Sida Evaluation 00/41

Three Water and Environment Projects in Estonia, Latvia and Lithuania

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Foreword

This report is based on a review of three environmental investment projects: in the Estonian town of Haapsalu, in Liepaja, Latvia,and in Klaipeda, Lithuania. The projects were three of the first examples of investment projects in the environmental sector in the Baltic Sea Region, co-financed by Sida.

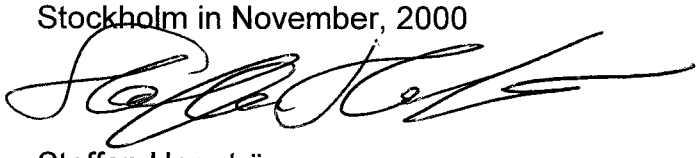
Sida routinely commissions independent evaluation specialists, to review support to projecs, draw conclusions and present recommendations. A review serves as one of several inputs when monitoring and assessing projects and planning and initiating new efforts.

The authors, Bastiaan de Laat, Philip Sowden, Erik Arnold and Catherine Whitelegg from Technopolis, and Leila Chennoufi, Philippe Jean and Ian Willson from Woodward Clyde International/URS, visited the tree projects, met with involved parties and reviewed the results. The evaluation was performed between mid-1999 and mid-2000.

The views and interpretations expressed in the report are the responsibility of the the authors.

We wish to thank the evaluation team, the project partners and the co-financiers for their work and participation in the review process.

Stockholm in November, 2000



Staffan Herrström
Head of Department for Central and Eastern Europe

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Executive Summary and Main Conclusions

This report contains the results of the evaluation of the contribution of the Swedish International Development Cooperation Agency (Sida) to three Baltic environmental projects in the towns of Klaipeda (Lithuania), Liepaja (Latvia) and Haapsalu (Estonia). The evaluation was performed by a team of evaluation specialists from Technopolis (France and UK) and engineers from WCI – Ecoconcept (France).

The three projects were part of the 'hot spots' defined by the Helsinki Commission – sites with a particularly high discharge into the Baltic Sea. The prime aim of the three projects was to decrease environmental pollution. They were the very first of a series of Swedish co-funded projects in former Soviet States, the aid to which was voted by Swedish Parliament in 1992. The three projects were set up in a similar way. For each, a feasibility study was conducted, followed by a Staff Appraisal Report by World Bank. Each SAR defined different project 'components' subsequently to be financed by the different financiers involved. From the financial point of view, the projects were governed by a World Bank loan agreement and Sida (and/or other financiers') grant agreements with the three recipient countries. The Baltic States' national Governments also contributed considerably to the funding of the three projects. Locally, each project was managed by a 'Project Implementation Unit' (PIU), formally dependent on the respective water enterprises.

Sida's major contribution to the projects concerned the provision of grants in order for the local water enterprises to procure goods (equipment) and services (construction) from Swedish companies, to improve wastewater treatment works. Sida's second major contribution was in financial support to 'twinning,' i.e. collaboration between Baltic and Swedish water companies, in view of improvement of technical overall performance of the water enterprise through changes in its operational and financial management practices. Apart from technical improvements in the water works, and, *in fine*, decreasing discharge to the Baltic Sea, Sida's overall objective was to induce institutional change, thus assisting the Baltic States in the transition from a Soviet to a market economy.

The purpose of the evaluation was to review the results achieved in the three wastewater treatment projects. The Swedish aid to the projects, in the form of grants, totalled approximately 94 MSEK. This was around a quarter of the total project funding (other main funding organisations were World Bank and Finland). Of this sum, 12 MSEK were destined to the Haapsalu project, 38 MSEK to the Klaipeda project, and 49 MSEK to the Liepaja project. These grants have covered equipment delivered by Swedish suppliers, twinning arrangements with Swedish water utilities, and design and construction supervision.

The evaluation covered elements of a very different and heterogeneous nature. That is, the projects have a strong technical component and therefore a technical assessment was part of the evaluation. However, the evaluation also had to investigate the wider political contexts and the relation to co-financiers, and local and national stakeholders. Finally, socio-economic and financial aspects, and issues of project organisation, co-ordination and administration have been taken into account.

Through the environmental projects an important learning process has been established. The projects have not only been important for the local companies and persons involved but also for Swedish twinning partners and contractors, as well as for Sida itself. The different parties involved in the projects have learned to work with each other, which has not always been self-evident or easy, and several technical, financial or management barriers have been encountered and were in the majority of cases overcome by the partners involved. Several observations that were communicated to Sida by the evaluation team during the course of the evaluation appeared to already have been put in

practice in new projects that started after these three. So, Sida had clearly been capitalising on its projects, albeit in an implicit manner. We think that learning could have been more rapid if the three initial projects would have been monitored more closely. It is not sure however that current manpower at Sida's Department for Central and Eastern Europe would have allowed for such closer monitoring.

The main conclusions of the evaluation are as follows.

Relevance, efficacy, added value

The Swedish contribution has been highly relevant, since it allowed the municipalities to construct most of the wastewater treatment plants in each of the three towns. Other financiers would not have been able to fund this, and a World Bank loan alone would not have allowed to provide for enough funds to reconstruct entire plants. The Swedish grants levered funding from other financiers, neighbouring countries and today also European ones. Thus, the sum of financing is more effective than what bilateral funding could have achieved.

The efficacy of the projects was good. Even if not all three projects have always been running smoothly, today each of the three towns has a wastewater treatment plant in operation, with environmental performances that in all the cases are satisfactory and often close or identical to European standards. Without Sida's financial contribution (and in the absence of an alternative financier able to provide similar funds), the plants would not have been constructed or improved, and pollution to the Baltic Sea would undoubtedly have proceeded at the same rate as before.

The Swedish contribution has been relevant especially for the water enterprises, since they lead to a better environmental and financial performance. On a more general level, they were relevant since they formed an exemplary start of a series of investment projects in Central and Eastern Europe. The projects seem to have been less relevant directly for local economic development, although in the longer term the conditions created by a better water supply can be expected to be beneficial for local development.

Achievement of objectives

The environmental projects had five general objectives, summarised in the Staff Appraisal reports:

- Reduction of discharge of partially treated and untreated wastewater into the Baltic Sea;
- Restore surface and groundwater quality in and around the three towns;
- Improve quality, reliability and cost efficiency of water supply and sanitation services in each town;
- Improve the operational efficiency and management system in the respective water enterprises;
- Promote environmentally sustainable management and development of the coastal zone, tourism and protected areas in and around the three towns.

These objectives were not quantified at the outset. From a qualitative point of view however, they have all been met.

Apart from these more technical objectives, for Sida it was important that *institutional* changes were brought about, both as a means to reach the environmental goals, and as a goal in itself. In this respect, one of the major changes induced by the environmental projects is that Project Implemen-

tation Units ('PIUs', the local project team responsible for implementation) learned to perform procurement and to set up competitive bidding procedures. Also the water enterprises have gone through an enormous change, especially in billing and billing procedures, virtually not existent before. Water companies have learned to manage their businesses according to Western standards, and deal with *real* costs and benefits. This means that a radical shift away from the previous situation has been made, in which water, nor labour, had a realistic price.

Some features of the communist system are still present however and are thought to be hard to erode. They concern the ability of personnel on the plants to take initiatives and to perform multi-tasking. In all three cases it has proven extremely difficult to change existing mentality, which, according Swedish partners, typically originated from Soviet times.

In terms of economic sustainability the three water companies are not yet fully self-sustaining and only the Liepaja enterprise has a balanced budget. Although this may be translate in a need for even tighter management and scrutiny by World Bank and other financiers, the companies themselves translate this into more funding being needed – which indeed is found in the form of new programmes (such as the European PHARE). This decreases the immediate need for the water enterprises to work entirely on a commercial basis.

Environmental improvement and sustainability

The main short-term result of the projects is that each of the three towns today has an operational wastewater treatment plant, with an environmental performance which in all the cases is highly satisfactory.

The evaluation did not comprise an impact study of the discharges to the Baltic Sea. In fact, no baseline study for environmental discharges could be provided by local authorities. However, the improvements in the wastewater treatment plants have been analysed. For all three environmental projects, improvements in environmental discharge achieved are generally good. But whereas Klaipeda and Haapsalu are fairly oversized, Liepaja works very close to design capacity. With some more economic growth it is expected that this plant runs out of capacity and will no longer be able to treat the wastewater properly without further extension. The (high) rate with which water consumption decreased upon metering was not foreseen in the initial planning of any of the three projects.

Finally, in all three projects, sludge is not taken care of. This was not included in the environmental project, since the projects would have become too expensive. Other incentives are absent (no landfill cost). Sludge will rapidly become a problem in the future for all the plants, and deserves to be worked upon with priority.

Management of the project components financed by Sida

Sida has chosen a 'hands-off' approach to the management of the three projects, for three major reasons. The *formal* reason is that the grant is governed by the Grant agreement between Sida, a national Baltic Government, and the water utility. The *practical* reason to managing the projects at a distance can be found in a shortage of person-power at the agency. The main reason for a hands-off approach is however 'methodological.' To bring about the long-term objective of institutional change, Sida aims to give responsibility and ownership directly to the local people, and in particular to the PIU.

Whereas in itself highly laudable, we have evidence that there are three major drawbacks to this approach. First, the relative invisibility of Sida has led to confusion for different parties involved, especially for the twinning partners who expected Sida to be of more help to them. The fact that this was not the case led often to frustration on their side. Second, following a detached approach supposes that other countries behave similarly. However, countries such as Finland are much more present (through consultants) in World Bank missions. It should however be noted that this is not a Finnish strategy. It is a result of the utilisation of the World Bank Finnish trust fund for consultancy services. More generally, Sida may want to invest more effort into identifying and involving Swedish consultants in such missions. The third drawback finally is that once Sida decides to operate at a distance, it may lose credibility and involvement. This makes it difficult to be re-involved with projects when this would be needed. Although this fortunately has *not* been the case with the three projects evaluated here, more recent cases could be cited by Sida were re-involvement was desired but hampered because of a loss of credibility.

Supposed that Sida chooses to continue to play such a role again in the future, it is recommended that it better communicate about the role it sets for itself towards the other partners in the project.

Twinning

The concept of Twinning means that a recipient enterprise is linked to a Swedish one – here, water enterprises. In the present case, Twinning should have included both technical (help with plant operation) and financial and management help (how to run a company). The technical part of twinning has dominated in all three cases. In fact, the Water Enterprises in the three towns did not see the use of the second type of twinning and in one case even refused it.

A second observation is that twinning stands or falls with the personal involvement of the individual who is responsible for the twinning on the Swedish side. It is understandable and positive that enthusiastic persons are involved in projects like these. For longer-term continuity it may however be problematic that twinning rests too much on the shoulders of one or two persons only.

The main lesson to be learned from experienced twinning problems is how to transfer tacit knowledge. Technopolis' experience with other programme evaluations indicates that twinning is a very complex issue and should be carefully thought through at the outset. The complexity of the non-technical twinning has been underestimated on the Swedish side.

Effect of the Swedish support on the competitiveness of Swedish enterprises

No statistical study was undertaken to analyse effects of the Swedish support on Swedish enterprises, since the sample would have been too small. Evidence exists that the involved constructors find it interesting to do this kind of aid-funded work, although it is not clear how it helps them to increase their turnover. Some of the companies we have spoken to can not point to any follow-on sales in the Baltic area as a result of their involvement in the environmental project. Others are able to do so and in one case, the involvement in one of the environmental projects has contributed to generating *four* further projects in the Baltic Area. If the goal is to enhance competitiveness of Swedish companies on a larger scale, the Swedish State may want to consider funding projects in bigger potential markets.

1. Introduction

This report contains the result of the evaluation of the Sida (Swedish International Development Cooperation Agency) components of three environmental projects in Klaipeda (Lithuania), Liepaja (Latvia) and Haapsalu (Estonia). A team of evaluation specialists from Technopolis (France and UK), and engineers from WCI – Ecoconcept performed this evaluation.

The Baltic area receives a lot of attention from Sweden. This is not surprising since most of Sweden's coastline is on the Baltic Sea, one of the most polluted seas in the world. For years, Central and Eastern European countries have discharged untreated wastewater in it, either directly or through connected rivers. In 1992, a 20-year action plan was signed by all countries of the region to restore the ecological balance (the Baltic Sea Joint Comprehensive Environmental Action Programme, by the Helsinki Commission HELCOM).

Since the beginning of the 1990s, a large number of environmental projects has been financed in the area, through loans by World Bank or IBRD, combined with grants aiming at direct investments in equipment and aids to collaborative partnerships ('twinning'). Sweden is a major provider of investment funding in the area. These funds are managed by Sida.

The three earliest environmental projects with Swedish involvement are those related to water and wastewater treatment in Klaipeda (Lithuania), Liepaja (Latvia) and Haapsalu (Estonia). In February 1, 1999, Sida requested proposals for the evaluation of the Swedish component of these three projects. As a result of this request, a team involving consultants from Technopolis and Woodward Clyde International has been selected to perform the evaluation. The evaluation has started at the end of May 1999.

The present document contains the final report. It is based on an analysis of documents, on site visits and on interviews in the three Baltic countries, in Sweden and Finland.

The evaluation covered both *'soft elements'* (social, economic, institutional, political) *and 'hard elements'* (scientific, technical, engineering) simultaneously. Therefore a multidisciplinary evaluation team was put together, combining the socio-economic expertise and experience in evaluation of Technopolis, with expertise in environmental engineering and auditing from Woodward Clyde International. The evaluation experts have collaborated in one team with technical specialists in the field of wastewater treatment.

2. Approach and methodology of the Evaluation

The approach and methodology of the evaluation followed the Terms of Reference (ToR) set out by Sida (Annex 1). This section summarises the main points.

2.1 Objectives

The purpose of the evaluation was to review the results achieved in the wastewater treatment projects in the towns of Haapsalu, Liepaja and Klaipeda, through the components financed by Sida.

The review was to:

- Assess the relevance and efficacy of the Swedish contribution, with regard to the development of technically, financially and environmentally sound water and wastewater management methods in Haapsalu, Liepaja and Klaipeda.
- Review the effects and compare them with the physical, environmental, financial, institutional, and policy-related goals defined during project preparations.
- Assess the impact in terms of environmental improvements and sustainability
- Analyse and evaluate the organisation, administration and co-ordination of the project components financed by Sida
- Assess the added value of the Swedish investment
- Refer the results to the objectives of environmental co-operation in eastern Europe set by the Swedish government
- Analyse the effect of the Swedish support on the competitiveness of Swedish enterprises.

The evaluation had to assess future potential for continued efforts, discuss possible improvements concerning objectives, methodology and allocation of resources, and derive lessons to form a basis for future projects to be funded.

The evaluation necessarily consisted of elements of a very different and heterogeneous nature. The projects have a strong technical component and therefore a *technical assessment* was proposed as part of the evaluation. However, they have policy links and are strongly related to politics (both local and national). Therefore the evaluation also had to investigate the *wider political contexts* and the relation to co-financiers, and with local and national stakeholders. Finally, some of the issues to be resolved are of a socio-economic nature and others concern financial aspects, organisation, co-ordination and administration. Therefore the evaluation has scrutinised the *management* of the three projects.

2.2 The evaluation team

More than the use of an innovative method to evaluate the three projects, the success of the present evaluation is in the composition of the team. The evaluation team assigned has simultaneously been able to perform a technical assessment, to investigate broader context, and analyse the management of the projects themselves. This heterogeneity, of both the projects *and* the issues to be resolved by the evaluation, is therefore reflected in the variety of competencies of the evaluation team.

The team consisted of the following consultants:

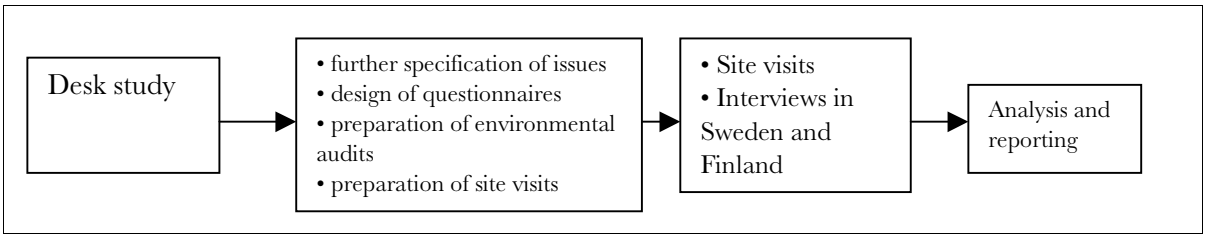
- Bastiaan de Laat (Technopolis France), team leader, specialist in programme evaluation
- Philip Sowden (Technopolis UK), specialist in regional innovation and economic development, formerly responsible for development and implementation of programmes designed to improve the productivity and quality of SMEs, extensive knowledge of investment programmes in developing countries and new economies;
- Erik Arnold (Technopolis UK), specialist in programme evaluation, and a leading specialist of the Swedish national innovation system;
- Catherine Whitelegg (Technopolis UK), policy scientist with working experience in Central and Eastern European countries;
- Leila Chennoufi (Woodward Clyde International), senior environmental auditor. Other URS/WCI auditors involved were Philippe Jean (URS France) and Ian Willson (URS UK)

2.3 An approach in two main steps

The evaluation consisted of two major parts:

- **Desk study and preparations in Sweden**. During the preparatory phase the documents listed in the ToR were studied by the evaluation team. This allowed for the establishment of criteria for each of the issues listed in exhibit 3.1. These preparations were followed by an inception meeting (25 May 1999), at which questionnaires and preliminary criteria were discussed.
- **Fieldwork**. The second stage of the evaluation consisted of site visits, technical audits of the three projects and interviews in the Baltic States, Sweden and Finland.

Exhibit 2-1. The different steps of the evaluation



The site visits, which each lasted 2 to 3 days, and interviews with other stakeholders present in the Baltic countries (amongst which World Bank (WB) representatives, and representatives of local and national governments) have been carried out in a two-week period between 7 and 18 June 1999. Interviews in Sweden and Finland (public authorities, twinning partners, contractors, designers, other consultants) carried out during the period from May to end September, depending on the availability of the interviewees.

3. The policy context

Sweden has pursued a policy of supporting economic and political development in Central and Eastern Europe since late 1989, and has provided programme funding since 1990. Its resources have primarily been directed towards the three Baltic States, Poland and Russia. More recently, the Ukraine has become an increasingly significant recipient of Swedish aid.

