

## **FRESHWATER COUNTRY PROFILE**

### **SWEDEN**

#### **Decision-Making**

#### **Programmes and Projects**

- A. Integrated Water Resources Development and Management
- B. Water Resources Assessment
- C. Protection of Water Resources
- D. Drinking Water Supply and Sanitation
- E. Water and Sustainable Urban Development
- F. Water for Sustainable Food Production and Rural Development
- G. Impacts of Climate Change on Water Resources

#### **Research and Technologies**

#### **Financing**

#### **Cooperation**

**Decision-Making:** EU Water Framework Directive and other instruments for improved water quality in Sweden. On 31st March 2004 the Swedish Parliament decided to introduce a new integrated, river basin management in Sweden, based on 5 river basin districts. This new water management includes the requirements of the EU Water Framework Directive and is also an important step towards the establishment of integrated water resources management and water efficiency plans (IWRM) by 2005 according to the commitments of the Johannesburg Plan of Implementation (JpoI).

A good base for the river basin management has been created during the last years thanks to the structure of National Environmental Quality Objectives and Interim Targets. The river basin management will be based on the existing administration (County Administrative Boards) but a new kind of co-operation including regional authorities and municipalities will be required. A main obstacle for this co-operation is the lack of time and resources at the municipalities.

During 2003/04 the Swedish efforts to develop an approach to the marine questions have been intensive. Proposals from the Commission on the Marine Environment are now discussed and will probably result in a national marine strategy, linked to the EU Marine Strategy and the regional conventions (HELCOM etc.).

*National environmental quality objectives:* In 1999, The Parliament adopted 15 National Environmental Quality Objectives which set forth the state of Sweden's environment which is necessary for sustainable development. Also in this area, regional and local efforts are prominent. Many of the objectives concern sanitation: Zero Eutrophication, A Balanced Marine Environment and Flourishing Coastal Areas and Archipelagos, Flourishing Lakes and Streams, Good – Quality Groundwater, Thriving Wetlands, A Non – Toxic Environment and A Good Built Environment.

One of the 15 national environmental quality objectives, adopted by the Parliament 1999, “The Non-Toxic Environment”, was further outlined in the new Swedish Chemicals Policy, adopted by the Parliament 2001. 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. The National Chemicals Inspectorate (KemI) is responsible for the implementation of the policy. Since a powerful and far reaching chemical legislation in EC (REACH) is a prerequisite for such an implementation, Sweden allocated heavy resources in the preparations of the proposal and will continue to do so in the negotiations to come.

*Plant protection products:* 2004 the EC commission will present a proposal for revision of the plant protection product directive, 91/414/EC, and to a thematic strategy for sustainable use of plant protection products. The strategy will be based on the Nordic experiences in risk reduction in the area of plant protection e.g. national management programs, broad cooperation between stakeholders and the use of economic tools. The Nordic Ministers of environment have made EC commission aware of the importance of an overall framework of legislation where the rules for approval and use are coordinated.

*Freshwater resources:* The EC water framework directive (WFD) included 2001 a list of 33 substances, currently assessed according to their classification as being prioritised substances or prioritised hazardous substances. The classification will affect the actions to be taken. Further work is performed on developing water quality standards for the substances as well as control

programs. Within the year 2004 new substances to be included should be identified and decided upon.

*Environmental Code:* Swedish environmental legislation has been reformed. The central environmental acts have been amalgamated into the Environmental Code, which came into force on 1 January 1999. The Environmental Code comprises coordinated, stringent and broad environmental legislation with a view to promote a sustainable development that ensures a healthy environmental impact on both the current and future generations. The Environmental Code contains a number of general rules of application that assert, for example, the precautionary principle, polluter pays principle, product choice principle and principles regarding resource management, the ecological cycle and suitable localisation of activities and measures.

Legislation acts as a preventive tool because it enforces binding demands on someone running a business or operation or is taking action to gain knowledge on the environmental effects of such activities and applies the principle that the risks of environmental impact should be borne by the polluter and not by the environment. All in all, this means in many cases that the regulations that were part of previous environmental legislation now have a new and broader application.

