estate sector for 2025. The sustainable solutions are not only to focus on traditional environmental issues but are also to be economically interesting and socially and aesthetically attractive.
- A healthy indoor environment;
- The outdoor environment;
- Accessibility for all; and
- Tools for the job.

Capacity-Building, Education, Training and Awareness-Raising: The National Board of Housing, Building and Planning (Boverket) is the central agency of the Swedish government for planning, urban development, building and housing. Boverket’s most important tasks over the next few years are to produce and spread knowledge about-how planning. Contribute to a sustainable development in Swedish and European perspective. To produce information and make proposals on housing market issues, including links to new lifestyle and population trends effective and sustainable building, where the life-cycle perspective is at the heart both of new construction and of

how we deal with the existing stock. Also contribute to specifying and realizing the environmental quality objective of a Good Built Environment (www.boverket.se)

The Swedish Government presented an *Action Programme for Architecture and Design* in 1998. The programme puts forward new objectives and amends legislation to promote aesthetic considerations. Parliament has adopted the Bill and work is in progress. The Government has proclaimed the year 2001 the Year of Architecture in Sweden. This will further highlight the need for good architecture and design in order to promote long-term sustainable development. The National Heritage Board is the central authority in Sweden for matters concerning the cultural environment and the cultural heritage. Its main task is to serve as the administrative authority, along with the county administrations and regional museums, to ensure that our entire cultural heritage is both preserved and used. (www.raa.se)

Information: The mission of Statistics Sweden is to produce and make available official statistics relating to different areas of society, which can serve as a basis for decisions, public debate and research. These statistics are to be objective, reliable, comparable, up-to-date and easily accessible. (www.scb.se). The mission of National Land Survey (Lantmäteriet) is to contribute to an efficient and sustainable use of Sweden's real estate, land and water. They are specialists in geographic information, land information, cadastral services and geographic information techniques. In these four fields they have the national responsibility and a dominating role. (www.lantmateriet.se).

The National Board of Housing, Building and Planning (Boverket) is the central agency of the Swedish government for planning, urban development, building and housing. (www.boverket.se). Sida, the Swedish International Development Cooperation Agency, which is responsible for Sweden's bilateral development assistance, has the task of creating preconditions for sustainable development. The main responsibility for planning and implementation of projects devolves on national authorities, the businesses community and institutions in the recipient countries. (www.sida.se).

Research and Technologies: Formas, the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, is a governmental research-funding agency. Formas encourages and supports scientifically significant research related to sustainable development. The projects supported cover a wide range of approaches from basic research to more applied efforts and within the built environment also demonstration and experimental projects. *Build Environment* Research, development and experiments justified by knowledge and competence needs for the promotion of a sustainable society. *Urban and Regional Planning* Research and development justified by long-range knowledge and competence needs in regard to sustainable urban and regional planning. *The Sustainable City* in 1996, with the aim of ensuring long-term expertise, experience and knowledge in Sweden about sustainability and urban development. The overall objective is to stimulate inter-disciplinary and collaborative research intended to develop new tools, methods and processes as needed in order to change towns, cities and urban regions so that they provide a good living environment for their present inhabitants and for future generations.

Financing: The Swedish Government has resolved to earmark a total of MSEK 7,200 (approximately Euro 0.81bn.) in the period 1998-2003 for the support and encouragement of local investment programmes for sustainable development. The aim here is both to accelerate the changeover to sustainable development and to contribute towards the growth of employment. The measures taken shall among other things reduce environmental impact, make the use of energy and other natural resources more efficient, promote the use of renewable resources and preserve biological diversity. Altogether so far, 141 of Sweden's 289 municipalities have been awarded grants totalling upwards of MSEK 5,630. Together with the funding committed by municipalities, businesses and organisations themselves, this gives a total investment volume of MSEK 23,800, of which investments directly relating to the environment account for MSEK 17,600. One noticeable experience is that municipalities in the front line of local Agenda 21 activity have often presented interesting local investment programmes. On the basis of application documents, it is estimated, for example, that energy use will be reduced by 2.1 TWh annually as a result of decisions hitherto taken, while carbon dioxide emissions will be reduced by 1.57 million tonnes (equalling 2.8 per cent of Sweden's emissions) and landfill refuse deposits will be reduced by about 500,000 tonnes.

Cooperation:. The overriding aim of Swedish development cooperation is to raise the standard of living of poor nations. This aim has been interpreted and supplemented with six subsidiary aims, with a view to greater understanding of the complexity that poverty questions involve. The sub-objectives are: economic growth, economic and political independence, economic and social equality, democratic development in society, the long term, sustainable management of natural resources and the protection of the environment and equality between men and women.

Sweden is one of the few countries whose Official Development Assistance, ODA, exceeds the 0.7 per cent of gross national product, GNP, agreed on within the UN and confirmed at all the major world conferences, Istanbul and Rio included. In addition, Sweden has resolved, when possible, to revert to the setting aside of one per cent of GNP for ODA. As an intermediate objective, the Government has resolved that ODA shall total 0.81 per cent of GNP in 2003. A number of NGOs such as Diakonia, Save the Children Sweden, Cultural Heritage Without Borders and a number of missionary organisations maintain important activities in the context of Swedish international development cooperation. Smaller organisations are co-ordinated within an umbrella organisation called Forum Syd (Forum South). Although these organisations contribute funds of their own collecting, Sida normally bears 80 per cent of the cost.

There are a number of City-to-city projects carried out in Sweden and one example is: In the autumn of 1999 Göteborg signed an agreement with Port Elizabeth in South Africa for an exchanging of experiences. The agreement is initially for three years, and both municipalities have appointed active steering groups. Several joint projects are now being planned. The cooperation will probably relate to comprehensive planning, traffic planning, Agenda 21 etc. In addition to several exchanges in industry, the arts and sport, this cooperation has already resulted in a project in which Göteborg is supporting Port Elizabeth in the drawing up of a refuse management plan and in work to increase the recycling rate in refuse disposal. The Göteborg City Planning Office is also supporting Port Elizabeth in the task of preparing a new detailed development plan. Civic influence in the planning process is one topic of development in the ongoing task of redeveloping both cities' centrally located dockland areas.

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CHAPTER 8: INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

Decision-Making: The Swedish Government has formulated general environmental guidelines for development in Sweden within the various areas and sectors of society, which have been endorsed by the Swedish Parliament, the Riksdag. The Government Bill “Environmental Quality Objectives”, proposed in the spring of 1998 creates the framework in which the environmental policy should be conducted to achieve the overall objective to solve today’s big environmental problems within one generation. More detailed targets have since been developed with the involvement of sector agencies. A new bill for the sub targets and actions to reach the objectives has been presented to Parliament in the spring of 2001. Other Government bills also constitute important components of the integrated efforts to achieve sustainable development, relating to issues such as energy, transport, regional transport, regional policy, employment, consumer policy, housing policy, agriculture and architecture and design.

Furthermore, a new Environmental Code has been decided by Parliament and has gone into force as of. It comprises coordinated, stringent and broader environmental legislation with a view to promote a sustainable development. The Act concerning the Management of Natural Resources is incorporated into the Environmental Code, establishing a closer link between land-use and environmental issues and augmenting the possibilities of achieving coordinated and cross-sectoral assessments. The Eco-Management and Audit Scheme (EMAS) was introduced in Sweden, as in the rest of the EU, in 1995, to improve and evaluate environmental management in industry and to keep the general public informed of its progress. In addition, work is in progress to systematically include Environmental Impact Assessments (EIAs) not only for policies or programmes, but also at an early stage of the political process.

Sweden is considered a leading nation in the use of environmental taxes and charges, which on the whole have been positive. The ongoing work for a tax-shift has resulted in some changes in environmental taxes and in income taxes for 2000, 2001 and 2002. Work is also being undertaken to develop environmental management systems among central authorities. Almost all agencies now have EMS systems working. Several Central agencies also have been given a special responsibility for sustainable development.

Programmes and Projects: No information available.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: In an international comparison, Sweden is considered to emphasize research on environment and sustainable development. The objective of this research is to contribute with new knowledge for national and international needs on environmental topics with relevance for sustainable development. Besides of national research financiers such as FORMAS (the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning), Mistra (the Foundation for Strategic Environmental Research) and the Swedish Environmental Protection Agency, the EU-commission are an important actor. Information on research needs and objectives integrating EU-dimensions can be found in the report *Research and Development for a Better Environment*, produced jointly by a large number of Swedish sectorial authorities and organizations. In a near future, a new version will be elaborated.

Financing: No information available.

Cooperation: Regarding assistance to developing countries, in 1995 Sweden was the second leading DAC member with respect to ODA/GNP ratio at 0.89 per cent and was the eighth largest in absolute terms with US\$ 2 billion in disbursements. Sweden has since 1988 had a policy objective of all development assistance to promote the

sustainable use of natural resources and the protection of the environment. Environmental Impact Assessments have been compulsory for all development projects since 1991.

After UNCED a working group was set up to develop general principles, guidelines and working methods to integrate the decisions at UNCED into the framework of Swedish development cooperation. In the report entitled Sustainable Aid: Swedish Development Assistance after UNCED, the group put forward recommendations, which the Swedish International Development Cooperation Agency (Sida) has used as a basis to work out its Plan of Action for Sustainable Development.

The establishment of NGOs in developing countries is being supported, as are the environmental aspects of development cooperation with other NGOs. Sweden is also working actively on environmental issues through its representatives in development banks as well as in other UN agencies.

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CHAPTER 9: PROTECTION OF THE ATMOSPHERE

Decision-Making: The Ministry of the Environment is responsible for the protection of the atmosphere and is a full member of the National Coordination Mechanism for Sustainable Development. The new Railway Planning Act that entered into force in 1996 makes railway construction an integral part of decision-making on the management of natural resources. The Communications Committee has issued a report on the continuing work for the environmental adaptation of the transportation sector. The Environmental Protection Agency collaborates with other traffic authorities on a project related to an environmentally appropriate transportation system. Local authorities report on similar activities through the National Board of Housing, Building and Planning. The Environmental Classification Commission has made proposals to help reduce greenhouse gas emissions and noise levels. NGOs and the private sector have made contributions to various activities to protect the atmosphere.

The government promotes policies and programmes in the areas of energy efficiency, environmentally sound and efficient transportation, industrial pollution control, sound land-use practices, sound management of marine resources and management of toxic and other hazardous waste. Studies on air pollution and depletion of the ozone layer are carried out regularly. The phasing out of CFCs and HCFCs has followed a timetable with targets, which have for the most part been met. The phasing out of all ozone-depleting substances should be completed by the year 2002 with some minor exceptions. In the area of transboundary atmospheric pollution control, the government exchanges data and information at both the national and international levels.

Programmes and Projects: The main instruments for reducing carbon dioxide emissions in Sweden are energy carbon taxation, the programme for energy efficiency improvements and increased utilization of renewable energy sources. During the spring of 1994 the Riksdag changed the energy and environmental taxation. For example, the energy tax on fuels used in co-generation, i.e. combined heat and power production (CHP), and was reinstated at half the rate from 1 July 1994 and remains in force. In the new system, fuels used in district heating plants for deliveries of heat to industry receive a compensation of SEK 90 per MWh of heat delivered, but crude oil is exempted. Furthermore, from 1 July 1994, wind power receives a special environmental bonus equivalent to the tax on the electricity delivered to the households, at present SEK 97 (ECU 10,4) per MWh. The bonus is paid to the distributors and passed on to the producer. On 1 January 1996, the carbon dioxide tax on fuels increased to SEK 370 (ECU 39,7) per tonnes of carbon dioxide. For industry, the Government has proposed an increase of the carbon dioxide tax rate from 25 to 50% of the general rate. Such an increase includes the ability to obtain tax abatement for the energy intensive industry where similar taxation is not implemented in the competing countries. The Government has also proposed that energy taxation should increase by approximately 10%.

Activities aimed at a less polluting and safer transportation system have been addressed in part since UNCED. Progress has been achieved through the classification of fuel and vehicles and through control of emissions, and the government promotes the use of bio-fuels. Improved land-use policy also contributes to Sweden's decreasing air pollution. In the area of environment and transportation, comprehensive and systematic observations of emissions are being carried out. Linked energy, transportation, and industry activities are of medium to high priority. A parliamentary Energy Commission has reviewed energy supply and examined the energy programmes and the possibilities of phasing out nuclear power. Several environment related taxes and fees have been introduced (e.g., energy tax, CO₂ tax, SO_x tax and NO_x fee). Evaluations have shown the carbon dioxide tax to be the most effective instrument in the heating sector. Bio fuels are mostly used for heating production and fossil fuels for electricity generation in combined heating and power plants, the reason being that fossil fuels are not taxed for electricity generation.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: Sweden is active in international negotiations within the framework of the Geneva Convention on Long-Range Transboundary Air Pollution (LRTAP), i.a. on the development of a protocol on NO_x; and related substances, and in EU in the development of an acidification strategy to decrease sulphur emissions in other countries which contribute to soil and water acidification in Sweden. Sweden has ratified the LRTAP protocol from Geneva 1991 on control of emissions of volatile organic compounds or their transboundary fluxes and also the protocol from Oslo 1994 on sulphur emission ceilings and percentage emission reduction and the NO_x protocol from Sofia 1988. Sweden also promotes the work of the IMO, the Helsinki Commission, the Oslo and Paris Conventions (OSPAR) and the North Sea Conference with a view to reducing emissions of air pollutants and other environmental impacts from shipping.