Since 1995, the goals of Swedish development policy in relation to the Baltic and east European states have been[1] to

- Promote common security
- Encourage democratic culture
- Support socially sustainable economic change
- Support environmentally sustainable development

In 1996, the parliament decided that co-operation with these states is to be characterised by a perspective of gender equality.[2]

Sandgren[3] argues that Swedish policy can be divided into three phases:

- Initially, social and political stabilisation. A wide variety of projects were funded in order to meet immediate needs
- Once initial political and economic reforms were in place, the focus shifted to more long-term development, with the transfer of capabilities and the development of institutions as central themes
- From 1995, increased emphasis on integrating these transition economies into Europe

The preparatory phases for the projects evaluated in this report started in 1994. The projects therefore belong to the second phase. From July 1995, aid to the Baltic region was allocated in the form of a programme covering the period up to the end of 1998.

3.1 History

In October 1992, the Swedish Parliament allocated 108 MSEK to support improved wastewater treatment in the three Baltic countries. The Ministry of the Environment set up[4] a Commission, which was required to present specific proposals by March 1994.

The commission stressed the importance of a holistic view, saying that a water and waste system needs to be seen as having four interconnected components – all of which affect the viability of investments intended to reduce polluting discharges:

- Quantity and quality of the water supply;
- Integrity of the sewer network and the proportion of buildings connected to it;[5]

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1 Prop 1994/5: 160

2 Prop. 1997/98: 70

3 Claes Sandgren, *Att utveckla ett grannlandssamarbete – en utvärdering av Sveriges samarbete med Central- och Österuropa*, Ds 1997:75

4 *Uppdrag att utreda och förhandla fram förslag till insatser för avloppsrening i Baltikum*, Dir 1993:95

- Capacity and efficiency of the wastewater treatment plant;
- Institutional framework (administration, organisation and finance).

It was seen as essential that a water and waste-treatment utility be a self-managing and self-financing entity:

> Even if grants or soft loans cover part of the cost of building a wastewater treatment plant, the business must itself generate the money needed for operation and maintenance. Continuous maintenance of a high standard is needed if this type of plant is to function well.... In order for the investments made today to be meaningful across a number of years, the operators must be able to obtain revenues proportional to the size of the investment. This means that careful calculations must be made of the sums needed for operations and maintenance in the future, and correspondingly of consumers' ability to pay. Obviously, there must also be an effective system for collecting charges from the users.[6]

The Commission based its work on earlier reports from *Beredningen för teknisk bistånd* (BITS) and consulted other countries about their plans in the Baltic. The Commission had been instructed particularly to consider opportunities for leveraging the Swedish investment through co-finance, and sought a Development Bank as a partner. Since the Swedish contribution was to be a grant, it was hard for the Swedish authorities alone to take measures to ensure implementation was effective. A Development Bank could be much more demanding. Typically, the potential recipients of Swedish aid needed to make significant organisational changes upgrade skills and generate financially viable water and waste businesses in order to have an environmental impact over time. The requirement to repay bank loans created an incentive to make these difficult changes, whereas Swedish grant aid on its own would have involved no mechanism for ensuring that the changes happened.

The Commission saw the World Bank as a particularly attractive partner. This was partly because of its great experience with development projects and partly because it already had personnel 'on the ground' in Vilnius and Riga. Also, it was already planning loans to the cities of Klaipeda, Liepaja and Haapsalu – cities which were among the major 'hot spots' of waste-water pollution in the Baltic (see below), and therefore attractive as recipients of Swedish grants. A disadvantage of working with one of the banks would be the need to accept their slow decision-making processes. Here it was felt that the Swedish resources would add particular value, since they could be more quickly disbursed and force the pace of the projects. Another important consideration was that a Swedish contribution could put a clearer environmental profile to the projects through "softening" the loans; i.e. make investments both in water supply (often a higher priority for municipalities) and in waste water treatment.

The Commission was not able to finish its work by the intended deadline of March 1994. It was seen as important that the wastewater projects were built on reliable data and projections of future requirements. While there had been a number of prospective studies of potential wastewater treatment plant in the Baltic, the Commission felt their quality was often poor and that they had quickly become out of date, owing to the high rate of development and change in the region. The final

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[5] In many Baltic countries in the early 1990s, as few as 60% of buildings were connected to the sewer system. Sewage from the remaining sites was discharged raw into nearby waters

[6] *Delrapport från Utredningen om Svenskt stöd till avloppsrening i de Baltiska länderna*, Stockholm, 10 November 1993 (our translation).

decision to go ahead therefore depended on the completion of four pre-feasibility studies (Exhibit 3-1).[7]

Exhibit 3-1. Feasiblity studies in progress 1993/94

City	Study by	Started
Liepaja	EU-Phare funding	1993
Kaunas	BITS	1993
Klaipeda	Swedish-Finnish-Lithuanian study	launched at the end of March 1994
Haapsalu	Swedish-Estonian study	began in April 1994

Once the first three studies were completed (the Haapsalu project started later), the Commission felt it could not delay making recommendations any further and proposed[8] that:

- Projects should go ahead in Klaipeda and Liepaja with Swedish grant-aid forming part of a larger package;
- The aid should primarily be in the form of equipment and services from Swedish suppliers;
- Education and capability development assistance should be provided by Swedish water companies under contract;
- BITS should continue to implement and manage the projects.

The environmental effects of the Liepaja and Klaipeda projects were together expected to be annual reductions in discharges of *3600 tons of BOD, 85 tons of phosphor and 400 tons of nitrates*. In September 1994, the government instructed[9] BITS to conclude negotiations about the proposed projects in Liepaja and Klaipeda and to monitor their progress. The total Swedish contribution for the two projects was to be up to 90 MSEK.

After a further period of investigation and negotiation with the Estonian authorities, the Commission delivered its final report[10] which proposed that a further 12 MSEK should be invested in a project at Haapsalu. This task was also allocated[11] to BITS, whose work was subsequently brought into Sida. The execution of the three projects is evaluated in this report.

3.2 Subsequent Policy Developments

In 1997, Professor Claes Sandgren was asked by the government to evaluate Swedish aid to the Baltic region. Based almost entirely on secondary sources, his evaluation[12] was very positive – though he did point out that national goals were so broad that they forbade almost nothing. He recommended that future policy be characterised by an intention to *normalise* relations with recipient countries, exploiting Swedish *comparative advantages* while maintaining the *flexibility* needed to adapt to changing circumstances. He pointed out that Sida's "support in the form of technical co-operation

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7 *Delrapport 2 från Utredningen om Svenskt stöd till avloppsrening i de Baltiska länderna*, Stockholm, 15 March 1994.

8 Delrapport 3 från Utredningen om Svenskt stöd till avloppsrening i Baltikum, Stockholm 940823

9 Uppdrag att slutföra förhandlingar och ansvara för projektuppföljning vid reningsverken i Liepaja i Lettland och Klaipeda i Litauen, Regeringsbeslut 14, 8 Sept 1994.

10 *Slutrapport från Utredningen om Svenskt stöd till avloppsrening i de Baltiska länderna*, Stockholm 7 February 1995.

11 Uppdrag att slutföra förhandlingar och ansvara för projektuppföljning vid reningsverket i Haapsalu, Estland, Regeringsbeslut 11, 950302

12 Claes Sandgren, *Att utveckla ett grannlandssamarbete*, Stockholm, 971117

and increases in capacity are targeted at system changes in society which are of strategic importance for the transition process."

In 1998, parliament approved[13] a three-year programme of continuing support to Central and Eastern Europe. The overall goals remain the same as before, but in this new phase the emphasis was to be on:

- Supporting the current round of expansion of the EU, and especially enabling Estonia, Latvia, Lithuania and Poland to join the Union
- Integrating Russia and the Ukraine more closely into European co-operation
- Increasingly to integrate social issues into development

The government recognised that the time horizon needed for development among the partner countries varies, and in many cases exceeds the length of the new programme. However, the expectation is that over time more normal international relations will take the place of the present donor-recipient relationship. In the meantime, the Baltic States are becoming important trading partners, generating a significant positive trade balance for Sweden.

3.3 Sida to play a key role in aid to Central and Eastern Europe

The preparation, implementation and monitoring of the Swedish grants to the projects was first performed by BITS, which in 1995 merged into the Swedish International Development Agency (Sida). Sida is since 1999 responsible for development cooperation including co-operation for security (though excluding military activities). The current budget is 800 MSEK allocated by Swedish Parliament for development co-operation in these countries, and Sida's responsibilities cover 625 of these, not including specific tasks funded through the "baltic billion."

Sida's action spans a wide range of activities, the basic idea of which is to use the resources and know-how developed in Swedish society. This is carried out in strategic programmes focusing on the transfer of know-how, human resource development and economic co-operation. For this reason, most of the programmes should contain an education and training component, advisory services and exchange of experts.

Enhancing institutional development through twinning co-operation between Central and Eastern European and Swedish companies – in order to create a leverage effect – also forms an important part of Sida's objectives. Finally, Sida provides investment funds, especially with a view on cleaning up the Baltic area – the subject of the present evaluation.

With a total budget of 419 MSEK, Sida's action in 1997 was divided between four main areas and three, in funding terms, less important ones. The four major areas were environmentally sustainable development (31%), encouraging the culture of democracy (23%), promotion of trade and industry, and social sectors (both 13%). The other three areas were physical planning, infrastructure (energy excluded), and public administration. Sida's support is not only to be technology or economy based, it also gives attention to the social aspects of the transition process. Currently, 118 MSEK are allocated for environment and democracy, trade & industry as well as social sectors are other major areas. There is no specific division of the resources between these sectors.

[13] Prop 1997/98: 70

Sida is not standing alone in the development of its programmes. Apart from the Eastern European countries themselves (participating both at municipal and national level in projects), programmes are developed in collaboration with World Bank, the European Bank for Reconstruction and Development (EBRD), the Nordic Environmental Financing Corporation (NEFCO), European programmes such as EU PHARE, EU TACIS and as of this year also EU-ISPA. Also neighbouring countries (especially Finland) are worked with. Other financiers that Sida increasingly collaborates with are NIB, the Nordic Investment Bank, and EIB, the European Investment Bank.

3.4 The place of the projects within HELCOM's JCP

Finally, as said previously, the three projects were not only inspired by national considerations. They are part of a broader framework, namely that of the HELCOM's Joint Comprehensive Baltic Sea Environmental Action Programme (JCP). This programme, running from 1990 over a 20-year period, is

> '*based on the identification of pollution sources within the entire catchment area of the Baltic Sea and implementation of measures for decisive reduction of emissions and discharges of nutrient and other harmful substances affecting the Baltic Sea*.'[14]

The investments needed for preventive and curative actions were in 1991/92 estimated to amount to 18 billion ECU (now Euro).

Exhibit 3-2. Countries responsible for JCP Programme elements

	Programme element	Lead country
1	Policies Laws, Regulations	Germany
2	Institutional strengthening	Germany
3	Investment activities	
3a	Point source pollution	
	Munic & Ind WW treatment	*Sweden*
	Industrial pollution control	Finland
3b	Non-point source pollution	
	Agriculture	Germany
	Traffic	Poland
4	Coastal Lagoons & Wetlands	WWF
5	*Applied Research*	EC & TC; *Sweden* & Latvia
6	Public Awareness / Env. Education.	Finland

According to HELCOM, the investment activities component '*is a central one regarding financing actions required*'.[15]

Today, on the initial 132 so-called 'hot spots' 115 remain – apart from three municipal-industrial sites, those eliminated concern the paper and pulp industry, mostly in Sweden. A complete list of hot spots and progress is given in Helcom's annual report for 1998.

[14] Helcom annual report for 1998, p.1.

[15] p.3, Annual report for 1998.

4. Findings

This chapter describes findings for each individual project. It is based on the results of the desk study, site visits, and interviews. We will first describe the initiation of the projects, their general management structure and organisation, for each of the three projects conceptually being the same. Next, for each project individually the findings from both the Baltic and Swedish side will be discussed, and especially the relations between local project management, contractors and twinning partners will be scrutinised. Also the relations of the different stakeholders with Sida have been subject to analysis.

Complete technical assessments of the three projects have been placed in Annexe 2 to the present report.

4.1 Project initiation and the establishment of 'Staff Appraisal Reports'

When the discussions around the investment programmes in the Baltic countries started in the beginning of the 1990s, the way in which they should be managed from the Swedish side was not immediately determined. Initially, the Ministry of Environment was responsible but quickly delegated implementation to BITS. In the beginning, the management of the three projects was performed by two persons, one at the Swedish Environmental Protection Agency (SEPA) and one person at BITS (this person subsequently became head of the division for environment and energy at the department for Central and Eastern Europe at Sida). The latter had been national responsible for Wastewater Treatment Plant (WWTP) regulation in Sweden and therefore knew, and was known by, the management of virtually all the Swedish wastewater treatment plants.

Though BITS had good knowledge of the Baltic countries and of WWTPs, nor at SEPA nor within BITS the competence and capacity existed to run major investment projects. Therefore, help of the World Bank was sought. In Sida's own words:

> The main advantages of the World Bank as lead financier were their ability to plan, prepare coordinate and supervise large projects including the ability to attract and co-ordinate funding from other financiers and bilateral donors

Whereas World Bank did not yet operate in transition economies, it had great knowledge of investment projects in developing countries. Furthermore, relatively independent from the Swedish authorities, World Bank had started to look after projects in the region. They had also made their choice for the three sites, making it easier for Sida just to jump on the bandwagon. The major justification for World Bank to choose this combination of sites was an ecological one. Their status as hot- spots due to untreated municipal waste water effluentswithin the JCP were more crucial, these three towns were selected from the 20 municipal hot spots in these countries., The three towns are close to the stopping areas on the Baltic portion of the East African-European-Arctic flyway for migratory birds. According to World Bank's Staff Appraisal Reports (SAR), the three areas (Matsalu Bay, Kursiu lagoon, and Lake Pape), happen to be critical part of a complex ecological system of wildlife habitats which made them priority areas.

Initially, the three Baltic governments wished to concentrate on the treatment plants only. Swedish expert visits showed that interest should also be paid to the sewage system, which in all cases were in a very poor shape. It was clear from the beginning that the aid should go beyond transfer of technology only. In order to ensure the expected institutional change, the projects should include ad-

ministrative and management components. The Baltic governments were not convinced of that. According to one of the government officials, involved from the start:

> '*[in the beginning] we did not value the soft component high enough, but it now turns out to be crucial.*'

Hard components were to be part of investments, whereas the soft components should be organised through twinning agreements, under which Baltic utilities should collaborate directly with Swedish utilities.

Based on feasibility studies, for each project a Staff Appraisal Report (SAR) was published by the World Bank. This document formed the reference document for all parties involved. Apart from the results of the feasibility studies, it contains detailed overviews of the different problems to be resolved and technical and financial objectives to be achieved for each project. The SARs also describes the roles of the different actors (PIU, WB, financiers, national government, twinning partners and so forth).

Whereas technical and, especially, financial objectives are very well specified in the SARs, administrative and management targets (especially concerning twinning) are stated in general terms and, apart from some different phrases, are identical for all three projects. It can be observed that World Bank and other donors have monitored financial and technical progress very closely against targets. For this reason we have considered that, more than in a re-evaluation of technical and financial achievements, the added value of the present evaluation would lie in the focus on relationships between the different actors involved in the three projects.

4.2 Formal arrangements

For each project, Sida established tripartite Grant Agreements with the national government (represented by the respective ministries of environment) as *recipient*, and the water utility as *performing enterprise*. Each agreement is based on the corresponding SAR and covers, amongst other things, legal obligations, detailed budgets, a paragraph on compliance with HELCOM objectives, and the procurement and disbursement rules. All other financiers established Grant Agreements as well and the Swedish agreement refers to all others. It states that is only effective if all others are. For the Swedish case (and we presume that this is the same for the grant agreements of other countries), procurement rules specify that eligible suppliers of goods and services are those registered in Sweden. Disbursement can only take place in Sweden. A recipient country thus receives goods, services and twinning, but no direct funds.

Locally, 'Project Implementation Units' (PIU's) were set up to manage the environmental projects. In each case the PIU depends directly on the water utilities – PIU members are employed by the utility. In practice the PIU reports directly to the so-called *supervision missions*.

Supervision missions have been organised twice a year and normally lasted 2 days per mission per project. In total, around 6 such missions have been organised for each project. Supervision missions involve representatives of World Bank, of grant financiers, of twinning partners, of national Governments and of municipalities. The objective of the supervision missions is to check whether the project is both technically and financially on schedule, whether obligations have been fulfilled, and whether recommendations of previous supervision missions were followed up. Debates and decisions made during supervision missions are laid down in *aide-mémoires*, which are sent for approval to all persons involved. Supervision missions often included a visit to the national government.

For the evaluators, *aide-mémoires* have been a major, and highly valuable, source of information on the evolution of the three projects.

Exhibit 4-1. Contents of an 'aide-mémoire'

Aide-mémoires generally contain the following sections	
Project implementation progress	Main highlights on progress or problems
Water and wastewater improvement component	Further divided into procurement, disbursement, tariffs, financial performance, loan covenants, financial management, billing collection, strategic planning, public awareness, governance, twinning
Environmental management component	Progress on environmental management component (not the subject of the present study)
Agreements reached and actions to be taken	Actions to be taken, to be inspected by the next supervision mission

The idea was that managing the projects collectively, through the addition of grants and loans, and through the regular supervision missions, would create a leverage effect for Sweden. Levers were seen to exist, both on the level of person power for supervision, and on the level of the impact of a loan, as opposed to a grant. A grant can in fact be viewed as simply giving away money. A loan however has to be paid back, and the supervision missions were there to warrant that the loan is indeed paid back in time and get the PIU – and eventually the utility – back on track if necessary. Hence with the same amount of people, and with the same amount of money from Swedish Government, Sida would be able to achieve more than in the case of bilateral funding.