*Protection of drinking water-bodies:* Some of the governmental newly adopted environmental quality objectives and interim targets are focused on the protection of water-bodies used or intended for the abstraction of drinking-water. Some of the interim targets are: “by 2009 water supply plans, including water protection areas and protection regulations, will have been adopted for all public and large private surface water sources”. “By 2010 long-term protection from development activities that restrict water use will be provided for water bearing geological formations of importance in meeting present and future water supply needs”. “By 2010 the use of land and water will not cause changes in groundwater levels that adversely affect the water supply”. “All bodies of water used for the abstraction of water intended for human consumption, and providing more than 10 m<sup>3</sup> a day as an average or serving more than 50 persons, will meet the Swedish standards for good-quality drinking water with respect to anthropogenic pollution.”

Many of these targets are stronger than the environmental objectives of the EU water framework directive.

*Challenges and obstacles to implementation:* Sweden is just now implementing the EU water framework directive into Swedish legislation. Through the directive the river basins district shall make programmes to measure how to protect waters used for the abstractions of drinking water.

The Swedish Environmental Protection Agency (EPA) has produced general advices and a handbook about how to protect important drinking water resources.

In spite of hard work there is still much to do to reach all the environmental quality objectives for surface- and groundwater-bodies. An intensive agriculture makes it hard to reach some of the targets for the protection of drinking water bodies. Solving the problem depends on the developing of CAP. There is also a conflict concerning the use of eskers in Sweden which are very important for the abstractions of drinking water and the use of the eskers as gravel

abstractions on the opposite.

The land use planning system does not always give the priority to protect important drinking water bodies. Because of other opposite interests it is also hard to protect large lakes and other water-bodies which can be used for the production of drinking water.

Many of the central authorities in Sweden are involved and are responsible, within their area of responsibility, to reach these objectives. E.g. the Swedish road and traffic authority is responsible to minimize or to stop the pollution from storm-water into drinking-water bodies. The Swedish geological survey is involved in the development of these targets.

**Programmes and Projects:** *Local Investment Programmes (LIP)*: In 1998 the Swedish Government launched the Local Investment Programmes to accelerate progress towards a sustainable society. To enhance this effort, the Government in 1999 established the Swedish Institute for Ecological Sustainability with the mandate to support and stimulate local authorities in implementing the Local Investment Programmes. In addition to major environmental improvements, such as reduced emissions, lower energy consumption and better waste disposal, the Local Investment Programmes also provide other results. One example of the results is better cooperation between local authorities and local actors. The knowledge and experience which is gained provide vital tools in efforts to reach the environmental quality objectives.

**Time-bound targets and commitments:** The Swedish Government has resolved to earmark a total of MSEK 6,2 (approximately EURO 0.671bn.) in the period 1998-2002 for the support and encouragement of local investment programmes for sustainable development within Agenda 21. Almost 600 MSEK (nearly ten percent of the total foundations) have been used to measures to improve water and sewage systems.

**Integrative perspective of the three dimensions of 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.

Recommendations for the future is given in the report: “Local Investment Programmes are an exercise in democracy, in which initiative and responsibility are delegated to the structure of the local society. LIP have also fostered close cooperation between various local stakeholders. Hence, the LIP concept is in itself an interesting export product, which could help to communicate the idea of sustainability to countries where environmental issues currently play a subordinate role. If there is a desire to market LIP as a concept internationally, this should be coordinated and, as far as possible, integrated, with other relevant projects that Sweden is conducting in the environmental field. The work conducted jointly with Swedish International Development Cooperation Agency is of particular importance for projects in developing countries.”

A series of evaluation reports on the results and effects of LIP will be published within the years 2004-2005. One of these evaluations is about small sewage systems.

