

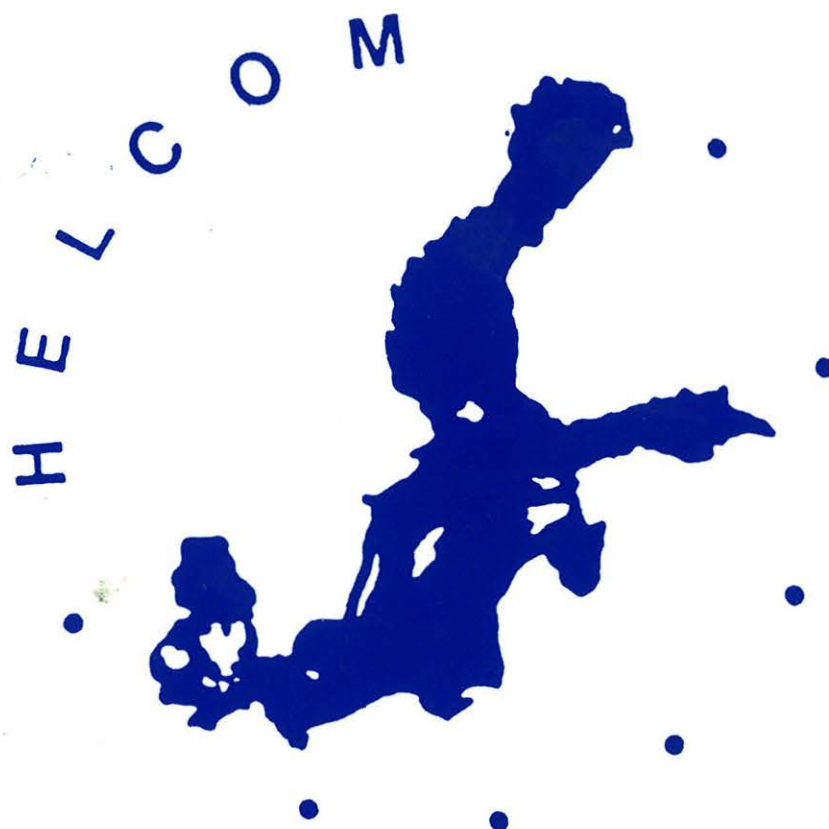
BALTIC SEA ENVIRONMENT PROCEEDINGS

No. 47

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, Poland
24 – 25 March 1993

COMPILATION OF PRESENTATIONS AND STATEMENTS



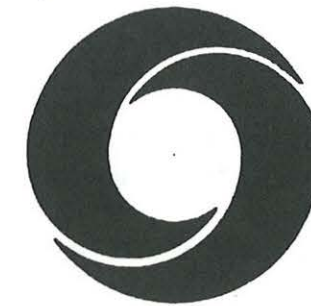
BALTIC MARINE ENVIRONMENT PROTECTION COMMISSION
– HELSINKI COMMISSION –

No. 47

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BALTIC MARINE ENVIRONMENT PROTECTION COMMISSION
– HELSINKI COMMISSION –
1993

For bibliographic purposes this document should be cited as:

HELCOM, 1993
High Level Conference on Resource Mobilization
Compilation of Presentations and Statements
Balt. Sea Environ. Proc. No. 47

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ISSN 0357-2994

Helsinki - Painatuskeskus Oy

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PREFACE

The Diplomatic Conference, held in Helsinki, Finland on 9 April 1992, adopted principles and strategy for the Baltic Sea Joint Comprehensive Environmental Action Programme (BSEP No. 48). In order to mobilize local, national, bilateral and international financial resources for implementation of the Programme, the **High Level Conference on Resource Mobilization** was arranged upon the invitation by the Government of Poland in Gdansk, Poland on 24-25 March 1993. The Conference was held at ministerial level, in order to ascertain a concerted effort by states in the catchment area and various financial and other international institutions to provide necessary financial resources for the implementation of the Programme.

This volume contains the presentations and statements of the Conference as well as the Gdansk Declaration, 1993, adopted by the Conference.

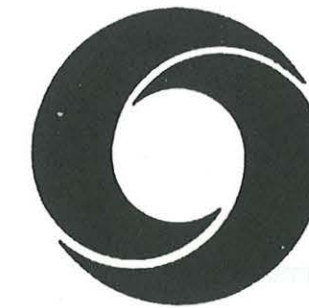
The Conference further endorsed the principles, contained in a Background Paper, submitted to the Conference by the HELCOM Programme Implementation Task Force, to serve as guidelines for the Programme implementation, and which will be published in an other volume of the Proceedings (BSEP No. 49).