4.3 A 'hands-off' approach to project management

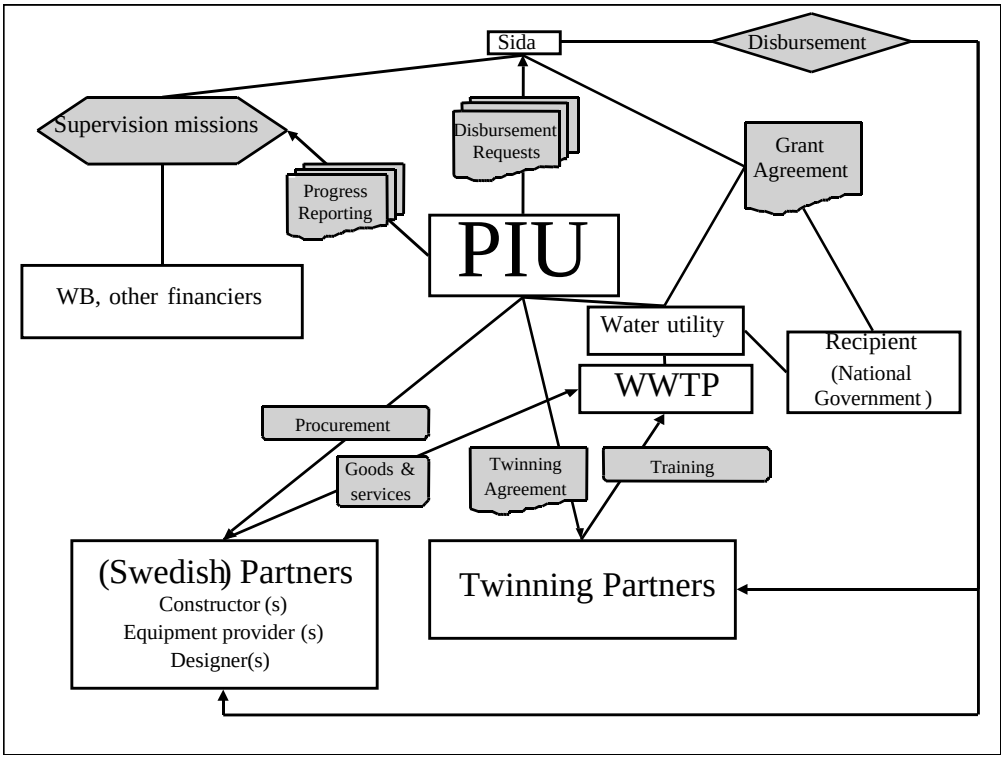
For formal, practical and methodological reasons, Sida chose to adopt a 'hands-off' approach to the management of the three projects. The *formal* reasons for this were that the grant is governed by the Grant agreement between Sida, Government, and water utility. As long as the rules given by the agreement were not violated by the PIU or any other stakeholders, Sida's role was reduced to monitoring the implementation of the project, and disbursing funding to Swedish companies and utilities after correct procurement followed by a disbursement request of PIU. Hence the grant was literally to be 'owned' by the project, and therefore it was expected that the project would be 'owned' by the national and local actors involved. In principle, Sida was not to have any formal involvement in negotiations with, for instance, providers of equipment or twinning partners, apart from approval (on a no-objection basis) of tender documents, tender evaluation and contracting processes.

The *practical* reasons to managing the projects at a distance can be found in a shortage of person-power at the agency. Even if it wanted to follow the projects more intensively, Sida would not have been able to do so given the on average three or four persons it had when the projects started. Through time, Sida Öst got more employees, but the number of projects simultaneously increased, making it impossible to very closely monitor the three projects. Also turnover has been fairly large with only one person present from the beginning, and still is. Other persons involved in initial stages moved to other posts in or outside Sida. Although the agency has been present in most of the supervision missions, and also had intensive correspondence with, especially, the PIUs, it acknowledges that in practice World Bank, (and eventually other financiers), may have had more direct and more frequent contacts than Sida could have had.

Whereas both formal and practical reasons were given, Sida indicates that the main reason for a hands-off approach is 'methodological.' To bring about the long-term objective of *institutional change,* Sida aims to give responsibility directly to the local people, and in particular to the PIU. After setting the project in train, Sida should intervene as least as possible. If problems would arise, the stakeholders in the projects should be able to first find solutions themselves. Institutional change is more important than 'pure' technology transfer, and such change should be brought about by having different actors take their responsibilities – ultimately being able to do it all by themselves.

This idea is represented in the following figure. It is not a formal statement of Sida's strategy, but a finding rather of discussions, with Sida, on the way it views its role within the environmental projects.

Exhibit 4-2. Sida operates in the background[16]



As the remainder of this report will show, this representation of Sida's position turns out to be crucial to understand how the projects evolved in some way without Sida's direct involvement.

4.4 General overview of the three projects

The Staff Appraisal Reports define the three projects as consisting of several components including improvements of water supply and wastewater treatment as well as environmentally sustainable

[16] For reasons of clarity this picture is not exhaustive, and actors such as management consultants, procurement support etc. should be included. With these partners Sida may have more involvement for instance in developing terms of reference or supervising the tender evaluation and contracting process.

management of the coastal zones and protected areas. The Swedish contribution only covered part of this, namely:

- Design and supervision of the constructions
- Financing investments for wastewater collection and, in particular, treatment
- Institutional strengthening support, through programmes of twinning co-operation between local and Swedish water and wastewater utilities.

Exhibit 4-3 gives an overview of the major characteristics of the environmental projects addressed in the present evaluation.

Exhibit 4-3. Main characteristics of the three evaluated projects

Project	Contents of project as a whole	Main type of Sida action (decreasing order of financial importance)	Geo-economic characteristics (*)	Inhabitants	Funding cost, total cost, and funding to date	Period	Other sources of funding	Main contractor
Haapsalu (Estonia)	Improvements and extension of water supply system, Construction of several sewage pipe systems and renovation of wastewater treatment plant.	Design and Supervision, and Equipment for waste water treatment, Twinning, Training, Management and administration	Lies on Estonian Coast. The area around the town has high value due to natural habitat	15 000 people, of which one third was not connected to a wastewater plant	12 MSEK on a total of 47 MSEK was to be provided by Sida	1995-1997 The plant went in operation in December 1997	World Bank, Finland, Estonian Government, Haapsalu municipality	Estonian company (EMV / Eesti Projekt) and Swedish contractor (Malmberg Water)
Liepaja (Latvia)	Rehabilitation and expansion of water supply system, Expansion of the wastewater treatment plant which lacked sufficient capacity, extension of sewerage system	Design & Supervision, Equipment, for waste water treatment, Twinning (no training)	Liepaja is the third town of Latvia, and one of the three main ports (all three having an equal cargo turnover)	108 000 of approx. half was connected to the municipal purification plant	49 MSEK on a total of 152 MSEK	1995-1998 The plant was operational in May 1998	World Bank, NEFCO, Finland, Latvian Government, Liepaja municipality	Swedish company (Purac)
Klaipeda (Lithuania)	Extension and improvements of water supply system, Finalisation of construction of wastewater treatment plant; extension of sewage pipe network	Design & Supervision, and Equipment (co-financed with Finland), for waste water treatmentTwinning, Management training (marginal)	The city is Lithuania's only port of importance	200 000 most of which should be able to utilise the new plant	38 MSEK on a total of 161 MSEK	1995-1998 The plant went in operation in December 1998	World Bank, Finland, Lithuanian Government, Klaipeda Municipality	Finnish company (Lemminkäinen)

(*) All three cities concerned are located on the coast; in for military reasons 'restricted areas' in Soviet times

Source: Sida, supervision mission reports, interviews

The three cities lie in coastal areas and formerly were restricted areas because of their military character. Despite their similarities however they are very different. Haapsalu is small and lies in an ecologically important area. Liepaja is 6 times bigger and is the most southern port of Latvia. It therefore has an important economic activity (of the same level as the two other Latvian ports). Klaipeda, a bigger city than Liepaja, is Lithuania's only commercial port of importance. Therefore each project has a different scope and significance.

The projects are of different sizes: the Liepaja and Klaipeda projects seem similar, (although the sizes of the two plants are not), whereas the Haapsalu project is considerably smaller (because of population size).

The different projects are led by different main contractors (a Swedish, a Finnish, and an Estonian company respectively).

Not all three projects have been finished at the same time. Though all started in 1995, the Haapsalu wastewater treatment plant was inaugurated in December 1997, and Liepaja in May 1998. The Klaipeda wastewater treatment only started operating recently before the start of this evaluation, namely in December 1998.

For the three projects taken together, the Swedish grants (99 MSEK) cover somewhat over a quarter of the total project costs (362 MSEK). To date, the planned amount of funding has exactly been spent. The detail of funding for each component is given individually for each case study.

The summary table below gives the different actors involved with the three projects.

Exhibit 4-4. Overview of the partners involved in each project

Type of Actor	Haapsalu	Klaipeda	Liepaja
Financiers	Sida, WB, NEFCO, Finland, GoE, MoH	Sida, WB, Finland, GoL, MoK	Sida, WB, EU PHARE, FinlandGoL, MoL
Feasibility study	SWECO, Bohlin Stromberg, EMV	Rust (today VAI-VA)	Halcrow
Design & supervision	SWECO	VAI-VA and Lithuanian subsidiary BCG	SWECO
Main contractor	Eesti Projekt (AS EMV)	Lemminkäinen	PURAC
	(Estonia)	(Finland)	(Sweden)
Subcontractors	Malmberg Water, YIT (Finland)	Several suppliers, incl. Lemminkäinen Sweden	ABB (Sweden; for control systems)
Local subcontractors (if known)	Eesti Projekt (AS EMV)	BCO and Unknown	NBB
Twinning partner	Haninge	Malmö	Norrköping
PIU support	None	Parkman	Parkman

The projects are presented in alphabetical order – Haapsalu, Klaipeda, Liepaja. Annexes contain detailed descriptions of technical assessments, of which here only main elements are discussed.

4.5 Haapsalu (Estonia)

4.5.1 Introduction

Haapsalu and its environment are described as an excellent place for eco-tourism in brochures, websites and official reports. Its complex eco-system and its abundance of bird species, together with the ancient city centre characterised by its nicely coloured wooden houses and the medieval castle, makes it indeed a spot with a high potential for tourism. This is however only developing recently. In Soviet times not many tourists came to the town and inhabitants told us that they even had to go to outside the restricted coastal areas in order to meet friends and family. This explains the natural wealth of the place – currently being threatened by increasing numbers of visitors.

This environmental project is the smallest of the three evaluated projects. It was however until recently the second largest project that Sida has co-financed in Estonia (the largest being improvements in district heating in the three largest towns in Estonia)It consists of the construction of several sewage pipe systems and the reconstruction of the WWTP. Co-financiers are Finland, World Bank, Haapsalu municipality and the Estonian Government.

It is the only one of the three evaluated projects in which a national (Estonian) company is the main contractor. It is the only project where the function of head of PIU and that of Director of the water Enterprise coincide.

4.5.2 Historical features and background to the project

Haapsalu was the summer resort of the Russian imperial family. Under the Soviet period, Haapsalu was the last town to have a wastewater treatment plant. Only one third of the inhabitants were connected to the sewerage system. One of the reasons for having no wastewater treatment plant is the fact that Haapsalu was a small town, which had few industries. In Soviet times it was a SU air force base and garrison. The presence of curative mud made it famous and lead to the establishment of sanatoriums and hospitals. There was some local fishing activity.[17]

Historically there were close contacts with Sweden. Before WW II a lot of Swedes were living in West Estonia (Swedish being still spoken at the island of Saaremaa , just off the coast). After the independence, Swedes started to renew interested in West-Estonia. Estonians has taken advantage of these privileged relationships and contacts between Haapsalu and the Swedish government since the beginning of the 1990s.

The city population is around 15 000 people, but in the height of the tourist season, this number has already grown to 60 000.

The reasons cited for selecting Haapsalu for the World Bank project are diverse. First of all, Haapsalu and Matsalu Bays were identified as priority hot spots by Estonian government. An anecdote heard in the interviews is that World Bank representatives, when first visiting Estonia, were struck by the natural beauty of the town and its environment – Matsalu Bay particularly – and immediately fell in love with it. In the words of the utility director: '*Haapsalu could get World Bank funding if it were connected to Matsalu Bay*.' Other reasons were of a direct economical nature and concerned tourism: to protect the biological diversity of the site, which would definitely be threatened if tourism increased; expanding recreational use of beaches; providing protection of the curative mud.

The feasibility study for Haapsalu was conducted in 1994. The environmental project started one year later. The WWTP went into operation in December 1997.

The following exhibit gives an overview of the events which characterise the evolution of the environmental project at Haapsalu.

[17] A more in-depth analysis of the town's features is given in the World Bank staff appraisal report.

Exhibit 4-5. Chronological series of events – Haapsalu

Year	Month	Event	Source
1994	November	• Haapsalu feasibility study ready	
	December	• NEFCO loan agreements with the 3 projects	• loan agreement
1995	February	• BITS grant agreement with Lithuania / KSWSE	
	March	• WB Staff appraisal report Haapsalu • memorandum and recommendation of IBRD concerning HWW	
	May	• BITS grant agreement with Estonia / HWW	Contract 12.05.99
	August	• SWECO contract for design	Sida
	September	• Loan agreement with World Bank (19 sept 1995)	Sida
	October	• Twinning agreement between Haapsalu and Haninge	Sida
1996	May	• 24.05.97: establishment of HWW board by municipality decision 161	3rd supervision mission
	July	Supervision mission	Sida
	October	Contract between HWW and AS EMV	Contract 09.10.99
	November	Contract between EMV and Malmberg Water	Contract 01.11.99
	December	Contract for management information system	Sida
1997	January	Supervision mission	Sida
	February	• 13.02.97: AS Haapsalu VeeVärk (HWW) registered in Business Register	3rd supervision mission
	September	• 22-23.09.97 3rd supervision mission Haapsalu	3rd supervision mission
	December	• plan to open HWW internet site with help of Haninge Water Works (twinning partner) • inauguration of WWTP	• HWW 1998 mission preparatory document
1998	January	• start of HWW cost-saving plan	
	April	• financial audit HWW by Price Waterhouse • 14-15.04.98 4th supervision mission Haapsalu	Preparation material for the 1998 supervision mission
	October	• 5th supervision mission Haapsalu	Preparation material for 1998 supervision mission
	November	• Bohlin & Strömberg winner of the HWW twinning bidding procedure and subsequent contracting • 2-3.11.98 6th supervision mission Haapsalu (no Sida representation in this one) • the PWC people (Rabi and Hallows) were present in Haapsalu	• • the supervision mission concludes that HWW has not been able to comply with the covenants as described in the project agreement, whereas on the previous mission progress was still 'satisfactory'
1999	January	• training seminar Haapsalu & study tour in Sweden following Twinning agreement	• documents for May 1998 supervision mission
	February	• 25 Feb 99: official request for extension of loan closing date Haapsalu & Matsalu projects, by Estonian ministry of finance to WB • official request for extension of twinning agreement between HWW and Haninge Water, addressed to and subsequently accepted by Sida	• information pack for May 1999 supervision mission • idem
	March	• acceptance of request for extension of loan agreement HWW • HWW start-up meeting ICB 5 System reconstruction and automatic control • Supervision mission	• documents for May 1998 supervision mission • documents for May 1998 supervision mission
	May	• start of this evaluation • WB supervision mission at HWW (20-21.05.99)	
	June	• site visits by Technopolis and WCI	

4.5.3 Distribution of Swedish funding over different components

The Swedish contribution consisted of the construction of several sewerage systems, and renovation of the WWTP, the latter being (as in the two other cases) the largest part of funding. Total project cost was 47 MSEK, 12 MSEK of which was to be provided by Sida. Other financiers are World Bank, Finland, Estonian Government, and Haapsalu Municipality. An overview of the different components is given below.

Exhibit 4-6. Sida components – Haapsalu

Component:	**Amount (SEK):**
Haapsalu Twinning Agreement	
Haapsalu Twinning	2,700,000
Haninge VA-Verk	
Management and administration	400,000
Swedish Development Consulting Partner	
Design/Supervision	1,350,000
SWECO	
Equipment	
piping	85,422
AST (Avesta Sheffield Tubes),	
piping	410,703
Avesta Sheffield Nordic AB	
piping, sheet metal	126,210
Avesta Sheffield Nordic AB,	
Equipment	5,199,868
Malmberg Water	
Equipment, Supply Contract	1,731,357
Malmberg Water	
	12,000,000

In decreasing order, the major shares are for equipment to Malmberg Water, for Twinning to Haninge VA Verk, and for design to SWECO.

4.5.4 Feasibility study and preparation

The Swedish company SWECO performed a preliminary study of the site in 1991. The same company conducted the feasibility study in 1994, in collaboration with Bohlin Stromberg AB (Sweden) and AS EMV ('Eesti projekt', Estonia).

4.5.5 Management and administration of the project

Management and administration of the project have been satisfactory. PIU monthly and annual reports have been delivered according to the planned format and schedule. The scrutiny of the different documents at our disposal[18] tells us that project progress has generally been found to be satisfactory until the last supervision mission (before our visit). The 5th (referred to as '6th' in the documents) supervision mission observes that HWW has not been able to comply with all project covenants, although project implementation is progressing satisfactory: both savings (USD 0,64 million) and physical output are better than originally planned.

[18] See annexe.

At the same supervision mission[19] the idea is expressed that there is the risk that the estimated 1999 operating margin (40%) will not be high enough for full cost recovery including the debt service of 3.5–3.8 MEEK in 2002–03. The company should therefore improve its financial performance.

Extension of 12 months is recommended (and has subsequently been requested and approved by WB, and by Sida for the Twinning agreement).

4.5.6 Procurement

Procurement has proceeded in a satisfactory manner. Only during the initial phases of procurement, HWW encountered some problems. The first procurement documents left open the possibility to prospective contractors, to propose different options. This led to a problem with the evaluation of the different offers: WB procurement rules aim at selecting the best offer for the lowest price, however, if different options were proposed a 'lowest price option' could not be selected, since options could not be compared.

The basic criterion for selecting a bid is price, provided that all elements of the tender are covered. Other selection criteria are the quality statement of the company; its references; it should have done at least two similar types of works; and 'tacit' knowledge about the company present at the plant. Of course, national bidders are mostly not older than 5 or 6 years, though most of them are follow-ups of older companies, already existing during Soviet times (this is the case Haapsalu's main contractor EMV).

Finally, in 1996 the Estonian National Procurement Agency was established and a Law on procurement has been adopted in 1997. The HWW has not been involved (or sought to be involved) with the establishment of the agency or the law.

4.5.7 Plant performance

This section discusses the technical performance of the plant and its construction. More details can be found in the technical assessment, annexed to this report.

The building and equipment are all new and in good condition. Existing primary sedimentation tanks were renovated with stainless steel and concrete. The valves that should automatically discharge sludge however do not function and have to be operated manually. Biological treatment seems to function well. The design of nitrogen compounds removal, becoming compulsory in 2002, was started in 1999. The automatic control system was only partly installed at the time of our visits, and several devices still were to be fixed. An emergency power supply is available on site, in order to protect the biological treatment in the case of power cuts. Finally, the site is fenced in order to protect it from unwanted visitors.

The plant appeared to be clean and well maintained. Given that the plant is in the vicinity of building areas (much more than the Klaipeda and Liepaja plants) some more attention may be given to protecting these areas from unwanted noise and odours in particular.

Sludge treatment is not satisfactory. If sludge thickeners do not attain design values shortly, it is expected that drying basins will be overloaded. Sludge treatment is not included in the environmental project, but WWTP personnel have identified the issue. No plans were yet available to remedy the sludge problem.

[19] Cf. its point 15.