The Montreal Protocol and the London Amendment were ratified before 1 July 1992. The Copenhagen Amendment and the Montreal Amendment has also been ratified. As regards the Beijing Amendment from 1999 ratification is under way. The United Nations Framework Convention on Climate Change was ratified 23 June 1993 and the latest National Communication to the UNFCCC Secretariat was submitted in September 1994.

Sweden contributed approximately US\$ 210,000 to the trust funds administered under the Montreal Protocol and Vienna Convention, and has supported developing countries with approximately US\$ 1.9 million to enable them to comply with the Montreal Protocol. Sweden contributed in 1996 in total US\$ 157 000 for activities in the United Nations Framework Convention on Climate Change.

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CHAPTER 10: INTEGRATED APPROACH TO THE PLANNING AND MANAGEMENT OF LAND RESOURCES

Decision-Making: At the local level, municipalities are responsible for integrated planning. At the regional level, county administrative boards are responsible, and at the national level, the National Board of Housing, Building and Planning is in charge of integrated planning. Only matters with impacts in several municipalities are dealt with the regional level. Central Government is active in land-use planning only through legislation, standards and principles. The National Board of Agriculture was in charge of developing an action plan to achieve the ten percent target of “ecologically farmed” acreage by the year 2000. The National Board of Agriculture has now, on behalf of the Swedish government, developed an action plan for organic food production until the year 2005. The plan includes a variety of suggestions that aims to create better conditions for an increased rearrangement to ecological production. The goals are:

- The organic production shall be duplicated (20 %) by the year 2005;
- The ecological production of animal products shall increase; and
- Ten percent of the number of dairy cows, beef cattle and lambs shall be integrated in ecological production by the year 2005.

The overarching goal with ecological production is, among other things, to reach some of the national environmental goals decided by the parliament and to promote sustainable agriculture and food production. The demand from the consumers is of outmost importance to the outcome. More information is available via www.jordbruksverket.se

The Act Concerning the Management of Natural Resources (1987), NRL, is to be incorporated into the Environmental Code so as to establish a closer link between land-use and the environment. From 1999 the Environmental Code is the legislation that covers most environmental problems. Its overall objective is to safeguard a sustainable development. The Environmental Code is the result of a major review of the environmental legislation. Specific laws on many subjects such as environmental protection, chemicals, etc. have been brought together in one code. It covers aims and general principles on the relation between human society and the environment. It also covers general land-use principles and replaces the earlier Natural Resources Act and it is also considerably sharpened. To the Code is also linked 15 Environmental Goals decided by the Parliament, to be of guidance in the implementation of the code.

The Planning and Building Act, which governs the more detailed land-use decisions, in comprehensive municipal planning, in detailed planning and in building permits, is not included in the Code. The Planning and Building Act has however undergone a major review in 1996, strengthening the demands for considerations of sustainable development. The requirements for Environmental Impact Assessments have also been harmonized between physical planning matters and development projects.

The most important legislation in place to safeguard areas of critical relevance to the Right of Public access is that pertaining to shore protection. It has been extended to include the protection of plant and animal life. The Environmental Protection Agency completed a set of general recommendations on this expanded shore protection in 1995. Sweden has introduced a change in policies for the transportation sector. Investments in the road infrastructure are now turned mainly towards safety and environment improvements. Mountains and archipelagos are other land areas important to Sweden for purposes of human settlements, forestry, agriculture, tourism and other amenities. The Environmental Advisory Council presented an analysis of the environmental situation of Sweden's archipelago areas in 1996 and is supposed to propose a strategy to improve conditions in those areas. The Council has earlier this year delivered a new report in this matter.

Programmes and Projects: See chapter 7 Promoting sustainable human settlement development.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: The National Board of Housing, Building and Planning is the Swedish government agency for planning and they are also responsible for increasing the knowledge in this matter.

Information: The report Sweden in 2009: Proposals for a vision is presently under review. It outlines the strengthening of urban areas through partnerships, mass transit expansion, and conservation of biological diversity.

Research and Technologies: Information available at www.formas.se

Financing: The Swedish Parliament has allocated SEK 7.2 Billion (about 0.8 Billion Euro) during the period 1998-2003 for local investment programmes. These programmes are aimed at improving sustainability at local level. The aim of the programme is to speed up the Swedish transition towards a sustainable society.

Cooperation: No information available.

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CHAPTER 11: COMBATING DEFORESTATION

Decision-Making: The Forestry Administration, under the Ministry of Industry, Employment and Communications is primarily responsible for the forestry sector. The National Board of Forestry (NBF) and 10 County Forestry Boards are responsible for the implementation of the Forest Policy, including the Forest Act. In cooperation with the NBF, the Environmental Protection Agency is charged with evaluating the impact of forest policy on Biological Diversity. The Forestry Act of 1993 gives equal emphasis to both environment and production goals, provides for forest management on a multiple-use basis, and gives forest owners greater freedom but also responsibility in the management of their forest lands, for both natural and manmade forests. According to the forest policy the responsibility for protection of forests is shared between the forest sector and the state. For protection of forests through establishment of nature reserves, nature conservation agreements and protection of habitats, forest owners are economically compensated according to the rules that apply for the different instruments. In addition to the Forestry Act of 1993, the other legislative instrument improved since UNCED is the Nature Conservation Act, amended in 1994. In 1998, the government passed a new Environmental Code, in which the legal basis for protection of forestland is further improved.

The National Board of Forestry is the lead agency for an ongoing cross-sectoral project, called "Living Forests", which is active on formulating goals and evaluations regarding the quality of the forest environment in a broad perspective. The NBF has also elaborated an "Action Plan for biodiversity and sustainable forestry" in 1995. The plan proposes measures to be taken for the preservation and sustainable use of forest resources and for the development of forestry practices based on ecological principles. The Swedish forest policy was evaluated in 1997 by the NBF, and a second evaluation will be carried out at the end of 2001. A sector-principle on the responsibility of each industrial branch for implementing the environmental policy was also established by the Swedish parliament in 1988. The implementation of the Swedish forest policy is partly founded on voluntary measures. This calls for close co-operation between the forestry sector and the forest authorities. In addition, the legal status of the reindeer breeding Sami people is also presently investigated, both through legal processes started by forest owners and through an official investigation appointed by the government.

Programmes and Projects: The government is in the process of suggesting new forest areas to be included in the European Ecological Network, Natura 2000. Forest owners – both big and small - are trying to implement the concept of protecting the biological diversity e.g. by planning, setting aside areas from logging, protecting threatened species etc. Regarding forest certification, there are mainly two private initiatives in Sweden, and no public ones. A Swedish FSC (Forest Stewardship Council) working group was established in 1996 and the FSC Standard was accepted by the international FSC organization in May 1998. The Swedish Federation of Forest Owners' and regional associations of forest owners have developed their own regional standards based on PEFC (Pan European Forest Certification). The programme for the afforestation of arable land (in keeping with EEC Council Regulation 2080/92) is to be adapted to national conditions. It is intended to contribute towards an abundant and diverse man-made landscape, the conservation of biological diversity and the cultural values of landscapes.

Status: The legally protected forests – mainly nature reserves and national parks - amounts to almost 4 % of productive forest land. Forest land affected by logging, thinning and finalfelling amounts to some 2-3 % per year. Acidification affects about ten thousand square kilometers. The afforestation rate in the 1980s was about 30 square kilometres per year, and is now approximately 100 square kilometres per year. The major forest products recycled are currently paper and paperboard. In 1998, 74 % of the consumed paper and paperboard was recycled. The paper not collected is to a certain extent used as fuel in the energy sector.

Sweden has made significant progress in the following areas: enhancing public education; including post-graduate education in forest issues; carrying out research projects; improving existing forest programmes; carrying out forest inventories, e.g. key habitats and wet land forests; establishing a geographic information database on forests; establishing linkages for the exchange of information; and improving the multiple roles of forests. However, Sweden has made only partial progress in the following areas: the use of environmental impact assessments;

promotion of small-scale forest-based industries; and integration of social, economic and ecological values into national economic accounting systems. The creation of new national reserves, particularly in southern Sweden, has caused some conflicts between small land-owners and the authorities. In addition, promotion of the use of wood and wood-based products is presently seen as a task for the forest industry in Sweden.

Capacity-Building, Education, Training and Awareness-Raising: Staffing in the Forestry Administration has been decreasing, from about 2400 professional staff to its present level of about 1000. The number of trained foresters working on forest management and protection is about 5200. The balance among central planning, middle level and field staffing is good. These target groups have recently been “post-educated” in the field of biodiversity.

Information on sustainable forest management is made available to potential forest users e.g. through campaigns, seminars, publications, and extension and training offered to forest owners and other persons involved in the forestry sector. The National Forestry Administration launches in 1999 a training and information campaign called Greener Forests with the goal to reach at least 100 000 participants, mainly among forest owners. In addition, special efforts will be made to reach the public, schools, and the international society with information activities. Information on sustainable forest management can also be accessed via the Internet.

Information: A National Forest Inventory is carried out annually, covering all types of land use, with particular emphasis on tree resources and forest ecosystems. Production and environmental aspects are equally addressed. Inventories of key biotopes and wet land forests were completed by 1999. Sweden is actively involved in the Pan-European process and the work done on Criteria and Indicators. The ministerial conference in Lisboa in 1998 adopted the six Criteria for Sustainable Forest Management. The active participation from the forestry sector regarding the development and implementation of decisions of the Pan-European process needs to be strengthened and translated documents from the Helsinki and Lisboa ministerial conferences will be used as tools for such an engagement. Further development of national indicators in Sweden is needed and the National Board of Forestry intends to initiate such a process. Sweden is the lead country in a joint project, supported by the EU-fund Life, between Sweden, Finland, Denmark, France and Germany entitled “Demonstration of methods to monitor sustainable forestry”.

Research and Technologies: No information available.

Financing: As a result of the decision in Parliament in 1993 on Forest Policy, the state funds for buying forest land for nature reserves, especially in the south and east of Sweden, were increased by 50 percent. In 1999 the Swedish government had strongly raised the funds for further protection of forests as nature reserves and habitat protection mainly in the central and southern parts of Sweden. The budget of the Forestry Administration was US\$ 80 million in 2000, one-third of which is state-derived and the remainder from contractual services provided to forest owners and other state authorities.

Cooperation: Sweden is actively involved in the Convention on Biological Diversity in the context of the forestry sector. Sweden has participated actively in the establishment of the UNFF. We have assessed the relevance of the IPF/IFF proposals for action for Swedish forestry and related activities, and relevant parts have been incorporated in our overall forest policy. Sweden played an active role in the development of the forest principles agreed to at UNCED, and uses these as a basis for its comprehensive aid programme for developing countries and economies in transition. Emphasis is placed on sustainable development and biodiversity.

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CHAPTER 12: MANAGING FRAGILE ECOSYSTEMS: COMBATING DESERTIFICATION AND DROUGHT

Decision-Making: Within the Swedish government the Ministry for Foreign Affairs carries the overall responsibility for the UNCCD. The Ministry is taking part in the on-going process to follow and further develop the convention not least by active participation in the Conferences of the Parties and related institutions within the convention. Sweden not being an affected country has no specific national legislation. Focus is on actions to counteract the effects of drought by integrating support in the Swedish multilateral and bilateral development co-operation. The responsibility to implement the Swedish support in this field lies with the Swedish International Development Cooperation Agency (Sida). The Agency has adopted a strategy for its work on the Convention.

Programmes and Projects: A review of Swedish response to the UNCCD during the last decade includes 101 ongoing or finalized contributions in 17 countries, of which 13 in Africa. The contributions were made in projects in agriculture, forestry, animal husbandry and soil conservation, and in water supply and sanitation. The project cover a vast range of activities such as bilateral development programmes, research projects, regional cooperation programmes, humanitarian assistance.

More details to be found in the report "Swedish international development cooperation agency (Sida) and the Convention to Combat Desertification (March 1998, updated 2001)".

Status: There are no deserts or areas in danger of becoming deserts in Sweden.

Capacity-Building, Education, Training and Awareness-Raising: Support to affected countries is integrated in the Swedish development cooperation.

Information: Information on the Swedish undertakings in relation to the convention is available through Sida. More details to be found in the report "Swedish international development co-operation agency (Sida) and the Convention to Combat Desertification (March 1998, updated 2001)". Support to affected countries is integrated in the Swedish development cooperation.

Research and Technologies: Swedish Universities are engaged in research in dry land areas. Sweden is taking part in the Convention's Committee on Science and Technology.

The development co-operation includes support to research in dry land areas, particular in eastern and southern Africa. In this respect regional cooperation and capacity building is a priority.

Financing: In addition to the support given through the regular bilateral and multilateral development cooperation Sweden supports the UNCCD by contributing to the institutions of the Conventions and to the participation of developing countries, including NGOs, in the international meetings of the Convention, particularly the Conference of the Parties.

Cooperation: Sweden signed in 1994 and ratified in 1995 the International Convention to Combat Desertification in Countries experiencing drought and/or desertification in particular Africa. Sweden has taken the lead through the chairmanship of the negotiations of the Convention. The Swedish International Development Cooperation Agency (Sida) has been cooperating with countries, particularly in Africa, in many years.