THE BALTIC SEA
JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, Poland
24 - 25 March 1993

Gdansk Declaration, 1993



CONFERENCE SECRETARIAT

Helsinki Commission



in cooperation with

Ministry of Environmental Protection, Natural Resources and Forestry
of the Republic of Poland

and

European Bank for Reconstruction and Development, European Investment Bank,
Nordic Investment Bank and the World Bank

DECLARATION ON RESOURCE MOBILIZATION FOR THE BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME, 1993 (GDANSK DECLARATION)

Environment Ministers, and High Representatives of the Governments of

Belarus,
The Czech Republic,
The Kingdom of Denmark,
The Republic of Estonia,
The Republic of Finland,
The Federal Republic of Germany,
The Republic of Latvia,
The Republic of Lithuania,
The Kingdom of Norway,
The Republic of Poland,
The Russian Federation,
The Slovak Republic,
The Kingdom of Sweden,
The Ukraine;

and the Representative of
The Commission of the European Communities

ASSEMBLED at the High Level Conference on Resource Mobilization for the Baltic Sea Joint Comprehensive Environmental Action Programme in Gdansk, Poland, on 24-25 March 1993,

RECALLING the Baltic Sea Declaration of 3 September 1990, in which Heads of Governments and High Political Representatives of the Baltic Sea States, Norway and the Czech and Slovak Federal Republic and the Representative of the Commission of the European Communities expressed their firm determination to assure the ecological restoration of the Baltic Sea and for that purpose to prepare urgently a Joint Comprehensive Environmental Action Programme in the framework of the Helsinki Commission,

RECOGNIZING the severeness of global and European environmental problems, and the seriously threatened ecological balance of the Baltic Sea,

RECALLING the Baltic Sea Environmental Declaration, 1992, and the need for action and implementation of the Programme,

NOTING with satisfaction the Baltic Sea Joint Comprehensive Environmental Action Programme, endorsed in principle by the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, April 1992,

NOTING ALSO the role given to the Programme Implementation Task Force in coordinating, facilitating, advising and reporting on the implementation of the Baltic Sea Joint Comprehensive Environmental Action Programme,

NOTING FURTHER the existing bilateral and multilateral agreements to support the States in the Baltic Sea catchment area with economies in transition,

RECOGNIZING that the implementation of the Programme will extend over decades,

REAFFIRMING their determination to make all efforts to continue and accelerate implementation of the Programme,

UNDERLINING that these efforts will initially focus on Phase I of the Programme,

UNDERLINING ALSO that investment activities will have to be complemented by policy reforms and strengthening of the environmental management institutions, as well as increasing public awareness and environmental education,

RECALLING the common understanding that all States in the Baltic Sea catchment area on their own account take full responsibility to meet the investment and operational costs needed to fulfill the implementation of the Programme,

CONSCIOUS that each State in the Baltic Sea catchment area has to decide on the necessary steps according to its national, political and economic situation,

CONSCIOUS ALSO of the present difficult position of the countries with formerly centrally planned economies which requires active participation and support from the bilateral donors and international financial institutions,

RECOGNIZING that countries in economic transition must commit themselves to undertake necessary investments, when appropriate, with participation by international financial institutions and the private sector,

RECOGNIZING ALSO the need for grants from donor countries to establish the necessary basis for investments in environmental protection of the Baltic Sea catchment area,

RECOGNIZING FURTHER that all participants to the Programme are equally committed to help remedy the situation and **WILLING**, in the spirit of partnership, to provide support for the resource mobilization necessary for the implementation of the Programme,

HAVE AGREED TO

1. **MAKE ALL EFFORTS TO MOBILIZE** local, national, bilateral or multilateral financial and other resources for the implementation of the Programme, including grant financing,
2. **EMPHASIZE** that the scarcity of financial resources makes it necessary to adopt a phased approach to the implementation of many priority investment activities within the Programme,
3. **STRESS** the need to restrict the preparation of feasibility studies to those projects in the Programme where such studies are a prerequisite and where there are concrete possibilities to realize these projects,

4. **RECOMMEND** to create, wherever appropriate, mechanisms to support mobilization and efficient application of domestic resources such as the national environmental funds established in countries like the Czech Republic, Estonia, Poland and Russia,
5. **RECOMMEND** that appropriate economic, market-oriented instruments should be used more systematically in order to reduce discharges into the Baltic Sea,
6. **RECOMMEND ALSO** the introduction of equitable and efficient user charges, conditioned upon expanded metering of water and energy consumption, or charges/levies related to discharges, taking into account the ongoing work within the Organization for Economic Cooperation and Development (OECD) and the Nordic Council of Ministers,
7. **EXAMINE** the possibilities to use debt-for-environment-swaps as a way of financing projects in the environment and nature conservation sectors,
8. **CALL UPON** international financial institutions to engage themselves in setting up arrangements for project financing including all approaches, such as co-operation with commercial financial institutions, integration of public grants and private investments and to apply the best possible conditions to loans,
9. **PROMOTE** the combining of local, national, bilateral and multilateral financing to create more favorable conditions for implementing priority projects,
10. **ACKNOWLEDGE** that grants, or other financial support, should, in coordination with the relevant international financial institutions, be made available as a basis for investments, inter alia, for feasibility studies or other project preparation activities in the recipient countries, and that, within the framework of the HELCOM Programme Implementation Task Force, appropriate means for that purpose should be considered,
11. **ENCOURAGE** governments and other members of the HELCOM Programme Implementation Task Force to provide, within the Programme Implementation Task Force structures and on a voluntary basis, co-ordination responsibilities for particular parts of the Baltic Sea Joint Comprehensive Environmental Action Programme,
12. **RECOGNIZE** the importance of the role of the private sector and to facilitate its participation in the Programme,
13. **EMPHASIZE** the need to mobilize sufficient resources for equity investments to initiate to the extent possible self sustaining projects,
14. **CONSIDER** the further use of governmental credit guarantees and counter guarantees to facilitate the financing of environmental projects with credits.