Specifically with regard to Sida-components, it should be observed that the effluents meet designed concentrations and HELCOM standards for BOD, suspended solid and Phosphorus. The removal percentages of Phosphorus, Nitrogen and Suspended solids are excellent. Technical training of personnel is considered as good (see also the section on twinning). The small scale of the WWTP, and the vicinity of the offices makes good communication possible.

Several design and construction problems were nevertheless encountered (Exhibit 4-).

Exhibit 4-7. Some typical technical problems encountered at Haapsalu

Design

- The pump impellers were being destroyed by sand in the input water, because no sand traps were designed into the plant. The twinning partner had objected to this from a very early stage, but the constructor insisted that the coarse screens through which the water initially flows would not only take out large pollutants but also sand – which does not seem to be correct. To work round the problem of sand in the water, the twinning partner has helped the people at Haapsalu increase the gap between the pump impeller and the casing to 2 mm. (With the narrower spacing, the sand in the water clogs the pump and the frequency-controlled pump will not start). With this larger gap, the pumps have to work much harder than was intended in the original design. As a result, they wear out very quickly.
- Domestic per capita water consumption assumptions appear to have been too high: in 1998 the inflow in the plant decreased below its 1994 level and below the 2005 forecast.
- Installations are over-sized. The design dimensioned the treatment plant for 20 000 people, but handles only 14 000 today. Preparations are being made to pump in sludge from neighbouring areas, so as to use the capacity. Today, treatment performance is currently not affected. Treatment performance may be affected if the sludge problem, cited above, is not addressed.

Construction

- Screens were incorrectly installed, and 2 broke.
- There was 'fighting' between Malmberg Vatten and EMC over access to EMV's heavy lift gear, which Malmberg Vatten had understood, was part of the contract. At one point Malmberg Vatten threatened to hire lifting equipment and send the bill to EMV.
- The quality of construction of the final sedimentation tanks is poor. These tanks are fitted with scrapers to take out the settled sludge, and the scrapers only work properly if the walls are flat. However, the walls are built unevenly. As a result, Malmberg had to reduce the size of the scrapers fitted, with a corresponding loss in efficiency.

Operation

- The return-sludge pumps leaked water onto the motor through the cable hole. The problem was obvious, but was not addressed, so 2 pumps failed. The twinning partner (represented by T. Sjöström) achieved a temporary solution to the problem, and called in the manufacturer (Pumpex) who has replaced the faulty pumps.
- Malmberg Vatten supplied a PLC system, which is technically good. However, EMV's electricians did not know what to do with it – they literally did not know how PLCs worked, and could not install them.

In our view, the problems related to design may point at not taking enough into account both physical (sand, constituting generally a less significant problem in Sweden) and the socio-economic environment of the plants (expected economic growth; human reaction when water at once has a price). The difficulties relating to construction were not only of a technical nature, but reflect the not always easy relations between the Swedish equipment provider and the Estonian constructor. Finally, the difficulties encountered during operation may point at plant workers who, especially in the early phases of the project, were not assertive or trained well enough to react properly on problems that suddenly arise. The fact that the twinning partner had to play a role as technical problem shooter (and not as trainer only) is very illustrative in this case.

4.5.8 Twinning

Haapsalu's twinning partner is Haninge *Kommun (municipality)*. It has been the twin town of Haapsalu since 1989, and has a population of 65 000 people. It was therefore fairly natural that twinning on wastewater management would be with Haninge. Haninge Water is a department of the *Kommun*, not a free-standing legal person.

From the outset, the focal point for twinning was a visit from Haninge Water to Haapsalu's sewage works on behalf of the *Kommun*. A Swedish construction services company had already looked at the possibility of renovating the plant in Haapsalu. According to Haninge Water, the plant was in such a bad shape that it should be entirely replaced. At this point, Haninge kommune ran into financial difficulty, and stopped the active co-operation with Haapsalu on wastewater treatment. Contacts between the two towns were reinvigorated in 1993, when people from BITS went to visit Haapsalu, and it was decided to finance the rehabilitation and construction of the three sewage plants. Haninge signed the twinning agreement in 1995.

WB's SAR defines the goal of the Twinning in Haapsalu as follows:

> *The main objective of the Twinning arrangement would be to improve HWW's overall performance through changes in its operational and financial management practices*. […].

There have been various obstacles preventing to respond in an entirely satisfactory way to this objective since, in reality, twinning only concerned *technical* support. Several reasons were indicated for this, which we will briefly discuss below.

First, whereas for the technical twinning a plan existed, for the financial and management part no specific plan or programme was developed. Therefore relationships and the contents of the training could only have been ad hoc and were not binding.

Second, at the Baltic side there were doubts on whether there was something to be learned from the Swedish partners at another than technical level. The director of the Haapsalu utility (also Head of PIU and thus having the direct contacts with the financiers) explains that, even if governed by the municipality, Haapsalu utility functions as a business enterprise. In their administrative procedures, they do not depend on the municipality, whereas Haninge does. For this reason HWW expected to not gain much from the administrative part of the twinning and has asked Sida to decrease this part, which was finally agreed. The twinning partner was initially not informed about this, leading to surprise and some frustration. According to the twinning partner, managerial aspects should have remained in the twinning agreement.

Third, Haninge was not involved in the design of the plant and met SWECO, the designer, only once. An exchange between designer and twinning partner was not planned in the project, so no-one can officially be blamed that this did not happen. Different parties think however that there would have been a benefit in exchanging more between designer, constructor and the twinning partner – the latter since responsible for technical training of the plant workers. It is felt that Sida could have played a greater role in bringing the different partners together.

Finally, too much the expectation exists that twinning water companies would not only be good in running their own company, but would also be good at transferring their (often tacit) knowledge to others. Although everybody has been extremely positive about the technical twinning for Haapsalu, this depends more on the personality involved than on a well established training plan. Help from external trainers may have been a remedy to this.

In sum, for the case of Haapsalu there is a general consensus about technical twinning having been excellent, and extremely helpful for running the plant. The financial and management twinning has not been satisfactory and did not respond to the terms of reference of the SAR.

It should be stressed that all evidence points to the fact that in Haapsalu – maybe more even than in the other cities – twinning very much depended on the personality of the person responsible for the twinning. Mr Sjöström is seen by everybody as immensely experienced and competent, is interested

in his work and speaks with great pride about the plant. He has a dedication and interest in the twinning arrangement that leads him to work well beyond the normal working week. In effect, he does all the twinning work in his own time and has been to Haapsalu over 30 times. He expects to continue helping the Haapsalu people, even after the end of the Sida twinning finance, under the umbrella of the towns' twinning agreement. Although this involvement should be admired, it is also a very risky way of managing a project. Continuation of twinning is endangered in the (undesired) case such a key person would leave or loose interest in the project.

4.5.9 (Sub-)contracting and contractors

Haapsalu is the only project of the three in which the main contractor is a national company. This has lead to a remarkable situation.

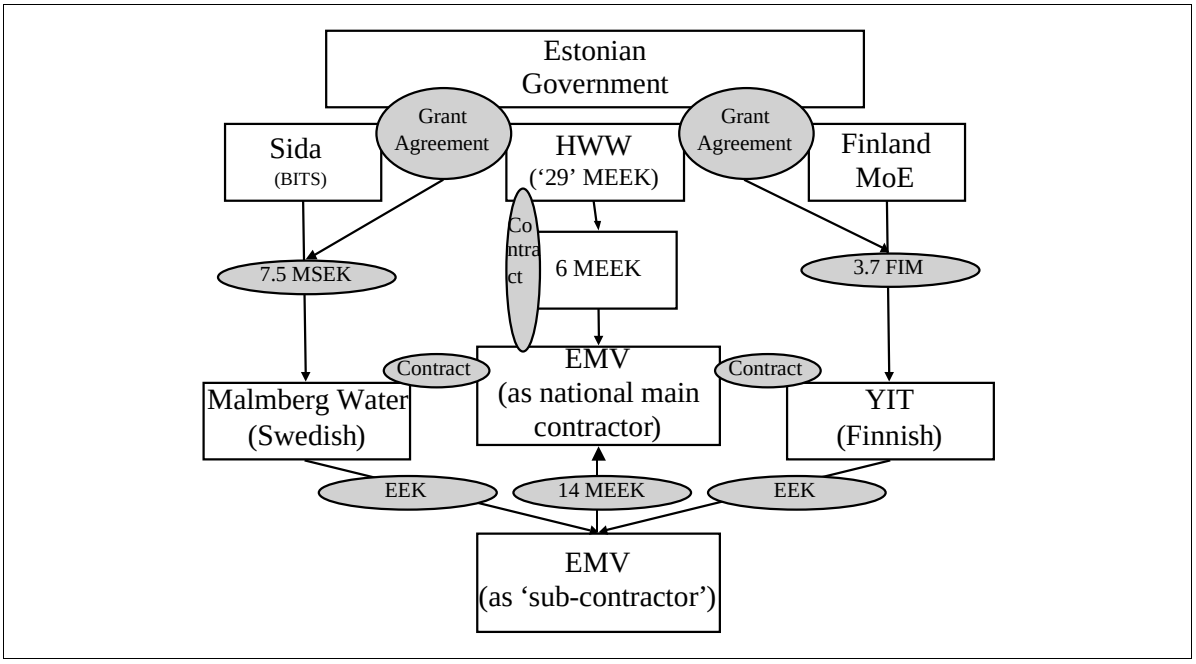
The main contractor is AS EMV ('Eesti Projekt'), based in Tallinn.[20] This company has already built up a certain reputation since it was co-contractor (with a Finnish company) in the second phase of the construction of Tallinn's WWTP (it was subcontractor in the first phase). It is currently in charge of the reconstruction of Tallinn airport. It has taken part in bidding procedures in other Baltic States (though not in one of the three projects discussed in this report).

AS EMV is formally subcontracting parts of the work: to a Finnish (YIT) and a Swedish (Malmberg Water) company. However, according to the grant agreement (a) Swedish and Finnish companies are directly paid by the national financing agency (in the Swedish case this is Sida) and (b) local companies are not eligible for obtaining Swedish (or Finnish) funding. Therefore, subcontracting is not real subcontracting – the funding of the Swedish and Finnish companies does not transit through the main contractor, which would normally be the case, but comes from the national authorities.

In reality, the money flows in the opposite direction: back from 'sub'-contractor to 'main' contractor. This can be explained as follows. The 6 MEEK which were nationally available through HWW were obviously not enough for the civil works, which, given lower wages in Estonia, would be more attractive to be performed by a national company. Then, according to one of the directors of the main contractor, because of the rules on national funding a 'deal' had to be made between the different partners of the project. Part of the funding received for provision of goods and services by the Swedish and Finnish companies from their national authorities, was 'sub-contracted back' to EMV. We have tried to represent these somewhat complex relationships in 8.

[20] In Klaipeda the Baltic Consulting Group, a Lithuanian company, was subcontracted by the Swedish VAI VA Projekt; in Liepaja, SWECO subcontracted the Latvian company Hidrostandart.

Exhibit 4-8. Contractual and financial relationships (approximate figures)



According to the Swedish prime contractor (Malmberg Vatten, see below) '*arriving at this arrangement took 4/5 months of in-fighting.*' In the Grant Agreement, it is stated that local costs can be accepted, generally, 10% of the total contract sum. Also, Sida can approve non-Swedish equipment if there are no suitable goods of Swedish origin available. These arrangements are one way of solving the obstacles which can occur with the financiers' varying procurement guidelines, in a somewhat flexible way. However, once the arrangements were set up and the project went ahead, it was delivered on time and to cost. Since money had already been allocated at the outset, the project continued despite the argument.

The Swedish contractor is Malmberg Vatten (MW). MW is a water, wastewater and energy equipment company, established in 1864. Its turnover is 130 MSEK, about 50% if which is bought-in content. A subsidiary – Malmberg Entreprenad – does small, turnkey projects in Sweden. Malmberg Vatten focuses on bigger projects, mostly in teams with others. About 25% of turnover is exports.

The Grant agreement between (then) BITS and the Estonian government speaks of delivery of both goods, in the form of equipment, and services, i.e. plant construction. The Grant Agreement covers both the grant for equipment, i.e. Malmbergs' supply and installation contract and services; e.g. consultancy services for detailed design and supervision (SWECO). The different contract packages were proposed by the client's consultants and discussed and approved by the financiers. In reality, Malmberg Vatten only delivered equipment,[21] whereas all civil and electrical engineering was performed by EMV. The decision to split the contract among suppliers in such a way that the electrical-electronic interface was also an interface between different suppliers was made at the economic/political level, i.e. by Sida, Finnish Government and World Bank.

[21] Cf. contract between Malmberg Water AB and AS EMV.

Finally, Haapsalu experienced some maintenance problems (see section 0 also). When the plant was built, it was decided not to include sand traps. The contractors and MW knew from the start that this would be a problem, but the reckoned they could install over-sized pumps and get away with it. However, they had not counted on the pumps stopping often, and getting stuck because of the sand. Pumpex exchanged two different pumps under guarantee, owing to manufacturing faults.

4.5.10 Local relationships

Contacts with the local authorities are good. At the municipality, the person who is responsible for technical matters monitors the project. This person is more generally in charge of the town's utilities, such as energy and district heating, waste management, transport and housing. There is no direct financing of the water utility other than the sums included in the World Bank project. The municipality's contribution to the project represents 9% of its total budget.

The water utility is not the only part of the public utilities governed by the municipality. In fact, both public transport and waste management appear to be bought in from the outside, through competitive bidding procedures.

The relation between the plant and broader municipal development strategy can be described as follows. Traditionally, Haapsalu was a 'tourist' town (it was the summer resort of the Russian imperial family), before becoming a Soviet air base. Until the end of Soviet times the central part of town did not have a sewage system. Wastewater treatment was performed mechanically only and this was done poorly, therefore representing a direct threat to the natural environment and to the Baltic Sea. With the end of the Soviet era, and the idea to make Haapsalu again a tourist town, the rehabilitation of both the sewage system and the wastewater treatment have a great priority in order to safeguard the natural environment of the place.

Tourism is expected to develop greatly in the coming years. Haapsalu is famous for its curative mud and it is planned that the number of beds in resorts, now around 300, should double in the coming years. Another important and increasing group of tourists are ornithologists, who mainly appear to camp. The current day capacity of persons Haapsalu can cater for is 21 000 (including the approximately 15 000 inhabitants). There are and have been some serious peaks, driving the city to its limits, such as the fire night festival (30 000 visitors), and the mid-June barbecue festival, attracting around 45 000 people. Even though in the latter case the real problem, according to the municipality's representative, is transport rather than water production and treatment, it is clear that the development of the city's tourist development strategy and the development of water production and wastewater treatment capacity go hand in hand.

4.5.11 Future expectations and needs

Two major issues for the future could be identified.

First, the different supervision mission reports show that the cost and tariffs are unbalanced. A major action should be to make sure that costs and tariffs are more in line in order for Haapsalu to become a more beneficial enterprise. As already indicated by the SAR as one of the major risks involved with the project, this will depend for a great deal of the will of Haapsalu municipality to increase tariffs. However, this may be difficult since the tariff level in Haapsalu is already one of the highest in the three Baltic countries.

Second, the issue of sludge should be addressed. Although it is not a part of the environmental project, and therefore natural that it has not been dealt with, sludge will become a major issue for the future and should be solved.

4.6 Klaipeda (Lithuania)

4.6.1 Introduction

Klaipeda was a Russian naval base, and with somewhat over 200 000 inhabitants, it is Lithuania's third largest city. It is situated on the Baltic coast on the mouth of the Kursiu lagoon. It has a number of diversified industries, a shipbuilding dock, a fishing harbor and it is Lithuania's only commercial port. The choice for Klaipeda to perform the project was thus relatively obvious: it is Lithuania's only port of importance and therefore of high economic relevance for the country.

At the beginning of the project, the then Klaipeda State Water Supply Enterprise (today Klaipeda Water) provided water for a population of about 194 000 and sanitation for about 173 000. In addition it serves some smaller cities in the vicinity of Klaipeda.[22]

The environmental project concerns finalisation of construction of wastewater treatment plant; extension of sewage pipe network Swedish funding is 38 MSEK on a total project cost of 161 MSEK. Apart from Sida, main financiers are World Bank, Finland, Lithuanian Government, and Klaipeda Municipality. The new treatment plant was completed in October 1998. Design and supervision have been performed by a Swedish company. Main contractor for the WWTP was a Finnish company.

4.6.2 Historical features and background to the project

The city of Klaipeda is situated on the Baltic Coast on the mouth of the Kursiu lagoon. With a population of 240 000 Klaipeda is Lithuania's third largest city and only commercial port. It has a number of diversified industries (metallic and food), a shipbuilding dock, and a fishing harbour. In the past a cardboard factory existed (one of the main reasons for Klaipeda to be a hot spot) which went bankrupt and is no longer operational.

The municipality has major plans to develop tourism in the area. However, the coastal waters and Kursiu lagoon are heavily polluted, in particular by insufficiently treated and even untreated wastewater discharges. Kursiu lagoon receives the total discharge of the Nemunas River as well as limited amount of discharges from areas in the northwest section of the Kaliningrad Oblast. This situation is of particular concern of both the municipality and the Ministry of Environment, leading, amongst other things, to a major interest in the environmental project.

By the start of the project, Klaipeda State Water Supply Enterprise (KSWSE or Klaipeda Water) provided water for about a population of 194 000 and sanitation services for about 173 000, as well as for industry consisting mainly of maritime related establishments (SAR, p.7).

Although water supply services were available without interruption, in the beginning of the 1990s the water quality left much to desire. Though it met standards after treatment, the water had a bad taste and a strong colour exceeding permitted levels. Water consumption was very high (275 l/c/d compared to the European average of 175).

The sewerage system covered approximately 85 percent of the population of Klaipeda, and consisted of 343 km of sewers with 8 pumping stations. Wastewater treatment was mechanical only and the treated water was discharged directly to the lagoon. The plant was frequently overloaded resulting in short retention times or simply bypassing of flows. Pumping stations and the terminal main to the treatment plant were in poor condition and broke down frequently, which led also to

[22] SAR, p.7.

direct discharges to the lagoon. With the connection of additional surrounding villages to the network it was expected that direct discharges would only increase.

Just as Haapsalu, the environment of Klaipeda is characterised by white beaches and a National Park. Kursiu Lagoon is one of the most ecologically productive regions of North and Eastern Europe, and the Nemius Delta is one of the most important Baltic Sea regions of ornithological interest. It is a critical part of a complex ecological system which is also connected with Lake Pape close to Liepaja and Matsalu Bay in the vicinity of Haapsalu. Before the environmental project started, a regional programme already addressed the area for coastal lagoon and wetland conservation funded by World Wildlife Fund, the European LIFE programme, the Government of Sweden and national and local government.