([www.naturvardsverket.se/lip](http://www.naturvardsverket.se/lip))

- A. Integrated Water Resources Development and Management: No information available.
- B. Water Resources Assessment: No information available.
- C. Protection of Water Resources: No information available.
- D. Drinking Water Supply and Sanitation: No information available.
- E. Water and Sustainable Urban Development: No information available.
- F. Water for Sustainable Food Production and Rural Development: No information available.
- G. Impacts of Climate Change on Water Resources: No information available.

**Research and Technologies:** *Sustainable Urban Water Management*: “Sustainable Urban Water Management” (Urban Water) is a six-years research programme intended to answer questions like whether, in order to attain sustainable development, we must replace the existing urban water systems, or whether it might suffice just to improve them? The Urban Water programme is financed by The Foundation for Strategic Environmental Research (MISTRA), total budget MSEK 100, and aims at developing support for strategic decisions on the future sustainable systems in Sweden.

The Programme has adopted the following general vision for sustainable urban water management: "Every human has a right to clean water. For urban areas our vision is water management where water and its constituents can be safely used, reused and returned to nature."

These are examples of questions we can help to answer:

- Are open storm water solutions sustainable?
- Are food waste disposals environmentally sound?
- Should brown and green areas use local wastewater management systems?
- Wastewater systems – sorting or conventional?
- How should we treat sludge?
- How should we purify drinking water?

The Urban Water approach is to develop criteria for sustainable water and wastewater systems, reflecting the multi-disciplinarity needed for comprehensive understanding and analysis. Five groups of criteria are being used, focusing on health and hygiene, the environment, economy, socio-culture, and technical function. Models and assessment methods – the Urban Water toolbox - are being developed and tested for each criteria group. These criteria and methods are the fundamentals of the systems analysis used in the programme.

The systems analysis is applied to ‘model cities’. Five such model cities, typical to Sweden, have been chosen: the newly built area, the city centre area, the suburban area, the country town, and the urban enclave. The model cities are central in the Urban Water systems analysis. They provide local technical and organisational contexts and they form natural meeting places where local actors meet the researchers. In the model cities the senior systems analysis researchers interact with the PhD students. The results from the model cities will form the basis for the Urban Water syntheses.

The Urban Water toolbox is a major component. The toolbox contains models and methods to enhance comparative sustainability assessment of different water and wastewater systems. It will be applied and developed in the model cities. The toolbox comprises both tools and methods related to the five groups of criteria. A method meant to support decision-makers, or supporting a stakeholder dialogue, is also a part of the toolbox. A multi-criteria decision aid (NAIADE) meant to support decision-makers, or supporting a stakeholder dialogue, is also a part of the toolbox.

NAIADE helps them to synthesise and integrate results from the many subject areas within the programme. It is based on structured discussions and conflict management. Input data may be both quantitative and qualitative. For more information [http://www.urbanwater.org/default\\_eng.htm](http://www.urbanwater.org/default_eng.htm)

**Financing:** See programmes and projects.

**Cooperation:** Goal: The Swedish policy for global development aims at contributing to a equitable and sustainable development on a global level. This aim applies to all policy areas of the Swedish Government. The policy focuses on poor people's need in poor countries. The policy shall contribute to the fulfilment of the Millennium Development Goals. The objective of Swedish development co-operation is to contribute to the eradication of poverty through enabling poor people to improve their livelihoods.

The Swedish support to integrated water resources management aims at achieving an efficient and effective management, and equitable use of water resources to directly benefit people, especially the poor, while safeguarding the environment and its ecosystems. The provision of appropriate and safe and reliable water supply is essential in this regard.

Swedish support to water is intimately related to environmental protection and management - particularly integrated water resources management - and the improvement of health and livelihoods through integrated water supply and sanitation services. These areas have been, and continue to be, priority areas for Swedish development cooperation.

*Problem definition, challenges for the implementation:* For human survival, health and dignity, safe drinking water and sanitation and good hygienic conditions are essential. Experience and research show that improving access and quality of water supply alone has limited effects on health status, and that this must necessarily be combined with improved sanitation and hygiene practices. Sida, therefore, places great emphasis on supporting activities that integrate water, sanitation and hygiene promotion.