THE BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, Poland
24-25 March 1993

PROVISIONAL AGENDA

Background:

In accordance with the decision made by the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki, April 9, 1992) a High Level Conference on Resource Mobilization will be held on 24-25 March 1993 in Gdansk, Poland. The meeting will be held at the invitation of the Polish Minister of Environmental Protection, Natural Resources and Forestry and hosted by the City of Gdansk.

Organizers of the Conference:

Helsinki Commission

in cooperation with

Ministry of Environmental Protection, Natural Resources and Forestry
of the Republic of Poland

and

European Bank for Reconstruction and Development, European Investment Bank,
Nordic Investment Bank and World Bank

24 MARCH 1993 - WEDNESDAY

DAY 1 FINANCING PRIORITY ENVIRONMENTAL ACTIONS

09.00 - 09.15

Welcome

- Mayor of the City of Gdansk

Introduction

- Representative of the Polish Ministry of Environmental Protection, Natural Resources and Forestry
- Chairman of the Helsinki Commission, Mr. Fleming Otzen
- Election of Chairman
- Adoption of Agenda

Part A: INTRODUCTION

09.15 - 09.45

Session 1 Overview of the Baltic Sea Joint Comprehensive Environmental Action Programme and Synopsis of the Conference Background Document

- Chairman of the Programme Implementation Task Force, Mr. Göte Svenson

Part B: ACTIONS TO MOBILIZE PROGRAMME RESOURCES

09.45 - 11.45

Session 2 Financing the Baltic Sea Joint Comprehensive Environmental Action Programme: Constraints and Issues

Moderator: Mr. Tomasz Żylicz

Constraints and Opportunities for Mobilization of Finances for the Programme

- Overview Presentation
 - Mr. Peter Laurson

Equity Financing, Private Sector Financing and Loan Risk Guarantees

- Equity Financing
 - representative of NEFCO, Mr. Harro Pitkänen
- Private Sector Financing
 - representative of a commercial bank Mr. M. Grendowicz, ING Bank, Warsaw
- Loan Risk Guarantees
 - representative of export guarantee organizations Mr. Eero Timonen, Finnish Guarantee Board
- Comments by Moderator, comment papers by the Participants and discussion

11.45 - 12.15

Break

Part C: ACTIONS TO EFFECTIVELY USE PROGRAMME RESOURCES

12.15 - 14.00

Session 3 Financing Control of Point Source Pollution: Issues, Case Studies and Discussion

Moderator: Mr. Andrzej Czyż

- Presentation on activities of the Nordic Investment Bank
 - Mr. Klas Ringskog
- Presentation on activities of the European Bank for Reconstruction and Development
 - Mr. George Toregas
- Presentation on activities by KfW; Environmental Policy in the Federal Republic of Germany
 - Mr. Werner Fassing
- Presentation on activities of the European Investment Bank
 - Mr. Patrick Walsh
- Presentation on activities of the World Bank
 - Mr. Walter Stottmann
- Presentation on a regional study in the pulp and paper sector supported by Finland
 - Mr. Olli Ojala and Mr. Timo Mäkelä

		<ul style="list-style-type: none"> ● Comments by Moderator, comment papers by the Participants and discussion
14.00 - 15.30	Lunch	
15.30 - 17.00	Session 4	Control of Non-Point Sources: Actions to Reduce Agricultural Runoff and to Conserve Wetlands and Coastal Lagoons Moderator: Mr. Piotr Krzyzanowski <ul style="list-style-type: none"> ● Joint US-Poland Agricultural Run-off Programme - Mr. Stanley R. Johnson ● Joint Sweden-Estonia, Latvia and Lithuania Agricultural Run-off Study - Mr. Göran Carlson ● Joint Denmark-Lithuania Agricultural Management Study - Mr. Mogens Fosgerau ● Coastal Lagoons and Wetlands - representative of World Wide Fund for Nature Mr. Bertil Hägerhäll ● Public awareness and environmental education - representative of Coalition Clean Baltic Mr. Gunnar Norén ● Comments by Moderator, comment papers by the Participants and discussion
17.00 - 17.30	Break	
	Part D: SUMMARY	
17.30 - 18.00	Session 5	Summary Chairman of the Programme Implementation Task Force, Mr. Göte Svenson
(20.00 -		Ministerial Dinner)

25 MARCH 1993 - THURSDAY

DAY 2 HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

09.00 - 09.15	Welcome	<ul style="list-style-type: none"> - Minister of Environmental Protection, Natural Resources and Forestry, Republic of Poland, Mr. Zygmunt Hortmanowicz
	Introduction	<ul style="list-style-type: none"> - Chairman of the Helsinki Commission, Mr. Fleming Otzen - Election of Chairman - Adoption of Agenda
09.15 - 10.15	Session 6	Introduction of the Draft Declaration and Brief Reports from the Chairman of the HELCOM PITF, and Moderators on Sessions 2, 3 and 4
10.15 - 11.15	Session 7	Brief Statements from Participating Governments and Organizations <ul style="list-style-type: none"> ● Participating Governments ● International Financial Institutions ● Intergovernmental Organizations ● NGOs ● Discussion
11.15 - 11.45	Break	
11.45 - 13.30	Session 7	Brief Statements from Participating Governments and Organizations (continued)
13.30 - 15.00	Lunch	
15.00 - 16.00	Adoption of the Declaration	
	Press Conference	

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

The Baltic Sea Joint Comprehensive
Environmental Action Programme

Gdansk, Poland
24-25 March 1993

INTRODUCTORY WORDS

Mr. Fleming Otzen
Chairman of the Helsinki Commission

on Wednesday, 24 March 1993

Mr. Governor, Vice Minister, distinguished Delegates, Ladies and Gentlemen,

I am most pleased for having been given the opportunity on behalf of the Helsinki Commission to address this High Level Conference on Resource Mobilization at its opening session.