These elements set the stage for the environmental project concerning the improvement of the network, and reconstruction of the wastewater treatment plant. The different events that characterise the events are listed, in chronological order, in Exhibit 4-9, below.

Exhibit 4-9. Chronological series of events – Klaipeda

Year	Month	Klaipeda	Source
1994	August	• Delivery of feasibility study	Feasibility study Klaipeda
	November	• WB Staff appraisal report	
	December	• NEFCO loan agreement	• loan agreement • grant agreement
1995	January	• IBRD loan agreement with Lithuania (Klaipeda)	• loan agreements
	February	• 21 February: Grant Agreement BITS – Lithuania	• grant agreement
	April	• 11 April: signature of Twinning agreement between KSWSE and Malmö VA Verket	• twinning agreement • grant agreement
	June	• KSWSE 1995annual report	• KSWSE 1995annual report
	October	• end of first 3 months term WB loan for KSWSE	
	November	• delivery final draft design report for KSWSE by consultant VAI VA projekt	• annual report for 1995
1996	January	• initial deadline for tariff schedule KSWSE	• KSWSE annual report for 1995
	July	• Supervision mission	• Supervision mission
1997	February	• Contract with Lemminkäinen	• KSWSE annual report for 1995 (January 1996)
1998	January	• initial deadline for budget & accounting system KSWSE to be in place (cf annual report for 1995)	• KSWSE annual report for 1995 (January 1996)
	May	• Supervision mission	• Supervision mission
	October	• Supervision mission	• Supervision mission
	December	• inauguration of the WWTP	
1999	February	• HELCOM PITF JCP 1998 Annual report • Call for proposals by Sida for evaluation	• HELCOM PITF JCP 1998 Annual report • tender document
	April	• Supervision mission	
	May	• start of evaluation	
	June	• site visits by Technopolis and WCI	

4.6.3 Distribution of Swedish funding over different components

The Swedish contribution consisted of the provision of equipment, of design and supervision and of the financing of twinning, as well as (marginally) some training courses provided by the Swedish Association of Local Authorities.

Sida components are given in Exhibit 4-10.

Exhibit 4-10. Sida components – Klaipeda

Component	Amount (SEK)
Municipality of Klaipeda: Training courses The Swedish Association of Local Authorities	390 000
Klaipeda Twinning Agreement Malmö Water	5 175 000
Design/Supervision VAI VA- Projekt	9 250 077
Equipment, co-financed with Finland (contracted through Finnish Min. of Environment)	22 220 500
	37 076 577

Equipment was the major share of funding, and this was co-contracted with the Government of Finland, the main contractor being Lemminkäinen, a Finnish company.

For far greater an amount than in the Haapsalu case previously discussed (explained by greater size), the components funded by Sida mainly concerned the completion of the WWTP with electro-mechanical equipment, institutional support (to the municipality) and twinning. Civil works were hardly financially supported since most of it had been completed before the project started (in fact, even before the independence).

4.6.4 Feasibility study and preparation

A feasibility study of Klaipeda environmental project was conducted in 1994 by Rust Va Projekt AB (today called VAI-VA Projekt), Sweden, in association with Soil and Water Ltd., Finland, and Baltic Consulting Group, Lithuania (BCG is a subsidiary company of VAI-VA). The results of the study laid the basis for the World Bank Staff Appraisal Report and were used to identify the different components to be funded by the available financiers. The report was also used as a reference for the designer to establish the component design criteria.

A lot of assumptions made in the initial project planning stages (those that finally can be found in the Staff appraisal project) have not proven correct. Water consumption decreased far more and much faster than foreseen, broader municipal development planning has not been taken into account, costs of individual components have been higher than foreseen, and the company sold far less than expected. Resulting cost increases were mainly paid from the Lithuanian budget. Some of the details will come back in following sections.

4.6.5 Management and administration

The highlights in PIU's management of the project were that the construction of the plant was completed in 1998. Also in 1998, the Enterprise has managed to reduce its costs by 2 million Lt in 1998. Finally, the PIU managed to obtain 7,2 millions of Euro additional funding from Phare, for the rehabilitation of 2 well fields.

However, far more than in the other two cases, after a rather fluent operation in the first year (1995), the project has suffered from delays. These are highly recurrent, and are time and again pointed out in the annual reports (Exhibit 4-11).

Exhibit 4-11. Klaipeda: examples of delays reported in PIU annual reports

1995

- A major delay is caused following the controversy as to whether to use Lithuanian or Western European standards in the tender documentation for the main contract. Eastern European standards would be more costly to implement.

1996

- Delays in the WWTP component because of changes in WWT results and an interruption of the tendering procedures in March
- Delays in other components since consultants did not submit reports in time and, once arrived, their approval and amendment by KW was time consuming
- The main contract for WWTP completion was not signed because of a financing gap and because of failures of RUST VA Projekt to submit draft contract, to analyse alternative proposal and to submit bills of quantities in time
- Approval procedures with main financiers are slow
- There is lack of funding for mainly all major components

1997

- Lack of funding for the main contract of WWTP completion (following which Lemminkäinen decides to charge KW for delayed payments) and for WWTP external network
- Klaipeda municipality has not given the final approval to the corrections to the implementation plan of the environmental project components
- Financial budget for 1998 and cost saving plan have not been approved

1998

- Due to lack of local funding invoices of the Main Contractor were paid late; the contractor is going to put in a claim
- The new wastewater treatment plant has not been taken over by the State Commission
- The tender documents for Service Extension have not been approved by WB
- The strategic plan of the company has not been completed
- The cost saving plan has not been prepared
- WB has not replenished the special account for the amount that was paid for the auditing of financial statements of 1997

Inspection of the nature of the delays shows that seldom they result from bad management by the PIU *per se*, but rather from its position. Delays in the project are often due to an accumulation of delays caused by contractors or financiers, or because of unexpected decision making at local or national level. In both cases the PIU cannot really influence its partners. In the first case the PIU is powerless since it has no means to exert influence on either financiers or contractors (it may only threaten the latter with later disbursement requests, which in the case of delays do not make much sense). In the case of the municipality it is powerless since Klaipeda Water hierarchically depends on it and is governed by a board of local representatives. In the case of delays caused by the national authorities relationships are even more complex since Government has a triple role. It is simultaneously (1) the regulatory body responsible for the water and wastewater standards, (2) signer of the Grant agreement with the foreign financiers such as Sida, and (3) finally acts itself as co-financier.

4.6.6 Procurement

Procurement overall has been performed satisfactorily. In the case of the Main Contract there has been delay because of strong involvement of the Ministry of environment. This event will be discussed under section 4.6.10 (local relationships), since it is a good example of how the national government wanted to be involved in the process, and not necessarily an example of 'poor' procurement.

As indicated in the previous section, in the preparation of the documentation for the Main contract there has been a discussion between designer and KW as to whether to use Lithuanian standards, or whether financial restrictions should prevail in the Tender documentation. Eastern European standards would be more costly to implement than Western European standards. Lithuanian government was opposed to these and wanted Lithuanian standards to be implemented. After several

changes in the tender documents, finally Lithuanian standards would be applied. As a result of these negotiations, the consultant, RUST VA, was behind time schedule, and claimed an increase in funding.

4.6.7 Plant performance[23]

Far before the idea of the environmental projects was born (in fact even before the fall of the Berlin wall) rehabilitation of the plant was set in train. A Polish company performed major civil works by the end of the 1980s. This concerned primary and secondary sedimentation tanks. Particularly striking is a major construction near the border of the plant area. These are 'digesters,' built in view of developing biological treatment of the sludge. After rejection by BITS in May 1995 to include them in the project, due to financial limitations, they are currently not operated, but locally ideas exist to use them in order to treat the sludge in the future.

The WWTP was generally found to be clean and well maintained. Landscaping works (financed by KSWSE) were undertaken at the moment of the visit. The waste inlet building and the stainless steel equipment are new and in good condition. However, during the visit, sand was removed manually from the sand trap because of failing pumps. Primary and secondary sedimentation tanks seemed to work well; some floating excess sludge was observed in one of the two basins for biological treatment. Primary and activated sludge treatment is doing well, a control system has been installed and is operating (operated by two engineers), the power supply is reported as being safe and the site is fenced, against unwanted visitors.

Compared to French standards (Lithuanian ones being not at our disposal) average removal percentages for TSS and Phosphorous are close to good and removal of Nitrogen is excellent for the type of treatment used. Nevertheless performance results should remain high in order to comply with HELCOM standards. Whereas HELCOM reduction load standards of 90% for BOD5 were met, it will probably be difficult to attain the HELCOM recommendation for BOD5 concentration completely.

As in Haapsalu, also here a major problem with the sand trap was identified – '*it really is a point for headache*,' finds the plant manager. Since the beginning of operation (December 1998) sand pumps have already failed three times. In such cases, sand has to be removed manually. This normally costs 2 to 3 days work, and during this period a major part of the plant is out of order.

By the time of our plant visits, the different partners in the project are currently in discussion to find the cause for this malfunctioning, and controversy exists as to the exact origin of the problem (operation, design or construction). The existence of disagreement is understandable since each different potential cause implies major consequences for the partner who would be responsible. It is a delicate issue since the type of sand removal is not common in Sweden, especially since the quantities of sand are higher than is usually the case there (theoretically however, the quantities are not exceeded). This may point at a design or construction failure. However, the PIU can financially not afford the involvement of an external consultant to investigate the situation. A proposal to Sida for extra training for operators is worked upon in order to remedy the situation.

4.6.8 Twinning

In 1995, a three-year twinning agreement between Klaipeda Water and Malmö Water and Wastewater Works (Malmö Vatten) was signed. The twinning co-operation, according to this agreement,

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[23] More details can be found in the technical report established by WCI annexed to this report, on which this section is partly based.

should comprise long-term technical assistance and training, focusing on (a) Management and administrative procedures and systems; (b) Systems rehabilitation and operational improvements; (c) Training. A work plan has been established between the two companies, and has been approved by BITS. Twinning has been monitored, and, especially in the first year, its results were laid down in quarterly progress reports, attached to the annual reports provided by the PIU.

In practice, twinning provided both training related to technical matters and financial and management aspects. The technical training and exchange consisted of issues of closed circuit television for sewer inspection, wastewater quality monitoring and so forth. The financial and management training and exchange concerned assistance with the establishment of the strategic plan,

After a short extension in 1997, the 3.5-year twinning co-operation with MWWW finished in 1998. The twinning was seen as highly satisfactory by the utility and PIU. Far more than in Liepaja and Haapsalu, this twinning arrangement seemingly also incorporated financial and management issues. However, the twinning partner does not share the utility's positive view on twinning – far from it.

At the outset, people from Sida and Klaipeda visited both Malmö Vatten and Karlskrona Vatten, in search of a twinning partner for the wastewater project. Karlskrona was included as a candidate since it was already twinning with the municipality of Klaipeda on other issues. Sida's preference was however for Malmö, as they had more people available and more experience. While Malmö Vatten does have an international consulting arm, Mr Widing led the twinning from within the operating company. Twinning was explicitly supposed to be a transfer of experience rather than of technology.

Malmö Vatten employs 160 people. While it is a cost centre within the city of Malmö, in 1994 it won the franchise for water services against 6 European consortia in an open competition. The responsible manager for the twinning (Sven Widing) has been many years in the business and has good contacts with both the responsible managers for twinning at Haninge and at Karlskrona Vatten.

As in Haapsalu, twinning and design were disconnected. Whereas the Swedish partner trained people on the plant and (in this case) even were in the development of the strategic plan, it was not given any involvement in the initial stages of design. The twinning partner itself would liked to have been involved in the project from the beginning. Its progress report for 1995 (included in KW annual report for 1995) reads:

> *Unfortunately the twinning activities started later than the design review and were not run in parallel. Therefore, neither the fundamental strategy nor any basic key condition for the WWTP were initially discussed or clarified between KW and MWWW.*

There have been further frictions during the initial phases. In mid-95, Klaipeda Water was taken over by the municipality. In that period, the Malmö partners expressed their serious concern about their future co-operation with Klaipeda Water. According to the archives, this arose from a 'misinterpretation' of a declaration signed in September between the municipality of Klaipeda and the French company 'Lyonnaise des Eaux,' relating to about the same issues as the twinning agreement between KW and MWWW. It was agreed to look for the ways "*to resolve this unfortunate misunderstanding and rebuild the good relations*" (KW annual report for 1995). However, this misunderstanding led to a two month gap in the twinning programme and a mutual loss of faith. Malmö Vatten restarted the work in January 1996, with a revised work plan. Lyonnaise des Eaux has withdrawn and no longer seems to be active in the region.

The twinning partner feels it has been trying – not successfully – to bridge a huge gap in culture and understanding:

> *They didn't understand the concept of interest. They undertook to do many things which they did not understand – such as reducing numbers of staff* […] *when the time came for staff reductions, all doors were slammed in my face.*

The twinning partner felt that no-one at Klaipeda could understand why they should reduce costs. Their attitude was that "*When the money runs out, we'll just get some more*." And this turns out to be true: by the time that economics got so bad that at the request of the World Bank, the twinning partner wrote a 'rescue plan,' Klaipeda got 9 MECU from EU-PHARE. Hence, incentives to become more efficient disappeared – at least until the new funding also runs out.

Another point where twinning did not work concerns a key issue such as maintenance. In Klaipeda, according to the twinning partner, the maintenance is done as it is prescribed in the maintenance schedule, but without interest or enthusiasm. Maintenance activities are ignored since they are not on the maintenance sheet, and then machines break down.

In other words, the twinning partner experienced difficulties with telling the Klaipeda people how to be multi-tasking or multi-skilling. In Sweden, one person has to perform many tasks, whereas the people in the Klaipeda wastewater plant were not used to this way of working. Such competences could not be transferred from one utility to the other.

Late in 1997, a new twinning work plan was drafted, this time focusing on more concrete tasks, such as:

- Buying an accounting system
- Training in budgeting and cost management
- Sludge treatment training (dropped in 1998 in favour of training provided from Finland)
- Operating advice (which was never effective)

A wide seminar was held with some 30 Klaipeda people in Malmö. Partly, this involved some history – improve understanding of the historical development of wastewater treatment and economics in Sweden in order to learn from history why Malmö's proposals made sense, and partly to discuss the contents of the latest plan. However, the Klaipeda partners quickly lost interest and twinning has not been extended beyond the initial contract.

4.6.9 (Sub-)contracting and contractors

The main contractor is a Finnish company, Lemminkäinen.[24] KW has a turnkey contract with this company. Although the PIU is generally satisfied about the contractor, it feels that through the turn key contract, dependence on one single contractor has become great. In answer to our questions, it appeared that the PIU did not know to what extent the contractor subcontracted out to local companies. Invoices, coming directly from Lemminkäinen, do not show such detail.

There have been initial problems with the procurement and signature of the main contract. As indicated in the previous section, delays in *procurement* were caused by involvement of national policy, which will be discussed below (see 4.6.10). Delays in signature of contract were caused by failures of

[24] The same company has in 1998 been selected through a tender procedure, to carry out the rehabilitation of the Water and Wastewater Network. This is not a Sida component and falls outside the scope of the present evaluation.

RUST VA-Projekt, as designer, to submit a draft contract in time, to analyse the alternative proposal of the winner of the tender, and to submit bills of quantities for that part of the equipment where western standards could be applied. Whereas it was not really clear whether the third task was part of the contract, the first two certainly were.

4.6.10 Local relationships

As from 1998, the PIU had an agreement with two local newspapers, which was renewed in 1999. The agreement concerned a special page with information about the company and the services it delivers, as well as information about pending tariff increases (November 1998). Also a questionnaire to Klaipeda residents was included about the type of services they expected from the utility.

On a political level, the local and national involvement in the project is high, but not everybody appreciates this. In fact, it seems that the development of the WWTP has suffered several times from decisions from either local or national government, which, especially in initial stages, hampered project progress. Not all events can be repeated here – they are well documented by the PIU in its annual reports – but simply one typical example at the national level will be highlighted.[25]

The example was referred to earlier and concerns the involvement of the national environmental ministry with the selection of proposals for the completion of the WWT. After pre-qualification of Lithuanian companies for this tender (March 1996) only one Lithuanian company remained eligible. The Ministry, not agreeing with this, nominated a new evaluation committee and insisted on putting all relevant Lithuanian companies on the list. This was against international bidding procedures, therefore financiers declared pre-qualification null and void, and a tender was arranged without pre-qualification. After tendering adjudication (by an independent foreign consultant) a Finnish company was finally selected as main contractor.

More generally, Klaipeda is seen by most observers as the most complex of the three projects – progress has been slow, and political involvement in decision-making around the projects has been high (trying to define precise links between these two aspects would be speculation). In our view, this is not surprising and it could be expected that implementation of the Klaipeda project would be most difficult. It is a highly political object, locally since it concerns a major utility in a relatively big town, and nationally, since Klaipeda is the only commercial port and therefore of high relevance for the future economic development of the country as a whole. Therefore, all different stakeholders want to have their say.

Another important reason, not limited to Lithuania, but probably expressed most clearly here,[26] is that a certain frustration is felt when main contractors are foreign, whereas the idea exists that national companies can very well do the job (regardless of whether this is true or not).

Our interviews with representatives of local and national governments suggest that in the future the political involvement will be more constructive, as testified by a letter from the municipality to the World Bank.

4.6.11 Future expectations and needs

There are three major problems, which need acute resolution.

First, it is generally acknowledged by all stakeholders that progress of the project has been slow. Earlier in this chapter, delays have been analysed. A lot of problems in project planning were due to

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25 See Klaipeda PIU annual report for 1996 for more details.

26 And in another form for the case of Haapsalu; in Liepaja it seems to be less of a political preoccupation.

initial wrong assumptions,[27] both in the Staff Appraisal Report of the World Bank and in the tariff study conducted later. Project components have cost more than initially planned (money which had to be disbursed by the local and national authorities). Therefore, in the future, especially for projects of the size like this, a more realistic planning should be developed.[28]

Sludge poses a problem. Today, it is still going to the former WWTP, but it is not clear where it is going next. A solution should be found for the sludge problem. The potential role of the digesters may need a more serious investigation than so far has been carried out.

Finally, the problem with the sand pumps needs a solution. If the different parties do not come to a satisfactory agreement, Sida, as main financier, may want to assign an independent arbiter to evaluate what exactly is the origin of the problem. It is preferred however that a solution is found by the different stakeholders themselves, especially between designer (VAI VA), constructor (Lemminkäinen), and operator (KW).

More generally, Klaipeda has not been satisfactory in terms of the twinning. The twinning partners pushed the Swedish model very hard but at the same time were never able to identify an intermediate position which would let Klaipeda Water transition towards the Swedish model. At the same time Klaipeda may not have been able to make effective use of the foreign technology within its existing economic, managerial and skills base.