The lack of access to and the poor delivery of services of water and sanitation in many developing countries is a major threat to poor peoples health. Sanitation is in practice often not seen as a responsibility for public bodies, although regulatory regimes suggests that it is the case. Run-down and inefficient public delivery monopoly utilities leaves many poor people to solve their sanitation problem by their own.

Today it is estimated that 1.1 billion people do not have access to safe drinking water (WHO/UNICEF/WSSCC 2000: Global Water Supply and Sanitation Assessment 2000 Report). In order to reach the MDG and the target on developing integrated water resources management and water efficiency plans, and their subsequent implementation, substantial effort needs to be done to reform the management of water resources and the water supply and sanitation sector in order to bring in new capital and competence.

*Sida interventions and emerging issues from Johannesburg:* In its work with sanitation Sida highlights the following areas:

Integrated management of water resources, including internationally shared water resources.  
Coastal zone development and marine initiatives.

Scaling up of water supply and sanitation projects and programmes at national, regional or city-level.

Methodology development in ecological sanitation, water demand management and other strategic areas as part of a system for sustainable water supply and sanitation.

Global and regional policy development, focusing on creating an enabling environment for efficient water service delivery and restructuring of the water and sanitation sector as well as the management of the water resource to reach the development goals.

Institutional reforms and improved water and wastewater services in cities, particularly focusing on public-private partnership for operation and financing of utility services.

Strengthening of civil society including NGOs and CBOs in management of water resources and for improved delivery of water and sanitation services to the poor.

Sweden is committed to support partner countries in their efforts to achieve the MDGs and targets agreed on in the Johannesburg Plan of Implementation (JPOI) related to water. The Swedish support is based on priorities made by a partner countries. The identification of water as a priority in the Poverty Reduction Strategy or similar document is often a prerequisite for Swedish support to the sector. The sector also has to be given priority in the Country Strategy that provides guidance for the cooperation between Sweden and a particular partner country. Sweden supports a sector wide approach and harmonisation between development partner to facilitate for the partner countries to coordinate and make efficient use of external and internal resources, particular linking up to domestic capital markets for funding of investments.

Sweden also supports the efforts related to relevant MDGs and targets in JPOI in its multilateral and global cooperation. Examples of such support is the general support to the Global Water Partnership which has developed modalities for integrated water resources management and efficiency plans, and support to a number of countries in their efforts to develop such plans. Support has also been provided to the EU Water Initiative and related funding mechanisms aiming at assisting partner countries in the achievement of the MDGs and targets in JPOI. Another example is the special support to the water policy function at UNDP which plays an instrumental role in the UN system in relation to monitoring the achievement of the targets. The Swedish support to the India based Water and Sanitation Programme is also worth mentioning. This programme aims at introduce fundamental reforms on the municipal level to improve accountability, community participation, in the service delivery process of utilities.

The Swedish International Development Cooperation Agency (Sida) has recently published a new Strategy on Water Supply and Sanitation ("Pure Water", January 2004) which emphasises the three dimensions of sustainable development. The Strategy will provide guidance in all activities funded by Sida and will be shared with partner countries and other partners.

The Strategy also emphasises the importance of proper institutional development and capacity building in all types of projects and programmes. An appropriate institutional framework, including clear delineation with regard to responsibility for water and sanitation and hygiene education respectively, is often a prerequisite for a successful intervention. The delineation between regulatory and implementation functions, especially in urban areas, is of equal

importance. Education activities related to awareness of water, sanitation and hygiene issues should be part of the curriculum in primary and secondary schools. Sida also provides support to International Training Courses, and research and higher education related to water.