The initiative to the Conference was taken by the Polish Minister for Environmental Protection, Natural Resources and Forestry at the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, held in Helsinki on 9th of April last year.

Less than a year for the preparation of a High Level Conference is indeed a very short time, and I thank the Polish Ministry of the Environment and its secretariat to the Helsinki Convention, the HELCOM PITF and the HELCOM Secretariat for having made it possible for us to meet here in Gdansk.

The Baltic Sea Joint Comprehensive Environmental Action Programme, adopted in principle by the Ministers at the Diplomatic Conference, is the main reason for convening this Conference.

It is an ambitious programme and its implementation is a costly and long-lasting process. Furthermore, it is a living programme that needs adjustments according to future progress in technology and science, as well as the financing capabilities for the programme will have to be taken into consideration.

The total cost for the implementation of the Programme amounts to 18 billion ECU with a time horizon of decades. The implementation of the programme for only the hot spots amounts to almost 10 billion ECU.

Even if the implementation of the Programme will extend over decades one cannot expect that the financial capabilities of the region will be sufficient to finance solely the implementation and it is, therefore, of utmost importance that resources also from outside the region should be mobilized.

This Conference is the first major effort to make the Programme known to an audience that also represents potential actors in the Programme from outside the Baltic region, and it is encouraging to see that so many of these actors are present here today.

It is my hope that this Conference through its participants will start a kind of chain reaction outside as well as inside the region to make the Programme known more widely.

The Helsinki Commission considers the implementation of the Programme of utmost importance insofar as its main objective is to restore the Baltic Sea to a sound ecological balance.

The Programme and the 1992 Baltic Sea Declaration involve also other states than the Baltic Coastal States in the Baltic Sea restoration process, and it goes without saying that the Helsinki Commission welcomes the participation of the catchment area states in the restoration process.

The participation of the four international financial institutions in the Programme has brought new dimensions to the work of the Commission - the financial aspects in environmental protection which have been overlooked in the past mainly due to political difficulties in addressing this issue.

Observer organizations of the Helsinki Commission - intergovernmental as well as non-governmental organizations - have participated actively in the preparation of the Programme and we welcome this participation also in the implementation process.

Despite these positive aspects one must, however, recognize the negative trends in the financial situation that many countries have experienced in the years following the Ronneby Conference and, one can add, are still experiencing.

It is, however, my hope that commitments will be made by those participating in the Gdansk Conference to implement the Baltic Sea Joint Comprehensive Environmental Action Programme.

I am also convinced that this Conference will act as an incentive for potential investors within the Baltic Region as well as outside the region to join the efforts of restoring the ecological balance of the Baltic Sea.

Thank you!

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

The Baltic Sea Joint Comprehensive
Environmental Action Programme

Gdansk, Poland
24-25 March 1993

INTRODUCTORY STATEMENT

Mr. Fleming Otzen
Chairman of the Helsinki Commission

Thursday, 25 March 1993

Minister Hortmanowicz,
Ministers, distinguished Delegates, Ladies and Gentlemen,

I am most honoured to have been given the opportunity on behalf of the Helsinki Commission to address this very distinguished audience.

As regards to the Helsinki Commission it could be stated that despite the prevailing political east-west differences in the start of the Commission's life the endeavours within HELCOM to protect the marine environment of the Baltic Sea was one of the first major topics, on which the Baltic Sea States demonstrated a willingness for co-operation. It was thus not by accident that the work of the Helsinki Commission became a working example of CSCE efforts.

A manifestation of this willingness is the 1988 HELCOM Ministerial Declaration, in which the ministers responsible for the environmental protection in the Baltic Sea States declared their firm determination to take quite a range of far-reaching measures, e.g., to reduce the load of pollution in the order of 50 per cent of the substances most harmful to the ecosystem of the Baltic Sea as soon as possible, but not later than 1995.

Taking into consideration the serious environmental problems in the Baltic region and the urgent need for a drastic reduction of the pollution load on the Baltic Sea, the Prime Ministers of Poland and Sweden invited their colleagues from the other states in the catchment area of the Baltic Sea as well as representatives of the Commission of the European Communities and of the four multilateral financial institutions to a conference in Ronneby, Sweden, in September 1990.

The outcome of the Conference was the 1990 Baltic Sea Declaration according to which a Joint Comprehensive Programme should be elaborated to reduce emissions and to restore the Baltic Sea to a sound ecological balance.

One could say that this Declaration clearly signalled the positive political changes we were to experience in the years that followed.