Priorities in the cooperation:

- Sweden will continue to give priority to contributions, which focus on water resources, soil conservation, and methods for popular participation, dry land forests and issues concerning owner and user rights. Sweden will follow aspects of special importance for dry land areas, such as equality between women and

men, the relationship between urban and rural areas, trade, macro-economy, the interactions between areas with high potential and dry land areas;

- Geographically priority will be given to work on the Convention in Africa, particularly eastern and southern Africa. Focus will also be given to West Africa;
- Regionally organizations for regional cooperation within the framework of the convention will be supported;
- Bilaterally the work on the convention will be integrated into ongoing country cooperation programmes. Whenever suitable and possible support will be given to national initiatives and processes related to the implementation of the Convention, such as development of National Actions Plans;
- Further support to dry land area research will be promoted, were the establishment of national and regional institutions and mechanisms for regional networking will be given priority; and
- NGOs play a key role in the implementation of the Convention. Continued support will be given to a variety of NGOs linked to the Convention, including international organizations as well as small local ones.

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CHAPTER 13: MANAGING FRAGILE ECOSYSTEMS: SUSTAINABLE MOUNTAIN DEVELOPMENT

Decision-Making: The Swedish Government has delivered two bills to the Parliament concerning the Swedish environmental policy. Fifteen environmental quality objectives have been decided upon by the Parliament. One of these concerns the mountain area and is called “A Magnificent Mountain Landscape.” The objective shall be reached in one-generation time. In the second bill detailed targets and specific measures are presented.

The County administrations in the four northernmost areas of the country have formed a special group called “The mountain delegation” in order to cooperate regarding common topics for the mountain area.

Programmes and Projects: The next national park in Sweden is intended to be a mountain called “Fulufjället” In order to involve the inhabitants in the area a project has been initiated with the purpose to achieve benefits for the people from this great conservation project.

The so-called Local investment programmes for sustainable development is a governmental project for the whole country including the mountain area and has been going on for some years.

The big carnivores bear, lynx and wolverine are still most common in the mountain areas. Conflicts occur with reindeer herding. To handle these questions the Government and the Parliament have decided to coordinate the policy concerning these animals and goals has been set up for the number and distribution of these animals. Special programmes have also been decided upon by The National Environmental Protection Agency regarding these and other animals that are in an endangered situation.

Status: The mountain area is in a great extension used for reindeer herding but also for fishing, hunting and other outdoor activities as well as tourism. After a peak in the number of reindeer during the 1990ies the number are now diminishing. The winter sport tourism had a strong expanding period during the 1980ies but the expansion is now rather slow.

Capacity-Building, Education, Training and Awareness-Raising: The schools in Östersund (situated in the north of Sweden) have in some ways specialized on topics concerning the utilization of resources in the mountain area. The County administration has employed a number of persons who are in charge of controlling nature protection areas, fishing and hunting and also of tracking big carnivores.

Information: Several national boards are responsible for the information. The Swedish National Rural Development Agency (Glesbygdsverket) is specialized on areas that have a low density of inhabitants. The Swedish Board of Agriculture (Jordbruksverket) is the responsible authority for reindeer herding. The National Environmental Protections Agency (Naturvårdsverket) is responsible for nature protection and lot of non-profit organizations are very important in their giving information to members.

Research and Technologies: A new system for monitoring of grazing capacity for reindeers is under construction. In the Kiruna area there are institutions specialized on different techniques for analyzing satellite registration.

Financing: The Sami people are obtaining compensation from the national budget to reimburse the losses that occurs in the reindeer herding caused by the big carnivores. The financing of the Local investment programmes have a decided budget for another year but will then probably be financed otherwise. The project “Fulufjället” will be financed in a mixed way with contributions from national, regional, local level as well as from the European union

Cooperation: The Sector principle is a very important part of the Swedish environmental work. This means, for instance, that national boards, county administrations and representatives for reindeer herding have to cooperate in order to reach the environmental targets. Some other specific forms of cooperation are:” The mountain delegation”

cooperation with the County administrations in the area and the partnership for The "Nordkalotten area" between Sweden, Norway and Finland.

For the arctic area there is a circumpolar cooperation within The Program for the Conservation of Arctic Flora and Fauna (CAFF) together with the other Nordic countries. Sweden has developed a Nordic Strategy for the Environment which stresses the need to keep the use of mountain regions within the limits imposed by nature's tolerance parameters so as to conserve biodiversity and create an opportunity for sustainable development of reindeer husbandry, tourism and outdoor pursuits.

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CHAPTER 14: PROMOTING SUSTAINABLE AGRICULTURAL AND RURAL DEVELOPMENT

Decision-Making: The ministry responsible for agriculture and rural development is the Ministry of Agriculture, Food and Fisheries. The Environmental Code regulates the environmental issues in agriculture, and is the most important legislative instrument in the area of agri-environment. The overarching goal for Swedish agriculture and food security policy within the EU is, according to Parliament decisions, to promote availability of a variety of high quality food products, to promote sustainable agriculture and food production, and to support global food security. Several of the fifteen environmental objectives decided by the parliament concerns agriculture directly or indirectly, e.g. "A varied agricultural landscape". The overarching goal is supported by policies to safeguard a rich and varied agriculture landscape with its inherent cultural values, to maintain biological diversity and minimize environmental impacts from agriculture. Sustainable rural development should promote ecologically, economically and socially sustainable agriculture and food production. The incentives to achieve the objectives are not only legislation, but also economical compensation, information etc.

The organic production covered in 2001 13 % of the arable land. The goal for organic production is 20 % of the arable land and 10 % of dairy cows, beef cattle and lambs in the year 2005. The Swedish board of agriculture has presented an action plan on how to achieve those goals. A proposal for further actions needed to fulfill the goal to reduce nitrogen leakage was presented 1999. Some of the suggested measures were included in the environmental- and rural development plan (see below).

Programmes and Projects: In 1995 Sweden introduced an environmental programme for agriculture in accordance with an EEC Council Regulation. A new environmental and rural development plan was then introduced in the year 2000. The program covers eight different measures and the overarching objective is to promote environmentally, economically and socially sustainable development of agriculture, food production, forestry and the countryside. The program mainly focuses on measures to achieve environmentally sustainable agriculture, such as agri-environmental measures and compensatory allowances in less favoured areas.

Status: During the last ten years the use of pesticides has decreased to approximately 35 % of its former usage. Pesticides which have been shown to pose a threat to water supplies have been prohibited for use or their use has been prohibited to specific areas. However, a small increase in sales of pesticides has been observed since 1995.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: the Environmental Protection Agency, the Swedish Board of Agriculture, the University of Agricultural Sciences and the Federation of Swedish Farmers and others have carried out a system study of sustainable agriculture. Sweden has initiated a programme to collect and record traditional knowledge related to biodiversity, including knowledge on traditional farming techniques etc. A continuous project to follow and evaluate the environmental effects of the Common Agricultural Policy is carried out by the Swedish Board of Agriculture, the Environmental Protection Agency and the National Heritage Board.

Research and Technologies: No information available.

Financing: Approximately 3,2-3,7 billion Euro have been allocated annually to implement the environmental- and rural plan.

Cooperation: Broad contribution for rural development dominate co-operation in Eastern Africa and South East Asia. The main components are the use of land, agriculture and forestry with a focus on food security for households. These components are increasingly being combined with public sector development, trade and industry etc.

For example, the Swedish International Development Cooperation Agency (Sida) has supported, via UNDP, a programme for rural development called Seila/Carere in Cambodia since 1996. An evaluation made during 2000 confirms that the experience gained from the programme and the approaches and methods developed in it have made decisive contributions to the forthcoming reform of local government in the country. Planning models have been developed to consolidate participation, raise awareness and improve knowledge at grassroots level.

Together with CATIE, a research education institute has a programme started for the development of sustainable land use amongst farmers in Nicaragua, Honduras, El Salvador and Guatemala.

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CHAPTER 15: CONSERVATION OF BIOLOGICAL DIVERSITY

Decision-Making: The Ministry of the Environment is primarily responsible for biodiversity and natural resources. The objectives of Sweden's national strategy on Biological Diversity (1993) places equal weight and importance on environmental and economic considerations. The strategy considers a continuous dialogue between environmental authorities and the private sector to be essential. Forestry legislation is applicable to the conservation of biodiversity. Legislation on habitat has been revised and the drainage of certain parts of the south of Sweden has come to an end. A mire protection plan has been elaborated by the Environmental Protection Agency listing 350 of mires to be protected in the next 20 years. Local communities and municipalities have a responsibility for the conservation of biodiversity and sustainable use of biological resources, in particular through land-use or physical planning. The Swedish Parliament is expected to adopt environmental targets that will put more emphasis on biodiversity conservation.

Programmes and Projects: Sweden has reported to the European Commission that 2975 protected areas could be included as part of the continuous ecological network known as Natura 2000. Sweden has also designated 403 special protection areas for birds to be included in Natura 2000. The work is governed by the Council directive on the protection of habitats, wild animals and plants, known as the Species and Habitat Directive, and the Council Directive on the conservation of wild birds, known as the Birds Directive.

Status: The most serious damage resulting in the loss of biodiversity is caused by the destruction of habitats. Over-harvesting and pollution have had a moderate impact on the loss of biodiversity, and the introduction of exotic species has caused less significant damage.

Capacity-Building, Education, Training and Awareness-Raising: Biodiversity is incorporated in education and training in relevant areas. Targeted awareness-raising campaigns have been conducted in the forest and agriculture sectors.

Information: The Environmental Protection Agency, in cooperation with other relevant national authorities and institutions, has presented a country study on biodiversity in Sweden. On the basis of this report, action plans in various sectors (agriculture, forestry, fishery and physical planning) were presented by the relevant national agencies. The action plans have been evaluated and Sweden is presently preparing a revised nature conservation policy.

Research and Technologies: The national monitoring system concerning biodiversity has been strengthened, and a research center for biodiversity (which includes a network of scientists) in Uppsala and a national Scientific Council for Biological Diversity have been established.

Financing: There has been an increase in grants for the establishment of protected areas, especially forests and marine areas. Sweden has benefited from an EU environmental fund (LIFE) for a number of projects on nature conservation and other sectors.

Cooperation: The Convention on Biological Diversity was signed in 1992 and ratified in 1993. The latest report was submitted in 2001. The Convention on International Trade in Endangered Species of Wild Fauna and Flora was ratified before 1 July 1992 and the latest report submitted in 2001. Sweden has worked with INBIO of Costa Rica, World Resources Institute on the Global Strategy for Biological Diversity, and CGIAR on support for gene banks. Activities are planned on research and training in Africa. Sweden is actively supporting the Global Taxonomy Initiative (GTI) within the CBD and the International Coral Reef Initiative (ICRI).

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CHAPTER 16 & 34: ENVIRONMENTALLY SOUND MANAGEMENT OF BIOTECHNOLOGY AND TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGY, COOPERATION AND CAPACITY-BUILDING

Decision-Making: In Sweden, release of genetically modified organisms is regulated in the Environmental Code (SFS 1998:808), which entered into force 1 January 1999. The chapter on genetically modified organisms as well as the underlying legislation is harmonized with the relevant EC directives. A number of governmental agencies share the responsibility for decision-making, e.g. the Swedish Board of Agriculture, the Swedish Work Environment Authority and the National Chemicals Inspectorate. The Environmental Protection Agency and the Gene Technology Advisory Board have consultative roles. The Ministry of Environment has the primary responsibility for the environmentally sound management of biotechnology.

Programmes and Projects: The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning (FORMAS) has recently (2001) announced its intent to support research on ecological effects of the use of transgenic and biotechnical organisms. The research should include assessment of potential environmental effects associated with the use of such organisms including probabilities for and consequences from spread of such organisms into natural habitats. It is estimated that research programmes can start during 2002 with financial resources of around 2-3 million SEK per project and year.

Also The Foundation for Strategic Environmental Research (MISTRA) has announced a new research programme "The new biology - possibilities and problems for environmental protection". Within this programme, research on environmental effects of the use of modern biotechnology in sectors such as agriculture will be analyzed coupled to research on how the technology can be used to solve different environmental problems. The integration of societal aspects is also welcomed.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: Possibly, Sweden will be involved in a project supporting governmental agencies in the Baltic States in dealing with releases of genetically modified organisms in the environment.

Information: No information available.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: No information available.

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CHAPTER 17: OCEANS AND COASTAL AREAS

Decision-Making: The Ministry of the Environment is the responsible body for integrated coastal zone management and sustainable development, marine environment protection, and for the conservation of marine living resources. The Ministry of Agriculture, Food and Fisheries is responsible for the sustainable use of marine and fishing resources. Coordination is ensured by consensus decisions in the Cabinet of the Government. Individual sectors of society are responsible for their own environmental performance, supervised by the environmental sector.

The policy on oceans is part of the National Sustainable Development Strategy. The Government Bill Environmental Quality Objectives, proposed in the spring of 1998, states the ways in which the environmental policy should be conducted to achieve the overall objective of handing over, to the next generation, a society in which the main environmental problems have been solved. Government also proposed a Bill on Sustainable Fishery and Agriculture in the spring of 1998 that lays down the guiding principles and different measures to be taken in these sectors. National and regional monitoring programmes and the Integrated Marine Monitoring programmes identify major marine environmental threats from land-based sources. Work is in progress to ensure that Environmental Impact Assessments are systematically included at an early stage of the political process, such as in the Government Bill on Municipal comprehensive planning under the Planning and Building Act.