In the design and development of support to partner countries, it is important to ensure that such support is based on a genuine national and local ownership. This implies that central and local government as well as the civil society are empowered, engaged and committed. Stakeholder participation through democratic structures is often a prerequisite for sustainable institution for management of water resources. At the local level, interventions should include an assessment of the consequences for men, women and children, and their respective roles and responsibility. The short- and long-term impact of the HIV/AIDS pandemic has to be taken into account when interventions are planned, implemented and followed-up. Local mobilisation of resources, especially for operation and maintenance, is essential for the long-term sustainability of interventions. This implies that there will often be a gradual development of the level of services as the availability of locally available resources increase.

The partner countries often have a situation of scarcity of water. The situation is expected to be further aggravated through continued population growth, increased urbanisation and impact of climate variations. Therefore, central water resources management issues such as protection of the scarce water resources and demand management, have to be in focus so as to safeguard long-term sustainability. This applies on national level where proper institutions, often based on a basin approach with proper stakeholder participation, have to be established and strengthened. At an international level, where many people live in internationally shared water systems, management systems have to be in place that can provide a framework for cooperation, sharing of benefits and prevention of conflicts. Sweden supports such cooperation efforts mainly in Southern and East Africa.

*Channels:* Sida works through different channels. Multilateral co-operation is well developed with institutions like UNDP, UNICEF, World Bank in multistakeholder initiative such as Water Supply and Sanitation Programme and others. Bilateral interventions are often designed to address sector-wide approaches and are sought to be implemented through co-ordination with other actors like bilateral donors, NGOs and the private sector. Smaller organisations are co-ordinated within an umbrella organisation called Forum Syd (Forum South). Although these organisations contribute 20% of their own collected funds, Sida normally bears 80 per cent of the cost. Sida also co-operates with organisations like universities and research institutions.

*Disbursements:* 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, Rio and Johannesburg 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.

During the period 1998 – 2003, Sweden has, through Sida, disbursed approximately a total of 2.9 billion SEK (approximately 315 million EURO) for bilateral development cooperation in water resources management and water supply and sanitation. A more comprehensive account of this

support during the period 2000-2003 is provided below. In addition to this support, Sweden has provided support through the EU, the UN system and development banks with water and sanitation on their agenda.

**TO TAL Sida DISBURSEMENT to water projects 1998-2003, SEK**

**TOTAL**

<b>Region</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Africa	142 532 856	156 283 659	135 609 905	115 165 935
America	17 808 092	28 000 039	15 514 420	9 041 386
Asia	143 339 978	287 183 485	182 509 362	159 379 963
Central & Eastern Europe	49 654 391	34 553 899	59 026 033	66 987 510
Europe	20 017 275	878 536	1 680 000	1 800 000
Global	92 811 804	130 430 063	87 395 127	44 831 434
<b>Grand Total</b>	<b>466 164 397</b>	<b>637 329 681</b>	<b>481 734 848</b>	<b>397 206 228</b>

**WATER SUPPLY AND SANITATION**

<b>Region</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Africa	103 966 936	115 431 983	63 129 092	40 873 212
America	5 480 491	22 190 503	13 067 419	5 032 416
Asia	99 854 184	252 962 674	143 912 745	127 895 482
Central & Eastern Europe	48 415 488	33 512 277	57 122 537	66 595 279
Europe	20 000 000	749 029	0	0
Global	3 205 473	15 764 712	13 986 370	10 244 532
<b>Grand Total</b>	<b>280 922 573</b>	<b>440 611 178</b>	<b>291 218 164</b>	<b>250 640 922</b>

**WATER RESOURCES MANAGEMENT INCLUDING MARINE ISSUES**

<b>Region</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Africa	38 565 920	40 851 676	72 480 813	74 292 723
America	12 327 601	5 809 536	2 447 001	4 008 970
Asia	43 485 794	34 220 811	38 596 617	31 484 481
Central & Eastern Europe	1 238 903	1 041 622	1 903 496	392 231
Europe	17 275	129 507	1 680 000	1 800 000
Global	89 606 331	114 665 352	73 408 757	34 586 902
<b>Grand Total</b>	<b>185 241 824</b>	<b>196 718 503</b>	<b>190 516 684</b>	<b>146 565 307</b>

\* \* \*