Another positive signal emerges from the Diplomatic Conference on the Protection of the Marine Environment of the Baltic Sea Area, which was held in Helsinki on 9 April 1992. At this Conference a new modernised Convention was signed and, furthermore, the Baltic Environmental Declaration was adopted, thereby securing that the work of the former Task Force could be continued by a new Programme Implementation task Force.

One should note that ministers have been present in all the major events I have mentioned, and my conclusion is that when ministers are present substantial things happen for the benefit of the Baltic as well as for the work of the Helsinki Commission.

I note with satisfaction that ministers are present also today. Thus it is my sincere wish that the positive tradition from the earlier ministerial meetings will continue also at this High Level Conference as well as during the 15th meeting of the Helsinki Commission in March 1994 which will be held at ministerial level.

Thank you.

STATEMENT OF THE CZECH DELEGATION

Mr Chairman,
Ladies and Gentlemen,

The Czech and Slovak Federal Republic has taken an active role in the preparation and creation of the Baltic Sea Joint Comprehensive Environmental Action Programme.

The Czech Republic, as one of the successors of the former federal state, reaffirms its full commitment to the Programme and its willingness to accomplish the tasks for the Republic that result from the Programme.

For this it will not only use its participation in the HELCOM PITF but also the International Commission for Protection of the Oder which is currently being prepared and will soon be accomplished.

The Czech Republic declares that at present some important measures for pollution reduction or prevention are being taken in the Oder Basin.

In addition, the conversion of heavy industry in the Ostrava -Karvina area contributes greatly to the pollution decrease in the Oder River.

The Czech Delegation also wishes to mention that the Project Oder, a comprehensive regional environmental study, is being prepared. It will give priority to the instruments for radical reduction of pollution discharges.

The Czech Republic is not only prepared to use existing legal and economic instruments but to amend the Water Law in order to achieve more efficient tools for environmental protection. The Czech Republic must unfortunately recognize its difficult economic situation which was recently deepened by the division of the state and which does not allow a faster tempo of actions.

Finally, the Czech Republic declares that it is prepared to take part in actions aimed at the environmental protection of the Baltic Sea and also is willing to sign the declaration which will result from today's conference.

Mr. Petr Gandalovic
Deputy Minister of the Environment of the Czech Republic

Gdańsk, 25 March 1993

MILJØMINISTERIET
Departementet
4. kontor

April 5, 1993
J.nr. D 801-0336
EW/

Speech by The Danish Minister for the Environment Svend Auken in
Gdansk on March 25, 1993.

Mr. Chairman, colleagues, ladies and gentlemen.

Let me begin by congratulating our chairman, minister Zygmunt Hortmanowitz, with the excellent arrangement and hosting of this Gdansk High Level Conference.

The reason for our meeting here today is just outside this room. We are all aware of the severe situation in the Baltic Sea.

The Helsinki Commission recently turned 20, and I am sorry having to admit that although a lot of work has been done, the condition of the Baltic Sea has not improved within this period.

I am very pleased indeed with the Gdansk declaration which we will adopt today. It shows that all assembled here have the best intentions concerning the Baltic Sea. But we must not forget that for the time being the declaration is only words on a piece of paper. We all must share the responsibility of putting these words into action.

Without money there will be no solution of the Baltic Sea's problems. At the moment there are not enough funds for the needed feasibility studies.

It is essential, Mr. Chairman, that we - in our future common work to improve the conditions of the Baltic Sea - understand that it is necessary to start out by using our scarce resources in such way that we achieve a maximum of effect by a minimum of effort. In my opinion we should concentrate our efforts to such areas. As an example of this I could mention that water-saving is a precondition for the investment in treatment plants.

The most important issue, Mr. Chairman, is however, that if we want to succeed in our efforts to save the Baltic Sea, it is essential that we all recognize our responsibility and obligation to take our share of the necessary effort.

This goes without saying for the Western countries who are in a more favourable economic situation than the Eastern and Central European countries. That fact should be reflected in our willingness to participate in the cost of cleaning up the Baltic Sea. No one can afford to back out.

It is clear to me, that from the point of view of protecting the environment, one dollar spent on cleaning the Baltic Sea may well be better spent in the Central and Eastern European countries than in the Western countries.

I am pleased to be able to announce today, that Denmark will give 30 mio. D.kr., equivalent to almost 5 mio. US.\$ to the action plan to be used for feasibility studies. Furthermore, it is Denmark's aim by the year 2000 to spend 1/2 % of our BNP more than the 1% we already provide for development aid specifically to protect the global environment and for the purpose of disaster relief.

At the end of the day the polluter must carry the burden. It is understandable that in a period of transition with economic difficulties facing the Eastern and Central European countries and with the demand for financing which the countries also require, there are reluctance to invest heavily in environmental measures.

If we are to succeed, Mr. Chairman, everybody must share the burden. Also the countries in transition.

This turns our attention to the financial institutions and development banks, who are also represented at this conference. We do not expect the financial institutes to take on the burden of investment all on their own, but we do expect them to take part in financing on best possible terms.

After the Rønneby conference in 1990, we all had great expectations as to what the banks could offer - especially the European development banks - and I must say, Mr. Chairman, so far I am not impressed with the willingness and capability of the international banks.

Nothing will happen if the loans are only provided on market terms, that is with western guaranties and market level interests and high consultants fees to the banks.