The Klaipeda case supports Sida's position on the important role of institutional change in modernisation. The Klaipeda project is a case however where institutional modernisation has not been achieved very well. One of the reasons for the difficulties in project implementation may simply be that the environmental project aimed to do too many things in too short a time. "*They have to do in 5 years where we took 30!*" is an expression heard from the Swedish side. It may also be that what is possible in Estonia is not so quickly possible in Lithuania – as people tend to forget, the three countries of 'the Baltics' are typically not the same culture.

4.7 Liepaja (Latvia)

4.7.1 Introduction

Liepaja is the third major port of Latvia – after Riga and Ventspils – and Latvia's third largest city. It has long white beaches, a naval base (a former Soviet submarine base), a commercial port and a fishing harbour. At the beginning of the project, several industrial enterprises were situated in Liepaja, amongst which food and beverage industry and metal industry. The city plans to develop tourism, necessitating improvement of the water distribution and sewerage systems.

In terms of absolute cost, the project is the second largest of the three evaluated projects, but first in terms of Sida funding. The project consists of the completion of (virtually all of) the WWTP and rehabilitation of the sewerage system. The sewerage system dated from the beginning of the century and was in an extremely poor shape by the start of the project. There was a high level of infiltration

[27] Reduction of water consumption and thus a great overcapacity, disconnection from broader municipal development planning, higher project costs than foreseen, mainly paid by the Lithuanian budget, decrease of company sales.

[28] All the points cited here are not new, and most of them were summarised in a letter, supported by data, from Klaipeda municipality to World Bank, April 15, 1998. Later data did not show progress.

of ground and rain water in the sewerage system, and inversely, of sewerage in the water distribution system. The Sida component concerns design and construction of major parts of the wastewater treatment plant, as well as twinning with a Swedish municipal water enterprise.

4.7.2 Historical features and background to the project

According to the SAR, the coastal waters outside Liepaja, Lake Liepaja and the channel connecting the city with the sea were severely polluted because of untreated sewage discharges, and by heavy metals. The sewage system was in a very bad state. The sewerage system of the part of the town which previously belonged to the Soviet naval base and which in 1993 was handed over to Liepaja Water and Wastewater Enterprise (LWWE) was in an even worse shape. Water supply, based on groundwater extraction, was however of a relatively good quality in the town. LWWE serves a population of around 85 000 and some industries. Use of individual metering was not extensive and water consumption was relatively low in Liepaja at the start of the project. Major problems were

- leakage and hydraulic performance,
- lack of metering,
- risk of infection because of the high infiltration of sewerage into distribution pipes,
- high infiltration of rain and ground water into the sewerage system and
- direct discharge into the sea.

In sum, *any* intervention would have an impact.

At the same time that Liepaja was included in the list of hot spots, the Government of Latvia acknowledged the city of Liepaja as their priority for national and foreign investments in environmental protection. It therefore became the first Latvian city to be involved with foreign aid.

Finally, like both Haapsalu and Klaipeda, Liepaja was a 'closed' town. As the representative of Government we have spoken to says: '*It was only when we started to discuss the environmental projects that I first went there…*'

Below, the chronological series of events from the start of the environmental projects are listed.

Exhibit 4-12. Chronological series of events – Liepaja

Year	Month	Liepaja	Source
1994	November	• WB Staff appraisal report	
	December	• NEFCO loan agreement • BITS grant agreement with Latvia	• loan agreement • grant agreement
1995	January	• IBRD loan and project agreement with Latvia (Liepaja) • Twinning agreement Norrköping – LWWE • contracting of management assistance between NWWE and LWWE by A. Dejus	• loan agreements • Annex 2 to twinning agreement NWWE – LWWE
	February	• BITS grant agreement with Latvia / LWWE	
	July	• deadline for design of co-operation framework LWWE – Liepaja City Council	Annex 2 to twinning agreement NWWE – LWWE
	December	• Final design report	Design report
1996	January	• foreseen completion of tariff study LWWE by A. Tetere	Annex 2 to twinning agreement NWWE – LWWE
	June	• contract with SWECO for design	Contract
	July	• 1st supervision mission	
1997	January	• revision of position descriptions LWWE by A. Leismanis • deadline for establishment of environmental monitoring programme LWWE, by S. Jacicenko • 2nd supervision mission	• Annex 2 to twinning agreement NWWE – LWWE • KSWSE annual report for 1995
	February	• contract with Purac • addendum to contract with SWECO for construction supervision	• contract documents, Sida
	July	• draft long term strategy plan for LWWE to be ready • foreseen completion of manpower plan LWWE by A. Tetere	• Annex 2 to twinning agreement NWWE – LWWE • first version of strategic plan
	September	• 22-23.09.97 3rd supervision mission Haapsalu	
	December	• deadline for implementation of co-operation framework LWWE – Liepaja City Council, to be developed by A. Dejus • plan for bill collection LWWE to be developed by Z. Niedola	• HWW 1998 mission preparatory document • Annex 2 to twinning agreement NWWE – LWWE • Annex 2 to twinning agreement NWWE – LWWE
1998	January	• deadline for realisation of budgetary & account systems LWWE, by I. Kozlovska	• annex 2 to twinning agreement NWWE – LWWE • KSWSE annual report for 1995 (January 1996)
	February	• HELCOM PITF JCP 1998 Annual report • Call for proposals by Sida for evaluation	• HELCOM PITF JCP 1998 Annual report • call • information pack for May 1999 supervision mission • idem
	May	• supervision mission • inauguration of the WWTP	
	November	• supervision mission	
1999	May	• start of evaluation	
	June	• site visits by Technopolis and WCI • WB supervision mission at LWWE (14-15.06.99)	

4.7.3 Distribution of Swedish funding over different components

The different components and the corresponding budgets are given in Exhibit 4-13.

Exhibit 4-13. Sida components – Liepaja

Component	Amount (SEK)
At Sida's disposal	1,000,000
(information brochure, advertisement, consultancy services)	
Liepaja Twinning Agreement	4,600,000
Norrköping Energy and Environment	
Design/Supervision	5,496,380
SWECO	
Equipment	38, 903, 620
Purac	
	50,000,000

As in the case of Klaipeda the number of different partners worked with is relatively low, facilitating the overall management of the project. Grant money was mostly spent on equipment and construction (Purac), followed by design and supervision (SWECO) and then twinning (with Norrköping). Some of the grant has been set aside for Sida to provide a brochure, advertisement and hire consultancy services.

4.7.4 Feasibility study and preparation

A preliminary evaluation of Liepaja environmental project was conducted in 1994 by a British consultant 'Halcrow.' The conclusions of their report were used to set up the World Bank Staff Appraisal Report and to identify the different components to be financed by the available financiers. The report was also used as a reference for the designer to establish the component design criteria.

4.7.5 Management and administration

The PIU was established in September 1994. It was composed according to WB requirements for qualifications of staff and at the outset it averaged about 7,5 personnel. At the time of our investigations there were four staff following the leaving of two interpreters, whose services were no longer needed, and a former Director who resigned after which the project team was reorganised. It is expected that the current staff (director, deputy director, accountant and driver) will remain unchanged until the end of the project. PIU personnel are employed by the utility.

In the beginning of the project the PIU was assisted by consultants from the company Parkman.

4.7.6 Procurement

Procurement has been proceeding without major problems. The project is expected to be completed before the scheduled date.

Management and administration of the project has been highly satisfactory. Reporting on the project was excellent. If the three PIUs of Haapsalu, Klaipeda and Liepaja were to be ranked with as sole criterion the management of the international project *per se*, the Liepaja PIU may well be ranked first. Recently, the PIU has been asked by Sida to run another project in Liepaja, on solid waste management. To us, this is an indication of trust and confidence in the PIU.

LWWE has the best financial performance and prospects of the three companies. After a loss of 549 436 Ls, the company reached a balanced budget in 1998. First among the Baltic utilities, the Enterprise made a long-term renovation and replacement investment programme based on self-financing. Also the 1998 cost savings plan was successfully implemented.

4.7.7 Plant performance[29]

Removal percentages of BOD and COD of Liepaja WWTP are considered as good, while Phosphorus removal is considered as excellent. Nitrogen removal performances are insufficient for the type of treatment used. The plant will need to improve gradually its performance, as the planned improvements of the sewer system will gradually increase the inflow concentration of contaminants.

During the visit, the WWTP appeared to be clean and well maintained. The building and stainless steel equipment are new and in good condition. During the visit, the sludge thickener was being modified to allow for the use of dry polymers.

Two anaerobic tanks (existing new tanks) allow effective phosphorus removal. Concrete and equipment are new and in good condition, whereas two old primary settling tanks were being repaired to be used as emergency and buffer basins. This allowed the plant to store incoming wastewater during the wet season without by-passing the treatment, ensuring that discharge requirements are fulfilled.

The Nitrogen removal aerotanks were improved by addition of a fourth line and the installation of new equipment for two lines, the installation of the 4th line is planned for 1999–2000 and should improve Nitrogen removal performance. Breakdowns occurred on the new blowers. They do not reach the standards requested by the plant.

The 4 new clarifiers were to be equipped soon, the existing ones look old but well maintained. Some excess sludge was observed during the visit due to the restarting of the biological treatment following the May 1999 power cut.

After thickening, the excess sludge is sent to 14 unlined beds. Final drying duration is estimated at 2 years. Beds are unlined, drainage is not effective and storage capacity is not sufficient for the higher sludge production of a biological treatment. Two main issues may arise from this process (1) potential contamination of soil and groundwater through sludge water infiltration and rainwater infiltration; and (2) the sludge storage capacity of the plant. Both issues are now identified by the WWTP personnel and are planned for 2001–2010. It may represent an important issue before that period however, as the local legislation is moving fast towards EU standards.

A new ABB automatic control system was installed and implemented.

The reliability of the electric supply is low as long-lasting power cuts occurred in two consecutive months, jeopardising the biological treatment. No emergency power supply is available on site.

Finally, the site is not fenced, presenting risks to the plant and to unwanted visitors.

Although a general problem for the three plants investigated, especially Liepaja seems to have suffered from the absence of specialist technical knowledge at the plant level. When the blowers, initially meant to be of German make, were replaced by other – far cheaper, but following the design 'equivalent' – ones, the head of the plant felt not to have enough knowledge to give immediate feed back to the Swedish and other partners. Necessarily, he has taken a passive 'learning' posi-

[29] More details can be found in the technical report established by WCI annexed to this report, on which this section is partly based.

tion, unable to be react promptly, and naturally afraid of not being taken seriously by the counterparts in the project – who were supposed to be the experts after all. A future problem at Liepaja WWTP which may need more specialist knowledge than is currently present concerns biological treatment – whereas Haapsalu and Klaipeda do have access to specialist biological knowledge, Liepaja seems not to anticipate this.

The constructor confirms that there have been considerable technical problems with the treatment plant, and that the blowers have caused the most problems.[30] They broke down and had to be replaced. The problems with the blowers was caused by the fact that the valves on one of the three blowers were closed off for cleaning purposes. This caused the pressure to increase in the remaining two, causing them to fail. The valves should not have been closed.

Substituting equipment for cheaper 'or equivalent' material happens as a rule in such projects. However, in the present case they do not meet the standards required by the plants and we feel that if the people were more experienced, or if a third party could have been consulted (the twinning partner for instance), the original blowers would have been picked. Even if they are theoretically equivalent, in practice they do not function equivalently.

Another issue of importance is that the plant is currently running close to capacity. The design has been conservative since it has not integrated eventual economic growth – so far both economic activity and population have declined since the start of the project. Therefore the plant still has some spare capacity. However, new economic activity is expected from the establishment of the 'free zone' at the location of the former Soviet naval base (the community should grow to over 100 000). If the municipality's expectations come true, the WWTP may not be able to cope with increasing population.

4.7.8 Twinning

Twinning took place with the Norrköping Water Enterprise. For most of the project, this was a municipal water company, but in 1999, just before our evaluation, it merged into a private services company, *Norrköping Miljö och Energi*, the scope of which was not to work only on water and wastewater, but also on, especially, energy.

As in the previous two cases, twinning was concentrated mainly around one or two key persons, one of which was the director of Norrköping wastewater company, averaging around 90 personnel. Norrköping wastewater company was involved in (the precursor of) twinning far before the official start of the three environmental projects. For example, between 1991 and 1993 several small seminars on water and wastewater management were co-organised for Estonia, Latvia and Lithuania in Norrköping.

Originally, twinning was not with Liepaja, but with Riga, when in 1988 Norrköping Water was contacted by NEFCO for a twinning experiment. However, the differences in sizes between the cities (120 000 in Norrköping against over a million in Riga) made it difficult to establish and effective twinning practice – the twinning was handed over to the city of Stockholm. Stockholm in turn advised Liepaja to twin with Norrköping since Liepaja's size was more comparable to the latter's than to that of Nynäshamn, with which it was twinning at that time.

[30] The representative of the contractor told us that this may have been due to inexperience with working in the Baltic area.

The reason for twinning for Liepaja is (SAR, Annex 3A) that

> *one of the principal obstacles in promoting the creation of autonomous enterprises which could provide cost-effective, affordable municipal services, is the municipalities' lack of experience in market-oriented operational and financial management practices. […] It is recommended that an organised Twinning Arrangement between LWWE and a reputable foreign water supply and sewerage company be formed in order to achieve the overall project objectives*.

The Twinning Agreement was to cover Management and Administrative Procedures and Systems, System Rehabilitation Programme and Operational Improvements and Training.

Indeed, more than in the other two cases discussed, the focus of twinning has not only been on technical matters but also on aspects of financial management. Most of this was concentrated on the 1995–96 period, whereas the more recent period was more devoted to technical assistance. The assistance in financial management consisted of profit and loss account reading, of establishment of balance sheets, and of leadership and management training. Technical assistance consisted of training regarding issues such as the use of Closed Circuit TV for sewer inspection, ongoing when we visited the site.

In contrast to the twinning partners of the other two projects, Norrköping chose to use a professional consultant to perform the training on non-technical issues. The reason given for this is that the twinning partner itself felt not to have the force and authority to teach on management issues ('*doing what you do is very different from training others about what you do*…'). The twinning partner saw themselves more as technicians than as consultants. Despite the involvement of a consultant, twinning on non-technical issues has not been experienced as being easy. The twinning partner started the project

> …with the naive idea that we simply wanted to help them in all respects. At the Norrköping seminars everybody was so receptive and interested for management issues. But once we were on site, it became clear that there was more interest for the money and not in training … or at best on technical issues only.

As easy as it was to get the idea accepted that technical investments and training were needed to get the plants up and running, so difficult it appeared to be to have the local people also understand the importance of twinning for financial and management issues. The implementation of the SCALA financial management software is illustrative in this respect. It was bought for 80 000 Lt in 1996 and was still not implemented in 1998. According to the spokesperson of the twinning partner (who ordered SCALA) the PIU may have thought that they would have a stake in this software (which was not the case). Some mistrust arose and there was a refusal from the PIU to go ahead with implementation. At the same time it is realised that it may not have been a good idea to buy 'toys' at a stage where the local partners were not yet convinced of the utility of monitoring the figures anyway. When finally the original software started to be implemented, an updated version had to be purchased because of the problem of Y2K…

Apart from the reluctance felt for managerial issues on the Baltic side, the involvement of the Swedish twinning partner itself recently became less because of developments on the home front. When the new energy and environment company was created the water (and solid waste) parts of the enterprise lost importance against the energy branch. Twinning with Liepaja is no longer a priority for Norrköping Miljö og Energi. These factors (low interest from the Baltic side, in house reorganisations) lead finally to a decrease in motivation at the Swedish side and currently to a very low involvement.

In sum, also in this case, twinning on technical matters has been experienced as being much more easy and succesful than twinning on financial and economic aspects. Technical twinning crystallised rather well at the lower levels in both organisations, i.e. between engineers, and worked out rather well. Again however, in a comparable fashion to Haapsalu, one specific person (Mr Peterson) has personally invested very much by staying weekends to work with the head and the operators of the plant – in the latest periods even without his company being paid. In the case of Liepaja, Twinning also seems to have been especially useful for the training of Laboratory personnel, which have visited Norrköping and followed training courses.

In contrast to the technical twinning however, experienced as very positive, Liepaja PIU has not shown much interest for the financial and managerial aspects of the twinning. As a solution, the Swedish twinning partner proposes in the future to use managerial specialists, who should take the twinning companies as 'illustrative examples.'

4.7.9 (Sub-)contracting and contractors

Design and supervision was in the hands of Sweco. Construction was performed by the Swedish company Purac. Purac was established in the 1950s as a spin-off from Tetra-Pak, then sold off in the 1960s. It is currently owned by Anglian Water and does project development and management, including design, in the water industry. It has a total of some 500 people internationally, of which 200 are in the UK and about 100 in Lund. It has been involved in 8 World Bank/Sida projects (mostly in China), 3 PHARE projects in Bosnia and 1 Sida project in Poland.

Purac rebuilt and re-equipped the existing sewage plant. About one third of the project involved rehabilitating and building new pipe work in the streets (also funded through the Sida grant). The contractor effectively delivered a turnkey solution in Liepaja because the financiers wanted to be able to hand over the plant quickly. In learning terms however, separate design and construction contracts would have been better, according to Purac.

As a result of the turnkey approach, a lot of components, which could have been sourced locally (such as steel fabrications and electrical systems) were actually imported from Sweden. Civil works were bought by Purac from NCC, Sweden, which then found local sub-contractors. More than 90% of Purac's purchases in the project were from Sweden. This contrasts sharply with a EU-PHARE project in Bosnia in which Purac is involved. Here local sources provide 50-60% of the value including detail drawings. The procurement rules for EU-Phare as a European organisation differs from the conditions of Sida's grant; i.e. bidding is open to all EFTA-countries and for Phare and ISPA, all applicant countries. The question of local contractors did not seem of relevance to the PIU.

4.7.10 Local relationships

The Liepaja municipality is very much involved in the project, without making the project so much subject to local politics as we saw for Klaipeda.[31] The autonomy of LWWE and PIU is indeed far greater in Liepaja than in Klaipeda, but decision-making within the Enterprise seems to be more distributed and collective than in Haapsalu. The attitude of the municipality can be characterised as being constructive, and very much interest exists in seeing new international projects (and corresponding funding) coming to the town.

[31] In fact the project is very much anchored in family structures: the current Director's father was already Director of the LWWW, and his wife is head of PIU. Also the father of the head of the plant was already head of the plant in Soviet times.