A comprehensive plan has been drawn up for integrated land and water management at local authority level. It is not legally binding but gives guidelines for implementation of sector-oriented legislation. It provides opportunities for public opinion to be considered in the planning process. The new Environmental Code enables NGOs to participate in decision-making in a substantial form. Major Groups participate in environmental impact assessments at local and national levels, contributing to the design of sustainable development policies and programmes and participating in project implementation. The contributions of local and national representatives of Major Groups to sustainable development at the national level are considered essential, while those from regional and international Major Groups are considered quite helpful and constructive. In general, Sweden proposes to enhance transparency, open discussion processes, financial support and the participation of representatives of major groups in official delegations.

Programmes and Projects: Sweden is currently implementing an extensive action programme aimed at reducing nutrient-rich effluents into freshwater bodies and the sea. All sewage treatment plants designed for at least 10,000 people along the west and south coast, up to and including the Stockholm archipelago are to be reviewed.

Status: A number of threats hang over the sensitive water environment in Sweden's archipelagos. Eutrophication is the most serious. The occurrence of persistent organic substances and high levels of heavy metals in some areas represent a major environmental problem. The Government view is that the most valuable archipelago shallow-water areas should be given greater protection, since they represent very important marine biotopes. Important marine habitats include seaweed and eelgrass communities, hard bottoms and shallow-water soft bottoms.

In part of the coastal areas one finds major population centres and coastal areas are important for big industries, fishing, and tourism. The percentage of the economy contributed by fishing is about 0.3 percent according to recent estimates. Shallow-water coastal areas with soft bottoms, eelgrass communities and mussel banks are very productive and important as feeding and breeding grounds for fish and invertebrates. It is therefore vital for sustainable fisheries that these breeding areas are protected.

Environmental problems relating to the protection of the marine environment are linked to different sources including pollutants from other countries. Sources of land-based pollution of the marine environment are the following: Nutrients from wastewater treatment plants, agriculture and air-pollution as well as hazardous substances from industry. Pulp and paper industries have previously contributed substantially to pollution in coastal areas but large reductions of emissions have been achieved since the 1980's. The primary source of sea-based pollution is shipping. The threats on the sustainable management of coastal zones caused by shipping include oil-

spills, the spread of ship-generated waste from other countries, the use of hazardous anti-fouling substances and the spread of alien species through ballast-water are severe threats to the open sea and to the coastal zones.

Capacity-Building, Education, Training and Awareness-Raising: Several NGOs, as well as involved Governmental agencies, have been engaged in campaigns and other efforts to raise awareness of issues related to sustainable development concerning the coastal zones and open seas. In addition, Governmental agencies have been active in providing information on a regular basis to the public.

Information: There are several databases on coastal and marine management, but they are not as yet integrated. Information is available on resources, cultural and socio-economic characteristics and protected areas and wetlands. Since 1992, an assessment of the state of the environment of coastal and open sea areas has been carried out annually. Monitoring programmes also assess changes in the coastal and marine environment. Different Government agencies, county and local authorities have used, environmental monitoring systems, surveillance systems and other systems for providing information for a long time. The Fishery Board of Sweden provides information to assist both decision-makers and planners related to sustainable management of fishery resources, the Environmental Protection Agency related to marine pollution and living resources other than fish, Swedish Geological Survey related to mineral resources, and the Swedish Meteorological and Hydrological Institute related to critical uncertainties such as climate change. Both environmental monitoring and governmental surveillance systems have been established. The indicators will in the future be submitted to the Swedish Parliament annually.

Research and Technologies: The requirement to take into account the best available technology is established in the law. Sweden continues to develop policies, strategies, steering instruments and technologies to reduce environmental impact. Where applicable, experiences are shared with others in bilateral and multilateral cooperation. One of the tasks of the Swedish Business Development Agency (NUTEK) is to bring together stakeholders with a view to promote and improve the selection, transfer and application of environmentally sound technologies.

Financing: The polluter-pays-principle is established in environmental legislation in Sweden. The polluters themselves are responsible for financing measures to reduce the impact of their own activities and to monitor the environmental effects. In addition, governmental funds are available for remedial measures in certain cases, national and regional monitoring and surveillance programmes as well as for supervision. While the Government funds the national and regional monitoring programmes, the polluters fund the recipient programmes.

Cooperation: The UN Convention on the Law of the Sea was signed in 1982 and ratified in 1996. Sweden participates in many Multilateral Agreements such as Convention for the Protection of the Marine Environment of the North East Atlantic, Convention on the Protection of the Marine Environment of the Baltic Sea region, Convention on the Prevention of Marine Pollution by dumping of Wastes and other matter, Convention on Straddling Fish Stocks, Convention on Biological Diversity, The Bonn Agreement, and IMO.

An action programme was elaborated and adopted 1992 by countries in the Baltic region to safeguard and restore the ecological balance of the Baltic Sea. The programme includes a focus on 132 hot spots where off eight from Sweden. The foreign ministers at the Council of the Baltic Sea States Meeting adopted agenda 21 for the Baltic Sea Region, in June 1998. The Agenda is constructed as an action plan for sustainable development in the region, drawn up jointly in a partnership of nations, international organizations, business, NGOs and international financial institutions. Baltic 21 focuses on agriculture, energy, fisheries, forestry, industry, tourism, transport and spatial Planning. The 1992 OSPAR Convention on the Protection of the North East Atlantic was ratified by all contracting parties of the previous Oslo and Paris Conventions and has contributed substantially to the protection of the marine environment.

A number of important political commitments have been taken at North Sea Conferences relating to the protection of the North Sea marine environment, which have been or will be implemented in other legislative form. Specific issues of high importance in this context are problems related to eutrophication and hazardous substances. Regarding assistance to developing countries, Sweden was the second leading DAC member in 1995 with respect

to ODA/GNP ratio at 0.89 per cent, and the eighth largest in absolute terms with US\$ 2 billion in disbursements. Lately, Sweden has been involved in bilateral and multilateral projects related to Integrated Coastal Zone Management in several regions of the world.

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CHAPTER 18: PROTECTION OF THE QUALITY AND SUPPLY OF FRESHWATER RESOURCES: APPLICATION OF INTEGRATED APPROACHES TO THE DEVELOPMENT, MANAGEMENT AND USE OF WATER RESOURCES

Decision-Making: The responsibility for Water management is shared by several agencies in Sweden; for example the Swedish Environmental Protection Agency, SEPA; the National Board of Housing, Building and Planning; the Swedish Board of Agriculture, and the National Food Administration. The County Administrative Boards are responsible for coordination of water resource management and development and policy at sub-national levels.

Among the most important legislation and regulatory framework for water management are the Environment Protection Act (last update 1996), Water Act (1997), Natural Resources Act (1996), The Building and Planning Act (1996), the Act on Chemical Products (1996), the Act Concerning Management of Natural Resources (1987:12), the Governmental Bill on the Environment (1990/91: 90), and the Governmental Bill on the Environment Debt (1994) Relevant to agriculture are the Act on Management of Agricultural Land and for households are Health Protection Act (1996), Act on Public Water- and Waste water plants (1996). The Natural Resources Act represents an over-arching law through which the use of land and water are interlinked.

Sweden has no specific pricing of water abstraction. Every landowner has the right of disposition to the groundwater under the surface. Small lakes are private but larger ones are public domain. The private sector is responsible for its own pollution. Examples of which measures the Government has decided to prevent pollution of freshwater are catch crops, and restrictions for usage of pesticides and manure.

There are no other specific policies for the efficient allocation of water to promote economical development, but permits according to the Water Act and local agreements by water associations can have that effect. There is a Comprehensive Plan for Integrated Land and Water Management at the municipality level. It is not legally binding, but gives guidelines for implementation of sector-oriented legislation. It gives opportunities for the opinion of the public to be taken into account in the planning process. Swedish legislation contains many regulations regarding participation of the public and various stakeholders in the decision-making process.

Programmes and Projects: The EU water framework directive will be very important for the environmental situation in fresh water and coastal zones.

Status: There is generally no shortage of fresh water in Sweden. The paper and pulp industry is the sector using the largest amounts of fresh water. Eutrophication of Sweden's water has been a geographically widespread problem for a long time, affecting lakes, watercourses, groundwater, and coastal and marine areas. Sweden is currently implementing an extensive action program aimed at reducing nutrient-rich effluents into freshwater bodies and the sea, with a view to halve land-based sources of marine pollution, particularly of hazardous substances.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: The Swedish system for collecting information concerning water management (and other environmental issues) is decentralized or sectorized. The Swedish Environmental Protection Agency SEPA, Statistics Sweden and the 24 County Administrative Boards collect environmental data at the national and regional level. The municipalities carry out monitoring at semi-regional and local levels. To facilitate the work there are several data hosts (for example The Swedish University of Agriculture Sciences). Swedish Board of Agriculture is responsible for collecting information on nutrient losses (nitrogen, phosphorus), pesticides and nitrate in groundwater. Municipalities are responsible for collecting information on household use and discharges from wastewater treatment plants (nitrogen, BOD, COD, metals) and water usage. County Administrative Board and Municipalities are responsible for industries and information collected on discharges (nitrogen, phosphorus, metals, organic compounds, other chemicals) and water usage. Other important information not connected to a certain sector is collected through e.g. monitoring. The Swedish Geological Survey concerning groundwater and

concerning water for drinking purposes by the National Food Administration also collects additional information on water quality

Research and Technologies: Standards, which are used to measure water quality, including contamination of water by Persistent Organic Pollutants, are ISO, CEN standards and USEPA standard. Technological demands for wastewater are biological and chemical treatment. Demands for water purification depends on the raw water quality, from no needs to pH-adjustment or more advanced treatment (purification). More than 2 square kilometers of wastewater per year and 100% of municipal sewage is treated, but there is no plant for recycling wastewater. Private wells have usually no purification for drinking water. There are no targets to increase this percentage since there is no need. Nearly 100% of the drinking water from the urban municipality water plants is more or less treated.

Financing: For agricultural use of freshwater there is no pricing policy. In the case where the water is delivered by the municipality (water company), the industry will pay for the production of water, the delivery and the treating of wastewater at cost recovery price. For household use there is no costs for private wells. Where the water is delivered by the municipality (water company) the households pay for production of water distribution and treating of wastewater at cost. Almost full costs on water production, delivery and wastewater treatment are recovered through pricing. The objectives are to reach full cost recovery.

Cooperation: The Swedish International Development Cooperation Agency (Sida) contributes to larger water projects in Kenya, Tanzania and Zimbabwe. In Botswana Sida completed a project, which is considered to be a successful one. Sida also contributes to the funding of water projects that are managed by the UNICEF in Uganda, Laos and Central America. More information available at www.sida.se.

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CHAPTER 19: ENVIRONMENTALLY SOUND MANAGEMENT OF TOXIC CHEMICALS

Decision-Making: The Ministry of the Environment and the National Chemicals Inspectorate are the bodies mainly responsible for the issues related to this chapter. The County Administrative Boards bear responsibility for coordination at the regional level. The following legislation is related to the management of toxic chemicals: the Environmental Code (1998), the Sanitation Act (1979/596, revised in 1994). The National Chemicals Inspectorate is charged with proposing actions to minimize the hazards entailed by chemicals, which pose unacceptable hazards to man or the environment. Actions include phase-out targets, labeling guidelines, disposal and EIAs. They are also charged with questions related to minimizing the use of heavy metals such as mercury, lead and cadmium. Swedish law on chemicals control contains scientific, product and handling targets aimed at helping supervisory authorities ensure that businesses do what is needed to reduce and eliminate dangers to the environment and health.

The principle of substitution is regulated in the Environmental Code. This principle means that industry is required, whenever possible, to replace dangerous substances and products with those that present less risk to health and the environment. Also, the precautionary principle is mentioned in the Code, which means that precautions shall be taken as soon as there is cause to assume that an activity or measure may cause damage or detriment to human health or the environment.

During 2001 a new Swedish Chemicals Policy has been adopted by the Reichstag (Swedish Parliament). This policy aims to achieve that within one generation the environment will be free from man made substances and metals that represent a threat to health or biological diversity.

Programmes and Projects: No information available.

Status: Approximately 45,000 chemical substances and about 20,000 preparations are marketed for use in Sweden at present. A Government bill containing proposals and targets for the control of chemicals has been taken by Parliament providing the basis for further priorities in the national chemical risk reduction work. Efforts to restrict the total number of chemicals have focused mainly on total or partial reductions of compounds, which are particularly hazardous to health or the environment. While some of the reduction targets have not been met, there is a downward trend in the use of toxic chemicals. One of the underlying principles of chemicals control is that manufacturers and importers are primarily responsible for the chemical substances, products or goods which they deliver and that the use does not cause harm.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: A «National Profile» on the management of chemicals and pesticides in Sweden has been produced in collaboration with UNITAR, the United Nations Institute for Training and Research. The Profile is available on <http://ecbntlib.ei.jrc.it/sweden/default.htm> (the website of the European Chemicals Bureau).

Research and Technologies: No information available.

Financing: National budget fees.

Cooperation: Sweden participated in and hosted the 1994 International Conference on Chemical Safety (ICCS), which constituted itself as the first meeting of the Intergovernmental Forum on Chemical Safety (IFCS) and also elected Sweden as President for the period up to and including the Second Forum. The Government contributed funding for the participation of developing countries in the conference. Special efforts are being made to promote expertise in the control of chemicals among certain developing and eastern European countries. Sweden is actively pursuing policy on chemicals within the EU and globally, such as through UNEP.