May I remind you that the development banks do exist for the very same reason, namely to provide loans for projects which are not profitable seen from a strict commercial point of view. The banks will have to provide soft loans for this programme. Only by doing so they can help to increase investments in environmental improvement.

During this conference the banks have implied that it is impossible according to bank regulations. - Well, then we must change the regulations. The different countries represented in the different boards must see to it, that this is changed - and changed as soon as possible. It is our responsibility. But it is also the banks own responsibility to promote the necessary adjustments.

The concept of joint responsibility is reflected in the draft declaration from this meeting.

By accepting the declaration we also accept our responsibility and this, Mr. Chairman, is in my opinion an important step on a long and difficult road towards the restoration of the Baltic Sea.

Thank you Mr. Chairman.

Statement by the Head of the Delegation of the Republic of Estonia, Mr. Andres Tarand, Minister of the Environment.

Mr. Chairman, Ladies and Gentlemen,

I have the honor to extend to you the best regards on behalf of Estonian delegation and Government.

At first I should express the point of view of our Government that regional cooperation of the Baltic Sea nations is a central matter in our foreign policy which is based on the general idea of regionalism (so called overlapping regions in the structure of unified Europe) as much as on the high priority of environmental issues of the Baltic Sea in this cooperation.

The process initiated by Prime Ministers of Poland and Sweden in Ronneby, 2-3 September 1990, is proceeding successfully. In the Baltic Sea region important political changes have been taken place during last years. These positive changes have considerably promoted carrying out pre-feasibility studies and the elaboration of the Baltic Sea Joint Comprehensive Environmental Action Programme.

I would like to take this opportunity to thank all countries, organizations and banks, who financed and helped to carry through needed studies for pointing out hot spots and estimating the cost and strategy for future activities.

According to the Baltic Sea Joint Comprehensive Action Programme there were pointed twelve hot spots in Estonia, among them four priority hot spots. We can say, that quite a lot has been done for solving the environmental problems connected with above-mentioned hot spots. For several hot spots (Tallinn, Kohtla-Järve, Narva, Haapsalu, agricultural run-off) there are going on feasibility studies or pilot projects in cooperation with Finnish, Swedish and Danish experts. All authorities responsible for hot spots have expressed their interest in taking part of HELCOM PITF work.

At the same time we have to recognize to ourselves, that the progress in the field of environmental protection in Estonia has not been as rapid as we should wanted. The main reasons that have put the brakes on our environmental protection development are shortage of financial resources, reorganizations and changes in administration, both in governmental and local levels, and lag in elaboration of new legislation.

Just now we try to get the acceptation in the parliament of a framework decision of the sustainable development which gives the lease to infiltrate long-term environment protection aims to every field of economy.

In spite of a quite difficult socio-economic situation in Estonia we are still looking hopefully into the future of environmental protection and possibilities of reduction of the pollution load to the Baltic Sea from Estonia. The main reasons that are promising to make progress in this field are following:

- The privatization and municipalization processes as well as reform of ownership and land reform are supposed to be mainly completed during this year.
- The Water Act with necessary statutory orders will be accepted by Estonian Parliament in 1993.
- The Act about real and personal estate will be accepted by parliament in near future. This Act will give necessary guarantee for banks and other creditors for investments also into the environmental protection facilities.
- The reform of Estonian Government is practically completed already and problems connected with reform of local authorities are supposed to be solved this year.
- The elaboration of the Baltic Sea Joint Comprehensive Action Programme and establishment of new body in the framework of the Helsinki Commission - HELCOM Programme Implementation Task Force - and organization of this conference give us hope, that we could manage with the most difficult side of the problem, I mean the problem of financing.

On behalf of Estonian delegation I would also like to thank the organizers of this conference - Secretariat of Helsinki Commission, Ministry of Environmental Protection, Natural Resources and Forestry of the Republic of Poland, City of Gdansk and Banks -, because I really hope that we have made some progress in protection of Baltic Sea during these days.

Thank you for your attention,

Andres Tarand
Minister of the Environment
of the Republic of Estonia

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION
Gdansk, Poland, 24-25 March 1993

Statement by Ms. Sirpa Pietikäinen
Minister of the Environment of Finland

The implementation of the Baltic Sea Joint Comprehensive Environmental Action Programme is a long-term programme aimed at both preventive actions for a sustainable utilization of the Baltic Sea region and at curative actions in order to reduce point source as well as a diffuse source pollution.

The Programme will strengthen the environmental management framework in each country, including environmental policy and legislation as well as a system of economic incentives. It will also give better possibilities to finance environmental investments. It helps all countries and institutions to focus these efforts and resources in a more effective way. At the same time simultaneous and overlapping work can be avoided through the transparency created by the programme.

One of the most difficult tasks will be to find the funding sources for the investments. On the one hand the countries in which the investments take place will have to cover a considerable part of the investments including local work and services. On the other hand there will be a need for foreign investment and financing.

In the Baltic Sea Environmental Declaration of 1992 it was agreed to pay attention to mobilizing local, national, bilateral and international resources for implementation of the programme. It was also agreed to request the continued partnership of the European Bank for Reconstruction and Development, European Investment Bank, Nordic Investment Bank and the World Bank to facilitate the implementation of the Programme.