The municipality sees the project in all respects as a highly positive experience. According to the head of the municipal economic department, the municipality was the first Latvian organisation to be internationally audited. Before, the Soviet rules were applied, and the audit '*was like elementary school for us, there were enormous discrepancies between our national and international rules and regulations…*', especially where bookkeeping standards were concerned. A major contribution of the project was that to the municipality it functioned as an eye opener on how much was paid in former times, and consequently, how much could now be saved. The project also functioned as a catalyst for development of local environmental legislation for water system and sewerage management, in line with EU standards. An environmental department was created within the municipality. Other cities now come and learn from Liepaja.

Although it was not a separate budget item, a local public awareness campaign has been set up by LWWE. This consists of co-operation with schools aiming at increasing environmental awareness amongst pupils through visits to wastewater facilities and Lake Pape. Not in direct association with the environmental project, the municipality has started a beach cleaning campaign with the national Green Party, and there is a special 'Sea protection day'. An environmental fund is established for environmental education and for small scale projects.

In the future the municipality plans to develop an economic zone at the location of the former naval base (north of city centre). It thinks of establishing infra-structural projects to dredge the port, and improve road access to this part of town. The idea is to attract private business to the town, today virtually absent. The objective is to make Liepaja a major production and transit town.

4.7.11 Future expectations and needs

Sida considers the Liepaja PIU as the 'best pupil in class.' Given the good management performance we can agree with this opinion – without necessarily meaning that the other projects have done badly. As indicated, the PIU will shortly run another Sida project in Liepaja, on solid waste management. This is an indicator of trust and confidence in the PIU from Sida's side.

The success notwithstanding, contractors and twinning partners were surprised that the WWTP should be able to technically function without the support of either the World Bank or Sida at this stage. There still would be a substantial need for continued funding and supervision. Some of the technical problems currently being dealt with by the main contractor, under their extended guarantee, have in the view of the main contractor, been caused by a lack of knowledge by those who are managing the plant. Whereas evidence points out that the financial health of LWWE is best of the three projects, Liepaja WWTP would not be prepared to function on its own. Even before we interviewed the contractors, we could identify several urgent technical issues to be resolved:

- Rehabilitation of sewerage system
- Sludge
- Biological treatment
- Need for electrical generator (reliability of the electric system in the region of Liepaja),
- The problem of coastal erosion observed at the WWTP since 1972 and the need for enrockment,
- A baseline of soil and groundwater quality near the WWTP,
- A baseline of sea water quality prior to the completion of the new WWTP.

Whereas we have all confidence in the management of LWWE and the PIU, it is especially in the case of Liepaja that these technical problems need solutions urgently.

5. Discussion

5.1 Relevance, efficacy and added value of the Swedish contribution

The Swedish contribution has been highly relevant, since it has allowed to take charge of most of the construction of the wastewater treatment works in each of the three towns. Other financiers would not have been able to fund this, and a World Bank loan alone would not have allowed to provide for enough funding to reconstruct entire plants.

The Swedish contribution has been relevant both at the local level, especially for the water companies, and, on a more general level, as an exemplary start of a series of investment projects in Central and Eastern Europe. The projects seem to have been less relevant directly for local economic development, although in the longer term the conditions created by a better water supply can expected to be beneficial for local development.

The Swedish contribution has been *relevant for the local water companies*. Especially at the beginning of the projects, the local water companies were not credible as commercial organisations. No normal bank would have provided a loan to invest in the reconstruction of the water works and treatment plant. And even if they would have got an international loan such as those from World Bank, backed up by national governments, investments would have been far too expensive to be covered by loans. In other words, Sida has allowed for a leverage effect for the water utilities by donating (considerable) amounts of money for investments in the local water companies to rehabilitate their treatment plants. In turn, the other sources have acted as a lever for Sida to achieve its goals, namely to construct wastewater plants which will at the end of the day decrease pollution to the Baltic Sea.

On a more general level the Swedish contribution has been relevant in that it *set in train a learning process* about environmental projects in Central and Eastern Europe. Several observations we discussed with Sida during the course of our evaluation (for instance on twinning, or the proximity of Sida to the projects) had in fact already been put in practice in new projects that started after these three. It is though that the learning process may have been speeded up if the three initial projects, evaluated here, would have been monitored more closely.

The projects have been less relevant for the local economy, at least in the short term. As explained earlier, Swedish grants are to be used in Sweden. In two out of three cases (Klaipeda and Liepaja), a turn key contract was used. Also, none of the PIUs seemed particularly interested to turn the construction of the wastewater treatment plants into an opportunity to contribute to local economic development. Therefore, the projects have rather been a coming and going of foreign companies. We therefore must conclude that whereas the Swedish contribution was relevant to the water utilities, and therefore to local population, it has been less relevant for the stimulation of local firms. We understand was not an objective of the funding, but nevertheless it struck us that local companies were so little involved in the projects. With the exception of the Estonian project, in which local companies were visibly present, there are no signs that the Swedish contribution has been directly relevant to the local economic development in the three towns. One can expect however that through the improvement of the water supply and wastewater treatment, better conditions are created for the development of economic activities in the towns, which respects the wildlife habitat of the surroundings.

The efficacy of the projects was good. Even if not all projects have always been running smoothly, today each of the three towns today has a wastewater treatment plant up and running, with environmental performances which in all the cases are highly satisfactory (see below). Without Sida's financial contribution (and in the absence of an alternative financier able to provide similar funds), the plants would not have been constructed or improved, and pollution to the Baltic Sea would undoubtedly have proceeded at the same rate as before.

Finally, as explained, the added value of the Swedish grant is high. On the one hand it levered funding from other financiers, both World Bank, neighbouring countries and now also European ones. On the other hand the additional funding levered the Swedish grants. The sum of financing is more, and more effective, than each bilateral funding could have achieved.

5.2 Achievement of objectives

The environmental projects had five general objectives, summarised in the Staff Appraisal reports. These objectives, though they were not quantified at the outset, have all been met:[32]

- Discharge of partially treated and untreated wastewater into the Baltic Sea has been reduced.
- Surface and groundwater quality in and around the three towns is on the way of being restored;
- Quality, reliability and cost efficiency of water supply and sanitation services in each town have been very much improved;
- The operational efficiency and management system in the respective water enterprises have been improved
- Environmentally sustainable management and development of the coastal zone, tourism and protected areas in and around the three towns has been promoted.

Apart from these more technical objectives (which were not directly defined by Sida), for Sida it was important that *institutional* changes were brought about, both as a means to reach the goals cited above, and to guarantee sustainability.

In our view, the most important result of the projects, is the learning process that each individual case has been gone through. Not only this was important for the local companies and people, but also for Swedish twinning partners and contractors, and for Sida itself. The different parties involved in the projects have learned to work with each other, which has not always been so self-evident or easy, and several barriers have been encountered and taken by all partners involved, on all sides.

In the Soviet era, procurement of public goods and services was done at a central level. One of the major changes induced by the environmental projects, highlighted by the representatives of PIUs is that they learned procurement rules. In fact, in answer to our questions, all PIUs cite first their learning of procedures in project management and procurement. In some cases PIUs taught external auditors probably more than the auditors could teach them. Not only the PIUs, also the water companies have gone through an enormous change. The progress made in billing and billing procedures, virtually not existent before, is a good example of this. The water companies have thus learned to manage their businesses according to western standards, and deal with *real* costs and benefits – by one municipality explicitly mentioned as the major lesson to be drawn from the project. This implies a radical shift from the previous situation, in which water had no price, nor labour

[32] We have not exhaustively addressed the fifth objective concerning the environmentally sustainable management and development of the areas *around* the towns.

– the latter being a more difficult issue to get understood, especially when personnel cuts were to be discussed by Swedish (twinning) partners.

Also on the side of the end-consumers institutional, or in any case behavioural, changes can be detected, since the water consumption has decreased enormously since meters have been installed (decrease is however also due to decreases in losses).

In the eyes of the Swedish partners however, some features of the former system are still present and will be hard to erode. They concern the ability of personnel on the plants to take initiatives and to perform multi-tasking. In modern Swedish wastewater plants workers are used to perform several tasks at the same time. They also will react upon signs from their environment, and not only when things are written down in the maintenance manual. In all three cases, a major problem encountered by Swedish twinning partners was to let people take more own initiative, leading in some cases to maintenance problems and eventually to damage to machines in the plant. In all three cases it has proven extremely difficult to change this mentality, which, according to them, typically originated from Soviet times.

There are other reasons to not be too optimistic yet. In terms of economic sustainability the three projects are not yet self-sufficient. Only Liepaja has a balanced budget, and seriously works on a long term cost reduction plan. Although this may be translate in a need for even tighter management and scrutiny by World Bank and other financiers, the companies themselves translate this into more funding being needed – which indeed is found in the form of new programmes (such as the European PHARE). Today, the water companies are not commercially profitable enterprises, and their short-term future is not sustainable. Converting soviet organisations, which were technically and financially in an extremely bad shape, into well-established commercial companies, is an extremely ambitious goal which may not be attainable in such a short period of time. We should not forget, as one of the interviewees said, that "*they are expected to achieve in five years what we did in thirty*!"

5.3 Environmental improvement and sustainability

The main short term result of the projects is that each of the three towns today has a WWTP up and running, with environmental performances which in all the cases are highly satisfactory.

The evaluation did not comprise an impact study of the discharges to the Baltic Sea. In fact, no baseline study could be provided However, the improvements in the wastewater treatment plants have been analysed. As specified in detail in Annexe 2 for the individual projects, for all three environmental projects, environmental improvements achieved are generally good. Since no benchmarking data for the Baltic Countries exist, the removal percentages have been compared to French classifications for biological process performance. These performances are summarised in the table below.

Exhibit 5-1. Removal percentages

	TSS%	**Phosphorus%**	**Nitrogen%**
Haapsalu	Excellent	Excellent	Excellent
Klaipeda	Close to good	Close to good	Excellent
Liepaja	Good	Excellent	Insufficient

Whereas Klaipeda and Haapsalu are fairly oversized, Liepaja works very close to design capacity. Whereas in the cases of Klaipeda and Haapsalu overcapacity can be explained by the fact that

water consumption and waste water production have declined upon metering, also in Liepaja this has happened. With some more economic growth it is expected that this plant runs out of capacity and will no longer be able to treat the waste water properly

From a general point of view, the rate of decrease in water consumption upon metering was not foreseen in the initial planning of each of the three projects.

In all three projects, sludge is not taken care of. This was not included in the environmental project, since the projects would have become too expensive. There is also is an absence of incentive (no landfill cost). Sludge will rapidly become a problem in the future for all the plants, and deserves to be worked upon with priority.

5.4 Management of the project components financed by Sida

As concerned Sida itself, it says to have had three major reasons to chose a 'hands-off' approach to the management of the three projects. The *formal* reasons were that the grant is governed by the Grant agreement between Sida, Government, and water utility. The *practical* reasons to managing the projects at a distance can be found in a shortage of person-power at the agency. The main reason for a hands-off approach is however 'methodological.' To bring about the long-term objective of *institutional change,* Sida aims to give responsibility and ownership directly to the local people, and in particular to the PIU.

Since it was thought that the combination of a grant with a loan would be more effective in creating a leverage effect, projects were set up with the World Bank. World Bank has had a major role in monitoring the projects and maintaining the contacts with the different PIUs. Sida's role consisted of approving the contracts with the constructors, designers, and twinning partners, and approve of disbursements. Furthermore, its task consisted of development of Terms of Reference as well as of supervising the tendering processes.

Whereas in itself highly laudable, we have evidence that there are three major drawbacks to this approach. First, the relative invisibility of Sida has led to confusion for some parties involved, especially for the twinning partners who expected Sida to be of more help to them. For instance, Sida could have put more pressure on the PIUs to accept financial and management twinning when it appeared that this did not work – it was as much a crucial element of the grant agreement as were the technical improvements. But also PIUs or the local waste water companies could have used the help of a more neutral arbiter when they were not in a position to judge the work of foreign partners. Sida's attitude led indeed to more ownership when things went fine, it led however to less motivation when barriers were encountered and Sida could have more accompanied the process in our view, or at least it could have better explained its position.

Second, following a detached approach supposes that other countries behave similarly. However, countries such as Finland are much more represented in World Bank missions. They differ from the Swedish presence both in quality (most are consultants, not agency officials) as well as in quality (they outnumber Swedish participation). It is illustrative that it was a Finnish consultant who was asked to evaluate the (mainly Swedish!) twinning by World Bank. Although Finnish consultants do not represent Finnish Government, on a day-to-day basis they seem able to influence far more the course of the projects more than Sida does, and in a way that is no longer controlled by Sweden, which does not have consultants or personnel positioned close to the World Bank people. Sida is aware of this and thinks that it is hard to find such competence in Sweden. In future, Sida may want to invest more effort into involving Swedish consultants able to provide assistance to such missions.

The third drawback is that once one decides to operate at a distance, one looses credibility and involvement. This makes it difficult to be re-involved with projects when this would be needed. Although this fortunately has *not* been the case with the three project discussed in this report, in interviews with Sida project managers more recent cases could be cited were re-involvement was desired but hampered because of a loss of credibility. The sudden will to change strategy and be more involved again was badly received by the partners in this project.

We do not contest Sida's methodology to operate at a certain distance from the projects by its principles. In general it works out very well indeed. The Agency should however be warned that it sometimes can also work against its own objectives. It is a laudable motive that the beneficiaries of the aid will have to take their own responsibilities – since at the end of the day they will have to do so anyway. However, Sida is not an innocent player in the field, since it is a major financier, and therefore it is expected by others to be involved. Therefore, Sida should have communicate better about the role it set for itself towards the other partners in the project which would have prevented from frustration on their side.

5.5 Twinning

Twinning (linking a recipient enterprise to a Swedish one) should serve both technical (help with plant operation) as financial and management issues (how to run a company). Through twinning, close relationships between the three water companies and the three twinning partners have been established. Without exception, there exists great satisfaction about the technical training and the exchange between technical personnel, which have been taken place.

According to the SAR, twinning should also have focused on financial and management training and exchange. The observation is however that the technical part of twinning has dominated in all three cases. In fact, the Water Enterprises in the three towns did not see the use of the second type of twinning and in some case even refused it. For the twinning partners this sometimes was frustrating.

Twinning has been more technical than 'managerial.' This can be interpreted as follows. In order to 'twin,' a Swedish twinning partner first has to rationalise and codify tacit knowledge. They are typically not used to do so since they are water companies, not management consultants. One of the twinning partners *did* use management consultants for the financial and managerial part, but then training of higher management was refused by PIU. More generally, twinning partners felt overwhelmed by the different things (both in nature and in quantity) that were to be done in so short a time. '*In Sweden it took us 30 years to do all they have to do in 5!*' was a comment often heard. None of the Swedish water companies were really prepared to the situation and to the confrontation with this entirely new culture.

There have hardly or not been any contacts between the twinning, and the other Swedish partners (designers especially). Especially, twinning partners have not been included in the early stages of the design and construction. On the one hand, this could have been helpful as 'sanity check': in all three cases, twinning partners immediately observed things 'which would not work properly.' On the one hand it would have been logical to involve them in an early stage since one of the roles of the Swedish twinning partners was to organise the technical training to the people on site.

Finally, it was mentioned by the Baltic utilities, by the Swedish twinning partners and even by a Swedish contractor, is that twinning stands or falls with the *personal involvement* of the individual who is responsible for the twinning on the Swedish side. It is understandable and good that enthusiastic

persons are involved in projects like these. For the longer term continuity it may however be problematic that twinning rests too much on the shoulders of one or two persons only.

The main lesson to be learned from the problems with twinning is how to transfer tacit knowledge. Technopolis' experience with other programme evaluations indicates that twinning is a very complex issue and should be carefully thought through. The complexity of the issue has not been realised enough at the outset it seems.

5.6 Effect of the Swedish support on the competitiveness of Swedish enterprises

We have made no study to statistically analyse the effects of the Swedish support on Swedish enterprises – the sample would have been too small anyway. However, evidence exists that the involved constructors find it interesting to do this kind of aid-funded work. Different opinions exist on the extent to which it helps them to increase their turnover. On the one hand, the bigger the market the more interesting it is to generate reference sales. From that point of view, since the entire Baltic region contains only 15-20 relevant cities, the attraction is limited. In contrast, if Sida in the future enables Swedish companies to get a reference site in countries like, for instance, Russia, the potential to sell on will be enormous. Some of the companies we have spoken to can not point to any follow-on sales in the Baltic area as a result of their involvement in the environmental project. Others are able to do so and in one case, the involvement in one of the environmental projects has contributed to generating *four* further projects in the Baltic Area. It is admitted that in terms of references a sale in any of the three countries is adequate in the other two. If Sida's goal would however be to enhance competitiveness of Swedish companies on a larger scale, the Swedish state may want to consider funding projects in bigger potential markets.

6. General conclusion

In April 1999, the parliamentary auditors delivered a report[33] on Swedish environmental efforts in the Baltic states. The auditors report that Swedish environmental efforts in the Baltic region have to a very great extent been based on the ambition to support the Baltic countries not only with money for measures to reduce environmental discharges, but also with advice and methods of organisation and financing, since one of the overall objectives is to support environmentally sustainable development.

They stress[34] that the development co-operation in the Baltic area differs from other development co-operations because of the large role played by, among other things, technical advice, support to institutional development, education and support to the process of implementation.

The auditors believe that the limiting factor for environmental efforts in the Baltic region has been the availability of well-prepared projects, rather than money. They have not considered the conflicts between points of view and project ideas which results from the fact that there is a long list of organisations from various countries which each wants to have a decisive influence over what projects are done and how. The Baltic countries have even been deprived of well-prepared projects because they have not fitted with the strategy of some other organisation. In other cases, projects which have been offered have been accepted because nothing else was available.

The auditors say that Swedish efforts have been undertaken in co-operation – and to some degree in competition – with efforts of other countries and the EU. They point to Sida's stance: namely, that the recipient countries themselves need to co-ordinate the project portfolio. Since, in the international arena, there is no higher authority capable of arbitrating, we agree strongly with Sida on this point. It might be desirable for the Baltic aid scene to be more orderly, but as aid is in no small part an instrument of countries' competing industry policies, it is difficult to imagine this happening spontaneously.

The parliament's auditors point out that the continuation of traditional development work brings a risk that the Baltic states become over-dependent on the Swedish perspective – for example in setting regulations. This, they say, could impede EU harmonisation. They refer to the principle that the Baltic development work should transition into more normal bilateral relations but say[35] that they find no evidence that this is happening. Given that the evidence they examine relates to the period *before* this new principle was established in policy, this is perhaps not surprising. The evaluation reported here also relates to that earlier period, so we do not report any evidence of such normalisation. Indeed, our evaluation strongly supports Sida's perspective that institutional development, education and changes in attitudes are needed before there is a basis for such normalisation.