CHAPTERS 20 TO 22: ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS, SOLID AND RADIOACTIVE WASTES, INCLUDING PREVENTION OF ILLEGAL INTERNATIONAL TRAFFIC

Decision-Making: The Ministry of the Environment is the body mainly responsible for the issues related to these chapters. The County Administrative Boards bear responsibility for coordination at the regional level. The following legislation covers the relevant issues: The Environmental Code. In 1995, the secretariat of the Waste Management Research Council was transferred to the Environmental Protection Agency.

Sweden has an ordinance, which divides waste into differing degrees of danger to supplement the EC Transport Regulation. The Environmental Protection Agency is charged with the control of permits for exports and imports. In its inspection work, the Swedish Nuclear Power Inspectorate (SKI) systematically evaluates the organization of its nuclear power plants and safety culture. The radiation levels recently measured in Sweden pose no risk of serious effects to human health. Safety at Swedish nuclear power stations is monitored by the Swedish Nuclear Power Inspectorate (SKI). Emissions into the air and water have been low, but some plants have suffered an increased amount of radiation. The main reason for this is the growing use of older reactors. The National Radiation Protection Institute (SSI) has entered into special discussions with the power industry on how to counter this trend.

The local authorities bear full responsibility for overall waste management, and it is their obligation to draft special waste management plans. In Sweden there is a divided responsibility for the waste management between the local municipalities and the producers. The municipalities are responsible for the handling of household waste, the collection and disposal of all batteries and refrigerators and they may take responsibility for hazardous wastes. The producers have the responsibility for some product groups; waste paper, packaging, tires, end-of life vehicles and electric and electronic waste.

The municipalities have got their own right to decide how to manage their waste collection system. The municipalities can also decide how to set the charges for the service to households and others. That means that every municipality (totally 289) in practice can have different collection systems and different charges for waste management. The municipalities have to have a plan for the waste management containing information on type of waste that is present in the municipality and the amount of each type of waste. The plan should also contain such information about the waste that the municipality isn't responsible for, such as packaging and waste paper; There is also an obligation to inform about how the waste is collected, transported, treated and finally taken care of.

It's in the society's interest to minimize the amount of waste landfilled and thus passed on to future generations. The producers have got the knowledge and the ability to influence how the product is made and that is significant for the waste issue. With that in mind Sweden introduced the Producer Responsibility for waste paper, packaging and tires in 1994. Since the 1 January 1998 Sweden also has got a producer responsibility for end-of-life vehicles. The 1 July 2001 a producer responsibility was introduced for electric and electronic waste.

The purpose with a producer responsibility is to force the producer to produce environmentally sound products, to increase material recovery and to minimize the amount of waste. It's necessary to be aware of the impact on the environment from the products through the whole life-cycle of the products and that the producer takes the responsibility for this.

The industrial sector is encouraged to bear greater responsibility for the management of hazardous waste. As much waste as possible has to be recovered and recycled. Waste is also to be classified, transported and managed safely in environmental terms.

The Government has decided a ban on the deposit of assorted combustible waste from the year 2002 and on organic waste in 2005. A tax on waste sent to landfill entered into force from the year 2000. Nitrogen reduction is introduced at a number of coastal municipal wastewater purification plants. Sweden is pressing the EU for the codification of the producer pays principle and for future EU law to be more encompassing.

In the relevant section of Agenda 21 it is said that Governments should ascertain that their military establishments conform to their nationally applicable norms in the treatment and disposal of hazardous waste. An environmental policy has been drawn up. The objectives in the policy state, among other things that the utilization of resources, environmental hazards and the possibilities of reuse are to be taken into account in conjunction with procurement or modification of the materials. Environmentally harmful substances and activities are successively replaced with less harmful ones.

Programmes and Projects: The Swedish International Development Agency (Sida) is taking part in direct investments in about ten different projects at sewage treatment plants.

Status: Total waste deposit in Sweden amounted to approximately 4,800,000 tones per year in 1997 compared with 6,000,000 tones in 1994. Estimates made by the Swedish Environmental Protection Agency show that households are responsible for almost 50% of environmentally harmful emissions. Households generate about 30% or 3,2 million tones of municipal waste in Sweden. On a per capita basis, this amounts to 360 kg per person and year. About 40% of the waste from households is disposed of, 40% is combusted as fuel for energy and approximately 15 % is recycled. Excluding mining and agriculture, the industrial sector generates a total of 14 million tones waste (1993), 70% of which was combusted or recycled. Around 200,000 tones of toxic waste was produced.

Industries generate as much as 75% of the total wastes generated in Sweden. Of the industries, the mining sector generates the most waste. About 4,000 landfills have been shut down, with about 300 remaining, and industries have separate deposit sites of their own. About 50 landfills have equipment to recuperate methane gas formed as a result of anaerobic digestion. An on-going survey has identified about 800 industrially contaminated sites. Five hundred of these require further investigation and action. Metals account for the most serious cause of contamination, followed by toxic chemicals.

As a result of the issue of additional dose limit regulation by the SSI, the number of individuals with high doses of radiation in Sweden has decreased significantly. Radiation doses to the public in the vicinity of the plants are consistently below the limits. This is considered a reflection of the favorable dilution conditions. Management of spent nuclear fuel and nuclear waste at the nuclear power plants and at the central interim storage facility and the repository for radioactive operational waste is being handled satisfactorily. The plants' emergency response systems are also considered to be satisfactory. Nonetheless, inspections have revealed some minor deficiencies in procedures and documentation. Uncertainties remain surrounding the factors, which may limit the lifetime of Sweden's reactors.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: A study has been started by the Environmental Protection Agency, the Swedish Association of Local Authorities, the Federation of Swedish Farmers, and the Swedish Water and Waste Water Works Association, together with a number of experimental municipalities, to monitor developments in, and develop targets for, environmentally appropriate water supply and sewerage systems. The Environmental Protection Agency is charged with developing quantitative targets and actions for the improved management of wastes. This includes developing criteria for the types of waste to be received at landfills and incineration plants, among others.

Research and Technologies: No information available.

Financing: No information available.

Cooperation: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was signed in 1989 and ratified before 1 July 1992. As an addition to the Basel Convention, Sweden and the EU, together with Norway, secured a ban on the export of hazardous waste for recovery from OECD to non-OECD countries, which enters into force on 1 January 1998. Sweden is pressing the EU to upgrade a number of hazardous wastes listed for export prohibition ("yellow list") under the Basel Convention.

Sweden is actively involved in the international ban against the exportation of hazardous wastes to non-OECD countries. Exported waste fell significantly in 1992 over previous years, in large part due to new regulation restricting such exports, particularly to non-OECD countries. The recession was also a contributing factor.

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CHAPTERS 24 TO 32: STRENGTHENING THE ROLE OF MAJOR GROUPS

Women: Decision-Making: Policies or strategies have been completed for achievement of equality in all aspects of society. From 1992 to 1996 the proportion of women decision makers increased in government from 38 to 50%; in parliament from 32 to 40%; and in local government from 34 to 41%. Capacity-Building, Education, Training and Awareness-Raising: Curricula and educational material in Sweden already promote gender-relevant knowledge. Cooperation: The Convention on the Elimination of All Forms of Discrimination Against Women was signed and ratified in 1980.

Children and youth: Decision-Making: Children and youth have an advisory role in the work for a sustainable development. In the aftermath of the Rio Conference, the Swedish youth campaign q2000 was instrumental in promoting implementation of Agenda 21, not least at local level. Environmental youth groups meet with the Minister for the Environment regularly to discuss. Capacity-Building, Education, Training and Awareness-Raising: According to the Education Act one of the fundamental aims of the Swedish education system is promoting respect for the value of the individual and respect for our common environment. The national curriculars and guidelines for compulsory school and upper secondary school emphasize the importance of the environmental dimension. Teaching should illustrate ways in which the functions of society and our way of living and working can be adapted to create sustainable development. The National Agency for Education, NAE, was 1998 given sectoral responsibility for ecological sustainability and supports the teaching of sustainable development by seminars and a collection of links to Internet information, the Swedish Schoolnet (Link Larder). The Swedish Environmental Protection Agency, EPA, also supports the teaching of sustainable development. The support is mainly directed to the developing and conveying of information. Many of Sweden's University Colleges and Universities have come a long way in their efforts to integrate environmental issues in the curriculum. Information: The web site of EPA includes practical tips for schools to use in the teaching of sustainable development and a guide with information on Swedish EPA publications (<http://www.environ.se>). EPA's environmental magazine "Miljöaktuellt" has also published special school pages for teachers with tips and reports on education for a sustainable society. Financing: The NAE allocates a special grant over three years for skills development in natural science, technology and environment. Financing: Youth projects ran by local authorities, youth organizations and NGOs receive US\$ 1 million a year and technical support. The Swedish International Development Cooperation Agency (Sida) supports collaboration between the National Council of Swedish Youth Organizations and national youth platforms in developing countries and countries with economy in transition in the fields of democracy and sustainable development.

Indigenous people: Decision-Making: A process to empower indigenous people and their communities through policies and legal instruments is in place. Indigenous people are fully involved in resource management strategies and programmes at the national and local level. A special governmental authority, the Sametinget, has been established to promote the vitality of the Sami culture, and to decide on the allocation of state subsidies and other funds to the Sami people. Status: The Sametinget is to promote the Sami language, to disseminate information on the Sami people, to participate in physical planning and to ensure that Sami interests are taken into account.

Non-governmental organizations: Decision-Making: Mechanisms exist to allow and promote NGOs to participate in the conception, establishment and evaluation of official mechanisms to review Agenda 21. The Swedish Society for Nature Conservation, the Swedish United Nations Association and representatives from trade unions, industry, the scientific community and local authorities are full members of the National Sustainable Development Coordination Mechanism. In addition, major groups participate in environmental impact assessments at the local and national levels, contributing to the design of sustainable development policies and programmes and participating in project implementation. Representatives of major groups have been included in the Swedish delegations to all sessions of the CSD. They participated in HABITAT II, and were represented on the Swedish delegation to the UN General Assembly.

Local authorities: Decision-Making: Shortly after the UNCED in Rio de Janeiro 1992, the Swedish Government stressed the importance of the local, i.e. municipal communities for a successful implementation of Agenda 21.

During the last decade all of the 289 Swedish municipalities have been working with local Agenda 21 in one way or another. According to a University study carried out 1998/99, roughly 60 percent of the municipalities had adopted a local Agenda 21 strategy (a figure most likely to be higher today). The local Agenda 21 work has also generated momentum in a number of municipalities to discuss important issues for the local development, what kind of society would the inhabitants like to see, what role does the municipality have in a wider (national as well as global) context etc? Local Agenda 21 work has helped improve cooperation between departments within the municipality as well as with civil society and the private sector. This is naturally something positive that the municipality as a whole has gained from. Programmes and Projects: The Swedish Parliament has allocated SEK 7.2 Billion (about 0.8 Billion Euro) during the period 1998-2003 for local investment programmes. These programmes are aimed at improving sustainability at local level. The aim of the programme is to speed up the Swedish transition towards a sustainable society. This programme has, in the majority of municipalities that have received funding, been a boost for the local Agenda 21-work, realizing some of the visions drawn up in local strategies. By July, 2001 135 municipalities had been granted 5.6 billion SEK.

In 1999 the Ministry of the Environment established a new center, the Swedish Institute for Ecological Sustainability, in support of primarily local approaches to sustainability. The institute's primary task is to serve as a bridge between researchers and those who apply these theories, such as industry, local governments and NGOs. The institute also provides smaller municipalities (that might not have the time or personal resources) with assistance to apply for funding from the Local Investment Programmes.

In the year 2000 the Swedish National Board of Housing Building and Planning together with the Swedish Association of Local authorities conducted a survey regarding the linkages between local Agenda 21 and the land-use planning in the Swedish municipalities. According to this study almost 90 percent of the municipalities said that they had, or have the intention to, integrate local Agenda 21 into the municipal comprehensive planning process. Traditionally land-use planning plays an important role in the municipalities' work towards sustainability. In this context it is worth recalling that the Swedish municipalities are principally responsible for the planning of settlement development and land-use.

Status: In 1999 more than 70 percent of the Swedish municipalities had a full- or part time Agenda 21 coordinator employed. Since then there has been a certain decline. The local Agenda 21 work is said to be mainstreamed in the organization of municipality the effects of which remain to be seen. The divide between municipalities that are active in local Agenda 21 and those that are not is unfortunately widening. A more detailed presentation on this matter will be submitted by the Swedish National Committee on Agenda 21 and Habitat to the Swedish Government as input to the Johannesburg Summit in the year 2002. Capacity Building, Education, Training and Awareness-raising: One of the things that stand out in the local Agenda 21 work is all the effort that has been put into awareness raising and education among citizens and major groups, including training programmes for civil servants of all levels. An important task for the Swedish National Committee on Agenda 21 and Habitat is to increase awareness and stimulate further action at the local level. This is done through organizing conferences and meetings around the country and promoting good practices and experiences. An electronic newsletter will be published to inform about the national as well as international preparations for the upcoming Johannesburg Summit.