We are of course conscious of the present difficult economic situation in the countries in transition. The formerly centrally planned economies are going through substantial economic restructuring which in a short-term perspective is restricting their possibilities of financing large investments.

It is evident that a considerable part of the funds must come from foreign sources. It has been recognized that the need for grants from donor countries is important. The Government of Finland has in the years 1991-93 allocated budgeted funds for environmental co-operation in Eastern and Central Europe to the total amount of approximately 200 million FIM (approximately 30 million ECU). The funds have mainly been used for grants to minor investment projects in the border regions of Russia and in the Baltic States, especially in Estonia, as well as in Poland.

In co-operation with our partners in Karelia and the St Petersburg region in Russia and in Estonia a Priority Action Programme with 16 priority projects has been launched. During the first two years of this Programme funds have been used for 29 investment and over 100 technical assistance and training projects related to this programme.

The investment projects are carried out on the basis of commercial contracts between companies and plants concerned. The projects are primarily funded locally and implemented using mainly local labour. The Finnish Government may provide grants generally up to a maximum of 50 per cent of foreign currency costs. The share of the local partner in both local and foreign currency has mainly been financed with earnings of the company or plant in question. In most cases barter deals have been used for financing foreign currency costs but also funds from governmental and municipal budgets have been used.

Among projects under implementation sulphur dioxide and dust removal in the Kostamuksha mining combine in Karelia, desulphurization projects in the Narva and Iru Power Plants in Estonia and improvement of the waste water treatment plant in Tallinn can be mentioned.

Taking into account the magnitude of the identified investments it is evident that in the future a large part of the financing resources must come from international financial institutions. The role of donor countries will be one of promoting investment activities and - when possible - softening credits from domestic and international financial institutions.

Because this financing is mainly in the form of credits, it will be of utmost importance to solve the problem of counter guarantees. It will also be important to create mechanisms to mobilize local resources such as environmental funds, adoption of realistic user charges as well as promoting environmental equipment deliveries and barter deals through favourable customs and taxation regulation.

In the Draft Gdansk Declaration National Environmental Funds are referred to. Therefore, a few words about financing mechanisms used in Finland are added. In our economy we have been able to finance the environmental investments without a general Environmental Fund. Municipalities often use funds created through their own budgets in order to distribute the costs of major investments, e.g. in sewage treatment plants, over several years. A very beneficial fund in Finland has been the Oil Pollution Combatting Fund originally aimed at compensating the third parties in oil pollution casualties and later on used more and more for investments in combatting vessels and equipment. The capital of the Fund originates from an ear-marked fee on imported oil and oil products.

Finally, Mr. Chairman, attention of all Delegations is drawn to the Conference "Environment for Europe" which will soon take place in Lucerne, Switzerland. It is suggested that the Lucerne Conference be made aware of our comprehensive and concrete Action Plan as well as of the Gdansk Declaration.

STATEMENT

by Dr. Bertram Wieczorek
Parliamentary State Secretary

for

the Federal Minister for the Environment,
Nature Conservation and Nuclear Safety
Prof. Dr. Klaus Töpfer

at the High Level Conference on Resource Mobilization

Gdansk, Poland
24-25 March 1993

(Mr. Chairman, Excellencies, Ladies and Gentlemen)

Thank you very much for having invited me to take part in this High Level Conference on Resource Mobilization. This Conference marks an important step forward in our efforts to ensure that all of us involved proceed in an efficient, coordinated way and provides impetus for the implementation of the International Baltic Sea Action Programme.

The recession now being felt in all the countries of the Baltic Sea and the considerable financial burden placed on us as a result of past mistakes in environmental protection mean we must approach the implementation of the Baltic Sea Action Programme with realism, a sense of proportion and a degree of flexibility; we must also be ready to make new departures. I thus welcome the basic direction the implementation programme is taking with centre stage given to a step-by-step approach concentrating on particularly serious problems, while promoting the involvement of international financing institutions and a whole range of accompanying measures designed to strengthen national economies.

For its part, the Federal Republic of Germany is making a tremendous effort to effect the clean-up of the Baltic Sea catchment area, in particular in the new Federal Länder, as quickly as possible. This clearly shows that in Germany too clean-up on the basis of public funding alone goes far beyond the bounds of the resources that are actually available.

A feasibility study commissioned by the Federal Government shows that we do now expect to meet the objective contained in the Ronneby declaration of a 50% reduction in overall inputs of BSB₅, P and N between 1987 and 1995; this means however that our 1991 financial estimate of 700 million deutschmarks required to cover the costs of clean-up of seven "hot spots" is nowhere near the true figure of probably double that amount. The total cost of building municipal waste water treatment plants and sewerage networks is estimated at between 4 and 6 billion marks.

We take the responsibility we bear for our contribution to the implementation of the programme very seriously. Nonetheless, however, we also intend to maintain the support we are giving to our partners in the eastern Baltic Sea area within the framework of the many forms of bilateral and multilateral cooperation in which we are engaged - be this in the Helsinki Commission or as a result of our involvement in the EC's PHARE and TACIS programmes or be it in the practical application of the numerous bilateral agreements we have reached with our eastern neighbours.