While their desire[36] for 'a plan ... for the transition from development work to more normal relations' is admirable, our evaluation shows that the pattern of institutional development is uneven even among the three wastewater projects considered. Normalising relations is an honourable objective, but this will probably have to happen on a case by case basis rather than according to some grand plan. In other words, the type of relations pursued in each case should be set in terms of the recipient's needs, rather than in a Swedish desire for a rational-looking plan.

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33 Riksdagens Revisorer, *Svenska miljöinsatser i Baltikum*, Granskningspromemoria 1998/99:1

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Annexes

Evaluation of the Sida components of the environmental projects in Haapsalu (Estonia), Klaipeda (Lithuania) and Liepaja (Latvia)

Annex 1 Terms of reference

Terms of reference for the evaluation of environment projects in Haapsalu, Estonia, Liepaja, Latvia, and Klaipeda in Lithuania

1. Background

The Swedish parliament decided in October 1992 to allocate 108 MSEK for support to investments in waste water treatment in Estonia, Latvia and Lithuania. The Baltic Sea Joint Comprehensive Environmental action Programme, by the Helsinki Commission (HELCOM), formed the basis for this decision. Investment support was to be targeted to places where polluting discharges were particularly severe; i.e. "hot-spots" as defined in the HELCOM Action Programme. Swedish activities were to be co-ordinated with efforts by other donor countries and international financing institutions.

Project preparations started in 1993, with a study headed by Rolf Annerberg, director general of the Swedish Environmental Protection Agency. The Swedish Board for Investment and Technical Support, BITS (now a part of Sida) was assigned the task of negotiating and managing the Swedish grants. Three main projects were established; i.e. Environmental Projects in the Estonian town of Haapsalu, in Liepaja, Latvia,and in Klaipeda, Lithuania. In all three cases, the projects consist of several components including improvements in water supply and wastewater treatment and environmentally sustainable management of the coastal zones and protected areas. The projects are financed with Swedish and Finnish grants, local funding covered by the municipalities with co-financing from the national governments, and by way of loans from international financing institutions with the World Bank as lead financier.

The Haapsalu, Liepaja and Klaipeda projects resulted in a model for Swedish support for investments in the environmental sector in the Baltic region. In several other projects, Sweden contributes with technical support in key areas, where investments in waste water treatment and waste management are tied to comprehensive sectorial projects/programs with emphasis and impact on institutional strengthening and reform.

The Swedish grants amount to 12 MSEK in Haapsalu, 49 MSEK in Liepaja, and 38 MSEK in Klaipeda. Total project costs are 47 MSEK, 149 MSEK, and 166 MSEK respectively. The entire projects consist of investments in water supply and distribution, waste water treatment, environmental management and coastal zone protection, institutional support and other assistance.

The Swedish contribution to the projects consists of design and supervision of the constructions, financing of investments for waste water collection and treatment, and institutional strengthening support. Institutional development is supported through programmes of twinning co-operation between local and Swedish water and waste water utilities.

Equipment and services financed by Sida are supplied exclusively by Swedish companies. In Liepaja, the main contractor responsible for delivery and installation of equipment to the wastewater treatment plant is a Swedish company. In Klaipeda, the main contractor is Finnish, while in Haapsalu, the main contractor is an Estonian company. In all cases, Swedish companies are subcontracted for delivery and installation of equipment financed by Sida.

The project components financed by Sida are listed in [Annex 1].

The Haapsalu wastewater treatment plant was inaugurated in December 1997, and Liepaja in May 1998. In Klaipeda, the waste water treatment started operating in December 1998. The twinning co-operations between the water utilities will continue also in 1999

As an input to Sida's review of environment investment support to the HELCOM Joint Comprehensive Environmental Action Programme, a specific evaluation of the Haapsalu, Liepaja and Klaipeda projects is requested. To this end, Sida will now assign an independent team of evaluation specialists to review the Swedish support to these projects.

2. Purpose and Scope of the Evaluation

The purpose of the evaluation is to review the results achieved in Haapsalu, Liepaja and Klaipeda through the components financed by Sida. The overall results of the projects are, however, of central interest for an assessment of the effects of the Swedish contribution. The review should give an account for the *relevance and efficiacy* of the Swedish contribution, concerning the development of technically, financially and environmentally sound water and waste water management methods in Haapsalu, Liepaja and Klaipeda. The effects of the contribution should be reviewed, and compared with the physical, environmental, financial, institutional and policy related goals defined during project preparations.

The impact of the project in terms of *environmental improvements* should be assessed. The review should account for reductions in the load of pollutants to the Baltic Sea, in comparison with pre-project conditions. A discussion of the project impact should include a comparison to the counterfactual situation of what would have happened in the absence of the project.

Another purpose is to analyse and evaluate the *organisation, administration and co-ordination* of the project components financed by Sida. The *added value of the Swedish effort*, related to the entire Haapsalu, Liepaja and Klaipeda environment projects, should be assessed. The results attained are to be evaluated with reference to the objectives for environmental co-operation in eastern Europe set by the Swedish government. Sida's (BITS') ability and competence to fulfil the task entrusted should be assessed. The effect of Swedish support to the projects on the competitiveness of Swedish enterprises should be analysed.

One objective is to draw conclusions on the general effects of the methodology used in Swedish support for investments in the environmental sector in the Baltic region. The evaluation should account for future potential of continued efforts in this field. The review should discuss possible improvements concerning the objectives, methodology and allocation of resources. Lessons learned from the projects should be developed, and serve as a basis for recommendations for future projects.

3. The Assignment (issues to be covered in the evaluation)

- Overview of the projects and the role of Swedish assistance. The basis for decisions, co-operation with recipient countries and co-financiers during project preparations and implementation should be discussed.

- Analysis of the projects in Haapsalu, Liepaja and Klaipeda

1. Feasibility study
2. Design and supervision
3. Twinning
4. Management and administration
5. Equipment and installation

3.1 Evaluation criteria

Relevance
The relevance of the project goals as defined and documented during project preparation; i.e. in decisions by the Swedish government, grant agreements, terms of references for the project components. The issue should be addressed from a development perspective (taking into account the overall economic, technical and institutional developments in the affected countries over the 5 years the projects have been going on)

Achievement of objectives
Achievement of the project goals as defined and documented in the terms of references, contracts and agreements for the project components, taking into account possible changes in circumstances.

The impact of the institutional support, training and other efforts, should be assessed according to improvements. Aspects to be included are, e.g., increased cost recovery due to improvements in billing and collection systems, more efficient operation and management, lowered amounts of unaccounted-for water, lower number of staff per connected customer, etc. The effects of the support provided should be analysed according to its adequacy in terms of the forms of inputs, their timing and duration.

The evaluation should also discuss the environmental improvements in terms of reductions in the load of pollutants to the Baltic Sea, compared to pre-project conditions. Environmental improvements related to improved operation and management, and increased water awareness, should be discussed as well as improved quality of effluent water due to investments in wastewater treatment facilities.

Sustainability
concerning transfer of knowledge and institutional strengthening, improvements in staff development and technical capability of the water utilities. The evaluation should focus on improvements of the financial performance of the water and waste water enterprises, as a result of institutional support.

Efficiency
Efficiency of project management. The quality of work plans, budgets, and reporting routines for the different components should be assessed. Sida's/BITS' administration, project follow-up, and exchange of information with other financiers should also be considered.

Cost-effectiveness
An assessment of the cost-effectiveness of the Swedish contribution shall be made, set forth from e.g. the following questions.

- Has the Swedish assistance in Haapsalu, Liepaja and Klaipeda as part of international development projects been cost-effective and contributed to a change in direction of the water utilities into becoming independent, self-sustained water companies?
- Have the environmental improvements achieved by investments in waste water treatment facilities been cost-effective, compared to e.g. similar investments in Sweden, or other alternative solutions?

Other criteria
The overall objectives for Swedish co-operation with transition countries in Eastern Europe should be considered in the evaluation: to promote common security; to deepen the culture of democracy, to support socially sustainable economic transition, and to support environmentally sustainable development.

The evaluation should take into account issues of public information, consultation and participation. Actions to ensure an active involvement of relevant stakeholders in environment and infrastructure projects should be proposed. Also, the evaluation should suggest steps in the cooperation to make gender aspects an integrated part of future projects.

To what extent Sida's support to the projects has created job opportunities in Sweden and led to improved competitiveness for Swedish enterprises should be assessed.

4. Methodology, Evaluation Team and Time Schedule

4.1 Methodology

Desk study and preparations in Sweden
The evaluation team shall review the documentation listed in Annex 2. This includes the documentation forming the basis for the work ; e.g. government bills and decrees; project preparations such as feasibility studies and appraisal reports; grant agreements and terms of references for Swedish contributions to the Haapsalu, Liepaja and Klaipeda projects. Key persons in Sweden, involved in the project preparations, implementation and follow-up shall also be interviewed (Sida and other Swedish authorities, twinning partners, Swedish consultants and suppliers).

Site visits and interviews
The evaluation team shall visit Haapsalu, Liepaja and Klaipeda, and conduct interviews with the water companies, their boards and municipal representatives. Representatives for the national authorities in Estonia, Latvia, and Lithuania involved in the projects, shall also be interviewed.

Interviews are to be conducted with representatives for the lead agent and main co-financier (the World Bank), and, most likely, other co-financiers.

Reporting
An inception report, with the preliminary results of the desk study, shall be submitted to Sida within three weeks of the start of the assignment. The results from the desk study, site visits and interviews will be presented to Sida in a draft report in English, and at a seminar with key persons at Sida, within four weeks of the field visits to Estonia, Latvia and Lithuania. Sida will then review the first draft report. The second draft report shall be submitted to Sida two weeks after Sida has commented on the first version. After revisions, Sida will distribute the second draft report to the involved parties for comments. The final version of the evaluation report shall be submitted to Sida, two weeks after Sida has commented upon it, in 10 copies and on diskette. Subject to decision by Sida, the report will be published and distributed as a publication within the Sida Evaluations series.

The evaluation report shall not exceed 50 pages, excluding annexes. Format and outline of the report shall follow the guidelines in *Sida Evaluation Report – a Standardized Format* (see Annex 3). The evaluation report shall be written in Word 6.0 for Windows (or in a compatible format) and should be presented in a way that enables publication without further editing.

4.2 Composition of Team

The team who will perform the evaluation shall have comprehensive international working experience, preferably in the transition countries in the Baltic region or eastern Europe, and have relevant knowledge of the 1) technical/environmental and 2) management/organisational and 3) financial issues. Experience of international development cooperation is a requirement. At least one of the team members must be able to read and communicate in Swedish. An equal distribution of men and women in the evaluation team is desired.

4.3 Time Schedule

The assignment is expected to take the evaluation team 15–20 weeks effective time in total, including preparations at home office, interviews in Sweden, work in Estonia, Latvia, and Lithuania, report writing and presentations.

The assignment shall start in April 1999.

Visits to Estonia, Latvia and Lithuania is expected to take place in May 1999.
The first draft evaluation report shall be submitted to Sida and presented at a seminar in June 1999.

The assignment will end with the submission of the final version of the evaluation report, in August 1999.

5. Undertakings

Sida will inform the involved parties of the review and forthcoming visits by the evaluation team. The evaluation team will be responsible for practical arrangements in conjunction with the mission to Estonia, Latvia and Lithuania. If interviews cannot be carried out in Swedish/Scandinavian or English, interpreters shall be hired and costs reimbursed by Sida.

The evaluation team will be responsible for visits and arrangement in Sweden.
Sida will ensure that all written material listed in Annex 2 will be made available.
The evaluation team will during all phases of the review be assisted by Sida.

6. Enclosures [to the terms of reference]

Annex 1: Project components financed by Sida
Annex 2: Key documents
Annex 3: Sida Evaluation Report – a Standardized Format

Annex 2

Persons interviewed

Approximately 50 persons have been interviewed. This is without counting the numerous informal 'talks' during the site visits (e.g. with WWTP technical personnel, with persons working in the street on the sewerage system), which helped a lot in forming an opinion about the three projects).

Persons named under the same bullet point means that they have been interviewed together (inversely, people under separate bullet points but belonging to the same organisation means that they have been interviewed separately).

1. Water Utilities

- Rein Romet, Haapsalu Water Works (Director, and Head of PIU)
- Marika Tamm, Haapsalu Water Works, Procurement Specialist
- Aivaras Antanitis and Aukse Kaziulioniene, resp. Procurement and Financal Specialists and representing the Head of PIU Klaipeda Environment Project[37]
- Jurgis Nauseda, general director of Klaipeda Water
- Sandra Dejus, Ritma Dubrovska, resp. Director and Deputy Director of PIU Liepaja Environment Project
- Maris Zviedris, WWTP Manager, Liepaja
- Svetlana Jacicenko, Head of Liepaja Water Quality Laboratory

2. Local authorities

- Heino Tamm, Haapsalu Municipality Councellor on Technical Matters
- Valdemara Anuzis, Administrator of Klaipeda Municipality and Chairman of Board of supervisors of Klaipeda Water
- From Liepaja City Council: the Mayor, plus Aivars Jurkovsis, Vice Chairman of Liepaja City Council, Normunds Niedols, Municipal Director, Gunars Ansins, Poject Coordinator, Uldis Seks, and a 10 person municipal delegation (this is counted as one interview)

3. Government agencies, recipient countries

- Marko Tuurmann, Ministry of Environment, Estonia (Counsellor; Assistant to the Director General of Environmental Policy Department)
- Arvydas Dragunas, Ministry of Environment, Lithuania (Head of Environmental Strategy Department)
- Kazimieras Mastauskas, Ministry of Environment, Lithuania (Investment Specialist, Environmental Strategy Department)
- Zigfrids Bruvers, Ministry of Environmental Protection and Regional Development, Latvia (Deputy State Strategy and Director of Investment Department)

[37] Sigute Leksiene, head of PIU has not been interviewed since she was absent during the site visits.

4. Co-financiers

- Inesis Kiskis, the World Bank, Vilnius (Task Manager)
- Kari Johansson, the World Bank, Riga (formerly involved as consultant)
- Kristina Isokallio, Ministry of Environment, Finland (Sr. Advisor)
- Solveig Nordström, Nefco

5. Key experts in project preparation and implementation

- Kari Paakkari (WB consultant, Financial expert), Paakkari Consulting Oy
- Kari Johansson (the World Bank, Riga, Environmental Specialist (formerly consultant to the World Bank))
- Ulrich Kremser, Helsinki Commission (Programme Co-ordinator)

6. Twinning partners

- Ronny Jarnestedt, Haninge Water (Director)
- Tommy Sjöström, Haninge Water (responsible for on site twinning with Haapsalu)
- Lennart Forsell, Norrköping Environment and Energy (Director, Norrköping Water)
- Nils Petterson, Norrköping Environment and Energy (responsible for on site twinning with Liepaja)
- Sven Widing, Malmö Water (Director)

7. Technical consultants, Feasibility studies, design, construction supervision

- Kaj Zachrisson, SWECO International (Vice President), Charlotte Gunsell, SWECO International (Environment Principal Engineer) (Haapsalu, Liepaja)
- Guy Taylor, VAI VA-projekt, Manager, International Projects (Klaipeda)
- Vitolis Devonis, Baltic Consulting Group, President (Klaipeda)
- Martin Douglas, Halcrow Water (Klaipeda)

8. Contractors

- Jan Svensson, Malmberg Water (Haapsalu)
- Sven Widing, Malmberg Water (Haapsalu)
- Arnts Meimer, EMV, Director of Construction Division, (Haapsalu)
- Bernt Norén, PURAC (Liepaja)
- Mats Helander, PURAC (Liepaja)
- Juha-Pekka Isotupa, Lemminkäinen, Area Manager and Jouni Hyötylä, Lemminkäinen Construction, Project Manager, (Klaipeda)

9. Swedish Authorities

- Svante Bodin, Ministry of Environment
- Gunnar Bergvall, Swedish EPA
- Sida, Dept. for Eastern Europe:[38]
  - Lars Eklund, Head of Division, Environment and Energy
  - Magdalena Svensson, Project Manager (responsible for the present evaluation)
  - Mikael Svingby, Project Manager (Klaipeda)
  - Gunilla Ölund, Project Manager (Haapsalu)

10. Other

- Kastytis Tuminas, Lithuanian Water Suppliers Association

[38] Apart from L. Eklund, the other two persons in charge of the projects during their initial phases (Marianne Tegmann and Torbjörn Ramberg) have not been interviewed.

References

Documentation related to the projects

- All "aide-mémoires" of the supervision missions, and preparatory documents by PIU
- Exchanges between Sida and project partners, as well as detailed recording of events in Sida's registrar
- World Bank Staff Appraisal Reports (one for each project), Haapsalu dated 15 March 1995, Klaipeda dated 8 November 1994, Liepaja dated 8 November 1994
- Annual progress reports from Haapsalu, Klaipeda, Liepaja PIUs for 1995, 1996, 1997, 1998
- Grant agreements between Sida/BITS and the respective national governments (with Estonia signed 12 May 1995, Lithuania 21 February 1995, Latvia 19 December 1994)
- Loan agreements between World Bank, the respective national governments and Water Enterprises (with Estonia signed , Lithuania January 27, 1995, Latvia January 9, 1995)
- Twinning agreements
- Contracts relating to consultant and contractors services
- Feasibility studies for each environmental project
- Some correspondence between PIU and partners, especially twinning partners
- Liepaja Strategic Plan 1998-2010 (Draft)
- Liepaja 'Project evaluation from the perspective of the implementing agency.'
- H. Vikman (1999), Evaluation of the twinning arrangements in the Baltic environmental projects, unpublished report for World Bank.

Other documentation

- Sida (1998), The Baltic Sea. Sharing the responsibility (brochure).
- Helsinki Commission (1999), Annual report 1998
- Eduards, K., and L. Peck (1998), *Cooperation with Estonia, a results analysis*, Sida Department for Central and Eastern Europe, August 1998
- Roman, L., and C. Sandgren (1998), *Cooperation with Latvia, a results analysis*, Sida Department for Central and Eastern Europe, August 1998
- Osenstierna, S., and B. Wallberg (1998), *Cooperation with Lithuania*, a results analysis, Sida Department for Central and Eastern Europe, August 1998
- Riskdagen (1999), Svenska miljöinsatser i Baltikum, Beslutad av revisorerna i plenum 1999-04-22
- Peck, L., and S. Engström (1999), *Managing and conducting evaluations. Design study for a Sida manual*, Sida Department for Evaluation and Internal Audit, Sida Studies in Evaluation 99/2
- Lariola, M., and Birgitta Danielsson (1998), Twinning coopoeration between Kaunas Water Company, Lithuania and Stockholm Water Company, Sida Department for Central and Eastern Europe, Sida Evaluation 98/19
- Larcon Oy, Devfin Advisers, and Bengt Hakansson, (2000) Riga Twinning Review, Sida Department for Central and Eastern Europe

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