The homepage www.agenda21forum.org functions as a portal for Agenda 21 work in Sweden. The Association of Agenda 21 and Sustainable Development set up this homepage. The association is a multi stakeholder forum with representatives from the Government, business, NGOs as well as trade unions.

The National Agency for Education has adopted new syllabuses for both compulsory and upper secondary school education, including local authority administered adult education. Sustainable development has been taken into account in this connection. Since 1993, the National Agency for Education and the National Agency for Higher Education have operated the Science and Technology Project, which is designed to stimulate students' interest in this field. A new Science and Technology Project has now been set up and will run from 1999 to 2003; its main purpose to seek to change attitudes and disseminate information. Research and Technologies: No information available. Financing: In the mid 1990:s the Government supported local Agenda 21 initiatives and allocated MSEK

18 (approx. Euro 1.9 million) to support innovative approaches in the development of local Agenda 21. In the beginning local Agenda 21 efforts were mainly focused on environmental issues but over the years attention has increasingly been geared towards the social aspects of sustainability. Activities that promote the development of democracy and participatory action in civil society receive funding from the Government. **Cooperation:** There is a lot of cooperation between Swedish municipalities and municipalities in other countries. This cooperation has had different scope, from cultural exchange, environmental cooperation to promoting business between the two areas. Since Sweden became a member of the European Union the cooperation with countries in different parts of Europe, transition countries etc. has increased and a large number of municipalities are involved in different kind of projects financed through the EU.

Workers and trade unions: **Decision-Making:** Trade unions have played a key role in Sweden for the past century and continues to take an active part in transforming the country to ecological sustainability. There is full participation of workers in implementation and evaluation of Agenda 21. **Status:** Relevant ILO Conventions have been ratified. **Cooperation:** Swedish development aid includes support for trade unions in developing countries. Trade unions in Sweden have strong ties internationally.

Business and industry: **Decision-Making:** There are governmental policies requiring increasing the efficiency of resource use. In 1993, an Ecocycle Commission was established in order to pursue and co-ordinate work on ecocyclic issues including implementation of the polluter pays principle. The Confederation of Swedish Enterprise supports the principles concerning the responsibility of industry in environmental management, stressing the importance of cooperation between the government and industry as well as the crucial importance of international environmental action, particularly in the Baltic Region. Sweden has adopted regulations on environmental management and audits based on programmes of voluntary participation. **Programmes and Projects:** The Environmental Protection Agency has embarked on a ten-year programme to review emissions from environmentally hazardous operations at industrial sites. The Ministry of the Environment and the Ministry of Industry and Trade set up a special working committee and convened a conference in 1996 to identify key areas for environmental policy and industry policy. **Research and Technologies:** A strategy for promoting environmental technology has been introduced by the Government. The Royal Academy of Engineering Sciences (IVA) has carried out a survey of Sweden's environmental industry. The Eco-Management and Audit Scheme (EMAS) was introduced in Sweden 1995. Also, a commission has been appointed to clarify the environmental activities that give rise to financial risks and the information that is required to make financial assessments of environmental risks.

Scientific and technological community: **Capacity-Building, Education, Training and Awareness-Raising:** The scientific community has established ways in which to address the general public and deal with sustainable development.

Farmers: **Decision-Making:** The Federation of Swedish Farmers stands behind the general Swedish environmental goals for agricultural policy as well as other goals concerning an increased environmental focus of agricultural research and development, reduced use of animal antibiotics and improved animal welfare.

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CHAPTER 33: FINANCIAL RESOURCES AND MECHANISMS

The issue of Swedish contributions to financial resources and mechanisms in developing countries, including ODA, has been covered under Chapter 2 or under the heading Cooperation in the various chapters of this Profile. Below, the use of financial resources and mechanisms in a domestic context is outlined

Decision-making: The Swedish Government and Ministries, notably the Ministry of the Environment, Ministry of Finance and Ministry of Industry, Employment and Communications and the Ministry of Agriculture, Food and Fisheries. Further national agencies, notably the Swedish Environmental Protection Agency, the Swedish National Energy Administration, the Swedish Board of Agriculture, the Swedish Maritime Administration etc are involved.

Programmes and Projects: In 1999 the Swedish Parliament adopted 15 environmental objectives and a new strategy to reaching these objectives. In April 2001 the Swedish Government presented a bill to the Parliament on Interim Targets and Action Strategies to reach the Swedish environmental objectives. In autumn of 2001 the Swedish Government will present a bill devoted to dealing with climate change.

Starting in the year 2001 Sweden has begun another series of ecological tax reforms increasing taxes on energy and decreasing taxes on labor and income. The first tax reform encompassed 3 billion SEK and in the budget bill for the year 2002 another tax reform of 2 billion SEK has been suggested. These are to be followed by further tax reforms in the years to come and amount to a total of approximately 10 billion SEK. There is an elaborate system of energy taxation with energy tax, carbon dioxide tax, sulphur tax, nuclear power production tax, nitrogen charge etc. A system of waste deposit tax has recently been introduced. Starting in 2002 deposit of combustible waste will be prohibited and starting 2005 deposit of organic waste will be prohibited. Investigations on broadening the realm of carbon dioxide taxation, setting up a system of flexible mechanisms, road charges, and water charges in accordance with the EU water directive are investigated.

Status: In general environmental taxation and policies have been successful, however, further efforts to meeting future challenges are needed.

Capacity-building, Education, Training and Awareness-raising: Education on Agenda 21 is available. Several information campaigns have been launched to increase public awareness.

Information: A set of indicators for sustainable development has been developed by the Swedish Environmental Protection Agency and Statistics Sweden. Further information on sustainable development in Sweden, including financing, can be found on the Internet. http://miljo.regeringen.se/hut/las_mer.htm

Research and Technologies: No information available.

Financing: Environmental taxes are generally not earmarked for use for environmental purposes. Instead environment taxes as such may increase internalization of external effects and thus lead to changes that improve or hinder further deterioration of the environment. There are also a number of environmental charges that are specifically used for particular measures. Further the Government may set up an institutional and regulatory framework where the user pays the cost for environmental measures.

Cooperation: No information available.

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CHAPTER 35: SCIENCE FOR SUSTAINABLE DEVELOPMENT

Decision-Making: The Ministry of Education and Science is the body primarily responsible for education, research and related legislation. The organization for research funding has recently been reorganized, and four new institutions, three research councils and one agency for promotion of innovation have been set up, replacing nine institutions. The responsibility to fund research on environment, agricultural sciences and spatial planning has been collected in one council, the Research Council for Environment, Agricultural Sciences and Spatial Planning. Research Council, with a special responsibility to promote high quality basic research, and the Research Council on Working Life and Social Research. The Swedish Agency for Innovation Systems finance research, development and demonstration activities that meet the needs of the business and public sector. . This new organization with fewer and more focused institutions should create prerequisites of multidisciplinary research and better cooperation and coordination of research efforts. Many universities and university colleges have also adopted research strategies that focus on areas with connection to sustainable development.

Programmes and Projects: The main funding agencies for research for sustainable development are the Research Council for Environment, Agriculture and Spatial Planning, with a special responsibility to promote research for ecologically sustainable development, the Swedish Agency for Environmental Protection, the Swedish National Energy Administration and the Foundation for Strategic Environmental Research. The Agency for Innovation Systems, which has a special responsibility to promote a sustainable economic growth, the Research Council on Working Life and Social Research and the universities and university colleges are also active in promoting research in this area.

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: All public institutions that either finance or carry out research shall create co-operation among themselves and with users of the research results. For the institution of higher education this is regulated in the Higher Education Act and it is included in the instructions to the new research councils. They communicate with the surrounding society, with decision-makers, enterprises and the general public, by informing about their activities. Equally important is an open dialogue with the surrounding society so that new ideas and responses to results can be brought back.

Information: No information available.

Research and Technologies: Environmental research and research in support of a sustainable development has been given a high priority, and was one of the priority areas in the Government bill on research, that was presented to the parliament in September 2000. Research on ecologically sustainable development and biodiversity were also given additional funding in the economical spring budget bill 2001. Swedish research on environmental issues is considered being of a high quality, and is particularly active in areas such as biodiversity, climate change and environmental protection. Swedish researchers have also been successful in research on global change, external environment and environmental protection in health and social sciences. Development of new technology is one of the prerequisites of sustainable development, but knowledge about society, organization and habits are important, the interaction between different research fields, between technology and natural sciences and the social sciences, arts and humanities are therefore promoted, and one priority issue in the government bill on research.

Financing: No information available.

Cooperation: The objective of research co-operation is to support research, which is of significance for development in developing countries. This is done by providing support to improve the capacity of developing countries to run research programmes of their own and by providing support to research, which can contribute to the solution of important development problems. Sweden started to support development research in 1975. The

support is administered by The Swedish International Development Cooperation Agency's (Sida) Department for Research Co-operation, SAREC, which is responsible for support to research and also acts as a resource in programmes of development co-operation run by other Departments of Sida in which there is a focus on research. SAREC has the aim of ensuring that research co-operation and other forms of co-operation interact in order to achieve an optimum effect.

Approximately one-third of Sida's appropriation for research co-operation is allocated to bilateral co-operation with developing countries, primarily to develop national research capacity. At present there are programmes of research co-operation with the following countries: Bolivia, Eritrea, Ethiopia, Mozambique, Nicaragua, Sri Lanka, Tanzania, Vietnam and Uganda. As of 2000 more than 200 projects are taking place with over 120 Swedish institutions involved. One-third of the appropriation for research co-operation is allocated to regional support and the special programmes. This support has the aim of stimulating co-operation between the participating countries in research areas of common interest. SAREC is supporting regional research networks in Africa, Latin America and Asia, which focus on, for example, energy, biological diversity and biotechnology.

For the budget year 2000, SEK 570 million has been allocated to research co-operation through Sida. More information is available at www.sida.se.

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CHAPTER 36: PROMOTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Decision-Making: The Ministry of Education is responsible for all education except vocational employment training, which comes under the Ministry of Labour. Education according to Agenda 21 is fully integrated into the regular education system of formal education from early child-hood education to higher education. Education below university level is mainly organised within the public sector. Higher education is with a few exceptions State financed.

The Parliament and The Swedish Government have the overall responsibility for the state financed education system: pre-school (early child-hood education, year 0-6), pre-school class and compulsory school (year 6-16), upper secondary school, general education as well as initial vocational training (year 16-20), adult education and higher education. Municipalities are under a statutory duty to offer pre-schools, pre-school classes, compulsory schools, special schools, upper secondary schools and municipal adult education. Additionally knowledge building and awareness raising activities are predominant in popular adult education. The main central authority for supervision of the school system below higher education is the National Agency for Education (NAE). Its foremost tasks include responsibility for national follow-up, evaluation and supervision of all school activities, and for central development work within the school sector. Responsibility for various support measures for handicapped students within the school system is vested in the Special Education Institute.

The National Agency for Higher Education (NAHE) is a central agency responsible for matters relating to institutions of higher education. Its tasks include quality assessments, supervision, reviews, development of higher education, research and analysis, evaluations of foreign education and provision of study information. The Agency provides material that can be used to modify, improve and renew activities carried out within the higher education sector. The Swedish Government, through the Ministry of Environment, is coordinating the introduction and development of environmental management systems at a great number of public authorities and among those almost all universities, university colleges, NAHE and NAE. The Ministry of Education and Science has appointed NAHE as the responsible authority to assess and evaluate the yearly reports on the environment management system from each higher education authority.

The Swedish National Committee on Agenda 21 and Habitat encourages partnerships, mobilizes resources, provides information and assesses the needs of different population groups. The Environmental Protection Agency provides information and training on the environment together with other organizations it supports a local network with environmental know-how and information on Agenda 21. Legislation is passed by Parliament and the Government issues the Ordinances as well as general guidelines to various types of education. All regulations in law and ordinance for the Swedish education and higher education system are, as it relates to the environment, in line with Agenda 21.

The Higher Education Law states the general aims for higher education. In the Higher Education Ordinance, the obligation of the universities and university colleges to interact and co-operate with other parts of society, both public and private, is emphasized. Within higher education, a new system of allocating resources to undergraduate education was introduced as of the academic year 1993/94. Institutions of higher education are now allocated resources based on the number of students registered and their academic performance. This means that the role of the Ministry of Education and Science has changed from being responsible for the detailed planning to setting goals and assessing results in relation to the goals. Furthermore, the Parliament has in 1996 made a change in the Higher Education Act, emphasizing the obligation of the universities and university colleges to interact and co-operate, and to inform about its activities, to other parts of the society, both public and private.

In 2000 the Swedish Parliament strengthened the student's rights to be represented at all decision-making levels within institutions of higher education by deciding to introduce special paragraphs in the Higher Education Act and the Higher Education Ordinance. The Higher Education Act now states that the institutions of higher education

shall work for an active participation from the student's side in developing their education. Within all ministries of the Swedish Government, a strategy for working with an environmental management system similar to the ones of other governmental authorities has been developed and is now being implemented. The parts covering education within the National Strategy for Sustainable Development which is currently being processed stresses the need for taking all three parts of sustainable development into account: ecologic, economic and social sustainability. In order to support the overall goal of the Swedish Government to hand over a society to the next generation in which the major environmental problems have been solved, education and training including life long learning plays an important role. Municipalities are responsible for ensuring that schools function within the framework and according to the guidelines set by Parliament and the Government. Schools and teachers are responsible for the choice of teaching methods.

As the result of a number of consecutive central government commissions, the number of students in higher education has increased by almost 60 per cent during the 1990s. Special consideration has been given to increase the number of students in science and engineering. Since many years, the government has also given special attention to increasing the number of students from non-academic social backgrounds. In addition, the promotion of a more even distribution of gender in subjects with low proportions of students of either one of the sexes (e.g. engineering or nursing) is stressed. All these measures are part of a strategy to increase the social and economic sustainability of the society.

Within the formal education system, students associations as well as teacher worker unions are important groups involved in the development of education. Involving the students in the decision making process in school is an important training for democracy and is becoming more and more common. The involvement of students is practiced in the classroom situation as well as on a collective basis, with student representatives at different decision-making levels within the educational institution. The institutions of higher education have a high degree of autonomy in Sweden, and decide, for instance, on which different study programs to develop within each subject of education. Students have a substantial influence on decision-making, as well as the working unions of the university teachers, -both of these groups are represented at all decision-making levels within the institutions of higher education.

Major Groups that are members of the Agenda 21 Committee also participate in activities in this area. Sweden has a long tradition of so-called study circles, organized under a number of different and independent study associations, often in close co-operation with NGO's, including environmental and sustainable development NGO's. The study circles are based on voluntary work and interest, promoted by small grants provided by the Government through the study association, based on the number of participant in each circle. Its objective is to develop basic democratic values in society by giving all citizens the opportunity to develop their general knowledge and skills. Although the study circles can focus on almost any subject, many of them are being directly linked to environment and sustainable development issues. Therefore, study circles have become common as a means to promote the local Agenda 21 processes.

Programmes and Projects: The Government has decided that it is necessary to introduce new syllabuses for compulsory school and new programme targets for upper secondary schools. The National Agency for Education has adopted new syllabuses for both compulsory and upper secondary school education, including local authority administered adult education. Sustainable development has been taken into account in this connection. Since 1993, the National Agency for Education and the National Agency for Higher Education have operated the Science and Technology Project, which is designed to stimulate students' interest in this field. A new Science and Technology Project has now been set up and will run from 1999 to 2003; its main purpose is to seek to change attitudes and disseminate information.

The "Green School" Award

In formal education below university level a way of stimulating education for a sustainable society is being tried out in the form of a Green School Award. To be eligible for the award, a school must satisfy requirements governing its entire activities, that is, as a work place and as an educational establishment. At Green Schools the pupils and staff are committed to, and actively involved in, the move towards a sustainable society. Distinctive

features of Green School activities are involvement, awareness and knowledge of the relationship between man and nature from an environmental, social, ethical, aesthetic and cultural perspective.

In their work with environmental management systems, several institutions of higher education have taken a special interest in developing internal competence-rising courses on sustainable development for all its employees. Some institutions have been very ambitious in this, and have set up goals to have a certain percentage of its education devoted to sustainable development. Apart from this, as was stated above, all institutions of higher education have an obligation by law to inform the society on all its activities, including those on sustainable development.

Several cooperation bodies, e.g. centres in different subjects related to sustainability and environmental issues, have been set up mainly within or adjacent to the larger universities and university colleges which feel a need to develop cooperation between themselves and with other organisations. The aim of such centres can be manifold: to increase quality and effectiveness of education and research, to raise public awareness, or to carry out specific tasks pointed out by governmental or local bodies.

The Local Investment Programme, in total Billion Euro 0.8 is an important tool to promote sustainability in Sweden. Most of the investments are into different infrastructure but an important part is also to increase the awareness of all people involved in the process. There are also a number of projects dealing with behaviour changes that have received funding. One of these projects is Klimat.nu. This is a project that aims at reducing the emissions of green house gases on a voluntary basis among the citizens of Sweden. The Swedish National Committee on Agenda 21 and Habitat has carried out a number of activities to stimulate the local work with Agenda 21 and Habitat. A group consisting of thirty representatives from different NGO's, local authorities, business sector, trade unions etc. have been tied to the committee.

A number of different associations and NGO's are also carrying out innovative education, public awareness or training activities related to sustainable development that is targeting young people. These organizations play an important role to increase the knowledge regarding these important issues. Many companies and private business in Sweden are adopting different environmental managements standards. An important part in the process of receiving these certificates is education and awareness rising regarding relevant issues.

Status: One fundamental principle of the Swedish education system is - as stated in the Education Act - that all children and young persons must have access to equivalent education, regardless of sex, social and economic background as well as residential locality. Compulsory school and upper secondary school are both comprehensive schools, designed to accommodate all members of the coming generation, and all schools are co-educational and free of charge. The curricula for pre-school, compulsory and upper secondary education have nation-wide validity, and contain both values and goals.

The fundamental aims of the education system below university level may be seen from chapter 1 of the Education Act. Chapter 1, section 2 of the Education Act contains provisions concerning underlying values, emphasizing the importance of "... promoting respect for the value of the individual and respect for our common environment." In addition there are three nation-wide curricula that contain binding regulations for the school and thus steer its activity. It sets out the basic values of the school, its tasks and provides goals and guidelines for the school. It also states who is responsible for specific activities in the school and what this responsibility involves. It not only defines the obligations the State places on the school but also the demands and expectations pupils may have on the school as well as those that the school have on pupils. An international perspective in teaching is important in order for the pupils to see their own reality in a global context, to create international solidarity and to prepare them for a society in which contact is increasingly being made across national and cultural boundaries.

Teaching of basic environmental issues begins at early child-hood education, and more detailed theoretical and practical teaching is given at compulsory school level. Environmental studies in more depth are included as an integrated part of most subjects in upper secondary education, where more specialized subjects is covered. Not only teachers of biology, chemistry, physics and mathematics, but also teachers of history, geography, home economics, sport and health, religion and arts and crafts are involved in the environmental studies concept. Teaching should

also incorporate an ethical approach to the interaction between people and between man and nature. It is also emphasized that a good learning environment is important to health, creativity and concentration. The three National curricula, core curricula and syllabi include sustainable development in accordance with Agenda 21. However, the schools are still working to introduce and implement these intentions. Adult education in Sweden has a long history and options for further and recurrent education are available in many different forms throughout the country. Education for adults equivalent to the education conferred by the compulsory and upper secondary school is part of the public school system.

Achievement of a sustainable society will be easier if all people of all ages gain the insight, ability and will to act to this end. One of the reasons for giving state grants for popular education at folkhögskolor ("folk high schools") and studieförbund (adult education associations) is to enable people to influence their life situation and become committed to participation in the development of society. Popular education, particularly that provided by adult education associations, which has a unique ability to encourage participation among those involved, is also a way of reaching people not undergoing more formal education. The arrangements between these associations and popular movements and other groups, and their approach ("study circles"), render them particularly well suited for environmental studies, which require a broad perspective as well as the ability to work together to develop knowledge and skills and to reflect on conflicts, complications, conflicting aims and conflicts of interests etc. Adult education associations were a natural choice for inclusion in municipal Agenda 21 projects.

Measures to increase public awareness is also to spread through information nationwide via radio and television, and by information folders on practical issues in relation to every day life such as the sorting of household waste etc. Universities and university colleges promote ecological sustainable development by forming special study programs and courses on different issues of relevance for different aspects of sustainability. Some universities and university colleges have set up goals to have a certain percentage of their courses classified as being of environmental concern. The most important challenge is to transform the education system so that it will be fully geared to education for sustainable development in a way that it permeates all activities at educational institutions. It is important that the concept of ecological sustainable development is well integrated into regular courses and study programs. A new challenge is the decreasing numbers of young people going into studies in science and engineering. A number of measures to rectify this trend are planned, initiated both by the Government (Ministry of Education and Science), by NAE, NAHE, by the schools and by the institutions of higher education.

Information: The website of the Swedish Ministry for Education and Science has the following address: <http://utbildning.regeringen.se/inenglish/index.htm>.

The NAE website has the following address: <http://www.skolverket.se/english/index.shtml>. General information on higher education in Sweden can be found on the web site of the Swedish Institute: <http://www.si.se/> and on the website of NAHE: <http://www.hsv.se/english/>. General and comprehensive information on many sustainability issues, aiming at raising the public awareness in Sweden as well as abroad, can be found at the website of the Swedish EnviroNet: <http://smn.environ.se/miljonat/english/om-smn/om-smn.htm>

The Swedish Environmental Protection Agency (SEPA; website: <http://www.environ.se:8084/index.php3>) provides information and training on sustainability, especially on environment, to teachers and organizations. SEPA supports a local network with environmental know-how and information on Agenda 21. NAHE hosts an internet site for the SciTech project, aiming at stimulating interest in science and technology for school children: <http://www.hsv.se/NOT/english.html>. The homepage www.agenda21forum.org is the portal for Agenda 21-work in Sweden. The Association of Agenda 21 is a network with a number of stakeholders from National Government to business- and NGO-sectors as well as trade unions.

Research and Technologies: A strong increase of permanent resources for research in didactics and pedagogic methods has been proposed in a Governmental Bill, which was accepted by the Swedish Parliament in 2000 (prop. 2000/01:3).

In 1999 the Government established the Swedish Institute for Ecological Sustainability. The primary task is to serve as a bridge between researchers and those who apply these theories, such as industry, local governments and NGOs, within the framework for the government's efforts with local investment programmes.

The Centre for Sustainable Agriculture - The Centre for Sustainable Agriculture - CUL - is a focal point for researchers and institutions interested in research, development, education and information related to ecological agriculture. CUL co-ordinates activities and promotes co-operation. It takes an active part in the work of developing interdisciplinary research methods.

Financing: Information on financing can be found on the web sites given above.

Cooperation: Below only a few examples are given.

The Baltic Sea Project

BSP was initiated in 1989. The project is a network between schools in the region and universities, the municipalities, NGOs and other institutions. The educational approach is to achieve a balance between a holistic view and individual subject studies, change the role of the students from passive recipient to active constructor, change the role of the teacher from supervisor to a moderator or guide in the learning process and to use international co-operation as an inherent element of school work.

The MINT-Program

The Council of the Renewal of Higher Education was given the assignment by the Government to carry out the so-called MINT-Program in 1992. The overriding aim of the MINT-program is to support Swedish universities and their faculty in making environmental perspectives and issues of sustainable development an integrated part of the curriculum. For the most part this has been done in dialogue with the institutions and through project grants but also through seminars, conferences, this web site, national and international networking etc.

BALTIC 21

In March 2000 education ministers from the Baltic Sea region (Denmark, Finland, Estonia, Germany, Latvia, Lithuania, Norway, Poland, Russia, Sweden) met at Haga Palace to discuss an education sector network within the framework of Baltic 21. It was decided to build a sector network for education for sustainable development, and this was agreed upon in the Haga Declaration. The cooperation includes formal education from early child-hood education to municipal adult education, higher education and non-formal education. Lithuania and Sweden were made 'Lead Parties'. The goal is to present a report on the current status in the respective countries with respect to education for sustainable development and to present an action plan, an Agenda 21 for education for sustainable development. The Ministers of Education will meet again in the beginning of 2002 to decide on the action plan and future co-operation steps to be taken.

Baltic University Programme

The Baltic University Programme is a network of more than 170 universities and other institutes of higher learning in 14 countries in the Baltic Sea region, coordinated by Uppsala University, Sweden. The Programme covers questions of sustainable development, with special focus on environmental protection and democracy, to support the key role that universities play in a peaceful and democratic development in the region.

The COPERNICUS Charter

The COPERNICUS Charter is a comprehensive strategy for building a sustainable future, which is equitable for all human beings, as highlighted by the Rio Conference (UNCED) in 1992. The Charter states that such a strategy requires a new frame of mind and new sets of values. Education is critical for promoting such values and improving people's capacity to address environment and development issues. Education at all levels, especially university education for the training of decision-makers and teachers, should be oriented towards sustainable development and foster environmentally aware attitudes, skills and behaviour patterns, as well as a sense of ethical responsibility.

University rectors on behalf of their institutions must endorse the COPERNICUS Charter. More than one third of the Swedish state financed institutes of higher education have signed the Charter agreement.

Umeå School of the Environment

Umeå School of the Environment is a co-operation between the University of Umeå and the Swedish University for Agricultural Sciences. It has the purpose of co-ordinating, strengthening and renewing education as well as research within the environmental field. One ambition is to proactively foster collaboration between researchers and to build an atmosphere of inclusion of diverse perspectives. Important goals are to work for cross-boundary and multidisciplinary education and research that is of highest standard but also directed towards problem solving and practical applications. As a means to achieve these goals the contacts and communications are extended towards business, industry, policy and NGOs.

Centre for Environment and Sustainability

Centre for Environment and Sustainability, GMV, in Gothenburg, Sweden is a network organisation at Chalmers University of Technology and Gothenburg University. GMV creates and encourages research projects and multidisciplinary initiatives. Co-operation with the business region of western Sweden as well as information, and education to the public are within GMV's assignment. Both research and training is anchored in the existing scientific disciplines, and those doing environmental research work within their original departments. They are connected to the centre by a network. More than 300 scientists are connected at the present. All faculties at both universities are involved in multidisciplinary research for sustainability.

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CHAPTER 37: NATIONAL MECHANISMS AND INTERNATIONAL COOPERATION FOR CAPACITY-BUILDING IN DEVELOPING COUNTRIES

This issue has been covered either under Chapter 2 or under the heading **Cooperation** in the various chapters of this Profile.

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CHAPTER 38: INTERNATIONAL INSTITUTIONAL ARRANGEMENTS

This issue deals mainly with activities undertaken by the UN system.

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CHAPTER 39: INTERNATIONAL LEGAL INSTRUMENTS AND MECHANISMS

This issue has been covered under **Cooperation** in the various chapters of this Profile. However, you will find below a list of International Legal Instruments.

Sweden has a firm commitment to the development of international legal instruments aiming at sustainable development on the assumption that such instruments should contain precise and concrete obligations with implementation mechanisms and allow for follow-up measures. The following agreements and conventions are relevant to sustainable development and either predate the Rio conference or are yet to enter into force: the Vienna Convention (ratified 1986) and Montreal Protocol for the Protection of the Ozone Layer and its amendments (ratified 1988, 1991, 1993 and 1999), the Basel Convention (ratified 1991), the Antarctic Treaty (ratified 1984) and its Protocol on Environmental Protection, the Convention on Straddling Fish Stocks and the London Dumping Convention and the 1996 Protocol to the convention, the Framework Convention on Climate Change (ratified 1993), the Convention on Biological Diversity (ratified 1993), the Convention to Combat Desertification in those Countries Experiencing Drought and/or Desertification, Particularly in Africa (ratified 1995), Stockholm Convention on Persistent Organic Pollutants, Pops (in the process of ratification) and International Convention on the control of harmful anti-fouling systems on ships (in the process of ratification).

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CHAPTER 40: INFORMATION FOR DECISION-MAKING

Decision-Making: Fifteen environmental quality objectives as well as about a hundred targets form a framework for much of the environmental protection in Sweden, and for various information activities. The environmental quality objectives are annually followed-up (annual reports). An evaluation is published every fourth year. On the local administrative level, Sweden consists of 289 municipalities with a considerable degree of autonomy. On a regular basis the municipalities produce general plans and they are also developing local programmes for Agenda 21. The work towards sustainable development is supported by a National Committee on Agenda 21 and Habitat, and by the Association for Agenda 21 and Sustainable Development in Sweden <http://www.agenda21forum.org>.

In a pilot project, Statistics Sweden and the Swedish Environmental Protection Agency have produced a report on 'Sustainable development indicators for Sweden: a first set 2001'. The indicators are structured under themes named Efficiency, Contribution and Equality, Adaptability, and Values and resources for coming generations. Within these themes, the indicators encompass economic, environmental and social dimensions. The set is planned to be used in the on-going work with the national strategy for Sustainable Development (www.scb.se).

Programmes and Projects: In order to steer the development in a sustainable direction the Swedish Environmental Protection Agency has carried out a futures study known as "Sweden in the Year 2021". It has been conducted in close co-operation with the scientific community and other government agencies, as well as representatives of the agricultural, forestry, transportation and other sectors. (Sweden in the year 2021: toward a sustainable society: a future study by the Swedish Environmental Protection Agency – Stockholm: Swedish Environmental Protection Agency, 1999) (www.environ.se). The Swedish Environmental Protection Agency is responsible for environmental monitoring activities, including defining conditions to effectively meet targets previously set. "Bridging the Gap", an international conference on the link between research and policy, was arranged in Stockholm, 9-11 May 2001. Sweden has also actively supported the development of a regional Agenda 21 for the Baltic Sea Area, Baltic 21. <http://www.ee/baltic21/>

Status: No information available.

Capacity-Building, Education, Training and Awareness-Raising: The implementation of the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (the Aarhus Convention) can be expected to further facilitate the awareness of sustainable development matters.

The Swedish EnviroNet facilitates access to data and information on the Swedish environment and the environmental work in Swedish governmental agencies, companies and NGOs.

<http://www.smn.environ.se/miljonat/english/index.htm>

The library of the Swedish Environmental Protection Agency has a national responsibility for environmental protection literature, including literature on sustainable development.

<http://www.internat.environ.se/index.php3>

Examples of intensified efforts of informing the public or various groups of people:

- Collection of products and goods containing mercury in order to remove mercury from its flow in society;
- Collection of all kinds of consumer batteries; and
- Information about the environmental quality objectives.

The Association for Agenda 21 and Sustainable Development in Sweden is a non-governmental organization. Its aim is to promote Agenda 21 work in Sweden at all levels. Special attention is given to the local level. This web site is intended to be a forum for all collaborators in Sweden's Agenda 21 work from the public sector, organizations and the business sector. <http://www.agenda21forum.org>.

Information: Environmental monitoring is divided into ten programme areas: air, coast and sea, fresh water, wetlands, toxic substances coordination, mountain areas, forest, agricultural land, health-related environmental monitoring, and landscape. It can be made on national as well as on regional level. Data and information obtained through monitoring are stored by a number of data hosts.

<http://www.internat.environ.se/documents/issues/monitor/modoc/export/2-00E.pdf>

The Swedish Association of Local Authorities has developed twenty-five key indicators, measures of development towards an ecologically sustainable society.

<http://www.svekom.se/skvad/indexeng.htm>

Research and Technologies: No information available.

Financing: The funding allocated to environmental monitoring by the Swedish Environmental Protection Agency amounts to 84 million SEK for year 2000 and 109 million SEK for year 2001.

Cooperation: A great deal of monitoring data and information is reported to various international organizations and convention secretariats, including the European Environment Agency.

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INDUSTRY

Decision-Making: The focus of industry policy is to support a sustainable growth. The Swedish Business Development Agency (NUTEK) has a so-called sector responsible for sustainable development within the industry sector.

Programmes and Projects: Since 1996 NUTEK has i.e. worked with supporting the introduction of environmental assessment systems in small and medium sized enterprises (SMEs) and has in 2001 started a work aiming at to support environmental business development. This work is based on an integrated product policy (IPP) approach. The attention is focused on the preconditions for SMEs to consider environmental aspects Swedish green industries in the sense of industries producing environmental technology have a total turnover of approximately 15-20 billion SEK (2-2,5 billion USD) per year, and have 15.000-20.000 persons employed. "Environmentally driven" industries with large potential for development of technologies are more difficult to quantify in number, but will be more important in the long run. Means to promote green industries are: public procurements strategies on the local, regional and national level, a delegation on environmental technology procurement, which has been operating since 1996/97, and promotion of environmental management both in private companies and public institutions.

Status: The principal threats to human health of natural resource use associated with industrial activity in Sweden are: greenhouse gas emissions (energy intensive industry), hazardous waste (several sectors, including chemical plants) and waste (historically related to the construction sector, but new measures are being developed to minimize waste from construction in Sweden). Pollution of freshwater by industry is not a major problem. The Swedish sewage plants receive most of the wastewater. Permits according to environmental laws regulate pollution levels. However, recently Sweden faced a major pollution problem. While building a tunnel through Hallandsåsen in the south of Sweden, a large amount of acrylamid, intended to make the tunnel water proof, leaked out into the freshwater in the local area.

Capacity-Building, Education, Training and Awareness-Raising: No information available.

Information: No information available.

Research and Technologies: The comprehensive goal of Swedish enterprise policy is to support a sustainable economic growth and increased employment through an increased number of companies and growth of companies. Within this framework there is a work aiming at facilitating for small and mediums sized companies to consider environmental aspects and utilize the business possibilities based on i.e. environmental driven product development. The Swedish Business Development Agency (NUTEK) and The Swedish Agency for Innovation Systems (VINNOVA) are the central governmental authorities for the support of growth in industry.

Financing: No information available.

Cooperation: Sweden is supporting sustainable development in the Baltic region by participating in the project Baltic 21 – Industry that is a sub-project to the Baltic 21 project. The Swedish government has deposited 40 millions SEK for supporting Swedish industry projects supporting sustainable development in the candidate countries.

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SUSTAINABLE TOURISM

Decision-Making: The Ministry of Industry, Employment and Communications and the Swedish Tourist Authority, together with the Swedish Environmental Protection Agency, are responsible for sustainable tourism at the national level. At the local level responsible bodies are local authorities, County Councils, and County Administrative Boards. The Swedish Tourist Authority has developed the National Strategy on Sustainable Development for the Swedish Travel and Tourism Industry. In the strategy, sustainable tourism includes ecological, physical, cultural and economic sustainability. The strategy also addresses eco-tourism and nature-based tourism. Government guides tourism towards sustainability by instructions, and the Government Bill on sustainable development in the mountain region of Sweden addresses tourism issues. Furthermore, Baltic 21: Agenda 21 for the Baltic Sea Region deals with sustainable tourism.

Deterrents to check control or penalize damaging environmental practices on the part of businesses and visitors are found in Swedish legislation. Environmental regulations do not contain special provisions concerning tourism with the exception of one passage in the environmental regulations on the registration of nature-based tourism business in vulnerable areas. The Environmental Code covers general environmental legislation that also affects tourism. In Sweden, everyone has the legal right to access to private land (known as 'every man's right'). Most people are fully aware of this traditional legal right. The work of the Swedish Tourist Authority on sustainable tourism tries to influence all relevant Major Groups. Local authorities and the hotel sector cooperate in various ways in promoting sustainable tourism. An example is a hotel certification in Borlänge.

Programmes and Projects: Most of the local and regional organizations as well as branch organizations have programs and projects for environment protection. Many regions are currently implementing labeling systems. Increase of tourism on the basis of nature, landscape and sound environment. The area of 'Höga kusten' in northeastern Sweden, a 'Life project' on quality mark destination, Environmental indicators in "Sånga-Säby", and environmental work on a tourist facility in 'Grövelsjön' (the Swedish mountain region) represent examples, which are geared to sustainable tourism and to eco-tourism and nature-based tourism. Höga kusten, Särna, Idre and Grövelsjön represent national "model sustainable tourism destinations". The Eco-tourism Association, in co-operation with the Swedish Tourist Authority, is developing a labeling system for Eco-tourism. Introduction will be in 2002. On national level, work has been done for the special protection of the mountain areas and the archipelagos. The Swedish Tourist Authority has together with the National Board of Forestry, and with the National Board of Fisheries developed strategy reports for the use of the resources in connection with tourism.

Status: When using the satellite account model to calculate the tourism sector represents 2,8 percent of GNP and employs 108 000 people with a turnover of SEK 125 billion in 1998. We do not work with estimates or forecasts, however, indications are that the growth in the tourist sector is just above the development of the total economy compared to the last decade. Tourism has little impact in Sweden on other issues related to sustainable development, since there is no mass tourism.

Capacity-Building, Education, Training and Awareness-Raising: There is 1 907 hotels with 96 109 rooms and 188 319 beds in Sweden. To that can be added 307 holiday villages with 11 107 rooms and 49 853 beds, 311 youth hostels with 17 021 rooms and 700 camping sites with about 100 000 pitches and 10 000 cottages. New hotels are being built into the center of Stockholm, Gothenburg and Malmö.

Sustainable tourism is part of most higher tourism educational programmes at university level in Sweden. Examples are Karlstads University, Dalarna University and Mid-Sweden University. Linköping University has a special programme on nature-based guiding. There are also special courses on fishing and nature at high-school level. Eco-tourism and nature based tourism are promoted by the travel and tourism sector initiatives such as promotion drives and campaigns. The Swedish Travel and Tourism Council (STTC) provide information on how to behave as a tourist in Sweden. The Swedish Environmental Protection Agency (SEPA) together with STTC have worked with information and campaigns using material produced and distributed by the STTC. However, the Council does not promote sustainable tourism per se. The Swedish Travel and Tourism Council distribute special catalogues on fishing and nature-based activities. Furthermore, HELCOM (Helsinki Commission), Baltic 21, and IIEE

(International Institute for Industrial Environmental Economics) work with issues related to awareness raising on sustainable tourism. A number of small and medium size enterprises market tourism to environmentally-conscious tourists.

Information: The Swedish Tourist Authority work programme on sustainable tourism in the travel and tourism industry provides information to assist both decision-makers and the tourist industry in promoting sustainable tourism. At the national level there are no direct procedures to monitor continuously the progress of tourism development in order to make the necessary corrections or revisions to ensure sustainability. However, trade associations, for example, monitor the development in the hotel and restaurant sector. Mapping and inventorying of natural resources and ecosystem characteristics in tourist areas has been undertaken by SEPA in the mountain areas of Sweden. Sustainable development indicators are being developed within some projects. For example, indicators for a green destination are being developed in Höga kusten Life project, and in Särna, Idre, Grövelsjön project. Information on sustainable tourism is available from Swedish Environmental Protection Agency.

Research and Technologies: The Swedish tourism research institute, ETOUR, at Mid-Sweden University, teaches sustainability and the use of nature as one of four research programs. (The other three are economy and the growth of enterprises, the development of destinations and the use of culture.) Waste-disposal at the Grövelsjön mountain resort, recyclable hotel rooms in the Scandic Group of hotels, key ratios at Sångå-Säby conference hotel, and key ratios organized by the trade organization SHR (Swedish Hotels and Restaurants) for the management of water, waste and energy are examples where modern technology is used to promote sustainable tourism.

Financing: Activities on sustainable tourism are being financed by regional funding from the EU, and by contributions from local authorities.

Cooperation: All of Sweden hundreds and thousands of local and regional initiatives and projects are related to co-ordinate activities and knowledge on the theme of sustainable tourism. Together with our neighbor countries Sweden is an active part I Baltic 21 work and in HELCOM.

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