I should like for example to mention the joint German-Polish initiative to build a German-standard waste water treatment plant to deal with the sewage of around 150,000 people in Świnoujście. It is expected that this treatment plant will be completed by the end of 1995. The Federal Republic of Germany is contributing 20 million deutschmarks to this scheme and would also like to connect three

German seaside resorts with a population of 35,000 to the waste water treatment plant.

In the countries in transition in particular, the ongoing process of reconstruction and the structural changes this will entail should be incorporated into a strategy to achieve a comprehensive solution to the environmental problems to be faced. Any outside aid, whether from far-reaching credit programmes from international banks or from public funding, can only offer support initially; the crucial factor will be whether in spite of all difficulties, the countries of central and eastern Europe at present in a state of reconstruction will, in the medium to long term, succeed in embracing the mechanics of an ecological market economy which also offers them the chance of securing their own place in global competition. This is the only way national economies will be able to develop the resources that are required on their own. Today, technological aspects, such as investments in more efficient, environmentally sound technologies are accompanied by a new realisation of the need to work towards an economic system that is sustainable and compatible with environmental needs. In other words, the structural change required must be geared towards the environment. If environmental awareness is raised, the chances of environmental protection entering into play in the investments being made are good. It is impossible here to exaggerate the importance of initiatives undertaken by environmental action groups to promote environmental awareness in the countries of the Baltic Sea.

The Baltic Sea will only survive if sustainable economic structures are created alongside an effective administration. It will only survive if we put some thought into how economic instruments are used. In 1992, the Federal Government set in motion a consultation programme to offer the countries of the eastern Baltic a broad spectrum of possible modes of cooperation. This programme lays particular emphasis on legal and administrative advice and takes the form of seminars, expert talks, the secondment of staff to environmental administrative bodies and visits to Germany by experts from abroad. We are very much ready to share the experiences we have gained with environmental clean-up, not least in the eastern Länder.

STATEMENT

at the High Level Conference on Resource Mobilization
to implement The Baltic Sea Joint Comprehensive Environmental Action Programme

in Gdansk, Poland on 25 March 1993

by Mr. Indulis Emsis, Republic of Latvia

Your Excellencies, Ladies and Gentlemen,

I would like to begin by expressing profound gratitude to the Ministry of Environmental Protection, Natural Resources and Forestry of the Republic of Poland and the Helsinki Commission for the opportunity to take part in this Conference.

With great satisfaction, I would like to stress that Latvia welcomes all activities concerning successful implementation of the Baltic Sea Environmental Action Programme. Despite the current economic and social difficulties we are experiencing during this transitional period, my country will mobilize our limited resources for the national "hot spots" listed in the Environmental Programme. In 1993, state and local authorities and employers will proceed with the financing of significant environmental projects, taking into account the priorities of the Baltic Sea Environmental Programme.

Restoring the sovereignty of the Republic of Latvia is my country's first priority, and only then can we begin the process of advancing a national market economy. In my opinion, this process should occur using the principles of sustainable development.

Your Excellencies, Ladies and Gentleman, while observing the course of events in Latvia and possibly having some effect on their outcome, I remain an optimist and believe that sustainable development is possible for Latvia. For successful sustainable development, several prerequisites are necessary. First of all, the introduction of technologies and programs which promote environmental protection and energy conservation depends on the level of international cooperation and support. In the case of Latvia, I would like to express my gratitude to the governments and parliaments of Sweden, Denmark, Finland, Germany, and Holland for their significant and generous support which Latvia has already received in the area of Environmental Protection as a result of bilateral cooperation.

Endeavors for sustainable development in this day and age need to be realized within the shortest possible period. In other words, our main enemy is time. Fifty years of occupation under a totalitarian regime have distorted environmental consciousness and destroyed our economy. It is hardly imaginable that we can resolve this crisis without international support. At the same time, much work needs to be done for the implementation of sustainable development strategies. Concrete and constructive steps need to be taken to make these ideas popular and to mobilize national resources for the Baltic Sea Environment Programme. Also, there is a need to improve environmental, political, economic, and social instruments and to increase the level of environmental awareness through education. All of these problems can be realized only in a free and democratic state.

The Delegation of Latvia considers that work done after the acceptance of the Baltic Sea Declaration of 3 September, 1990, is constructively directed, and that today, it is just as important to turn the words we speak here into constructive future action. The peoples in the states surrounding the Baltic Sea Area must come to a common decision - to restore the ecological health of the Baltic Sea. Each state must take full responsibility for both its contribution to the pollution problems and for its share in reviving the Baltic Sea.

The Delegation of Latvia expresses its support of the Gdansk Declaration project. I hope we can succeed in the implementation of this joint-programme.

Thank you for your attention.

Environmental Protection Department
Lithuania

IMPLEMENTATION OF BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME IN LITHUANIA

Statement by E.Vebra, Director General of Lithuanian EPD, High Level Conference on Resource
Mobilization, Gdansk, Poland, 24 - 25 March 1993

On November 1992, Lithuania, as a full member of the HELCOM, took part in the Diplomatic Conference for the first time. 15 points as major sources of contamination in Lithuania were confirmed in the Baltic Sea Joint Comprehensive Environmental Action Programme at this conference. The extinction of these hot spots, i.e. the implementation of the Programme is conditioned by the possibilities to give both internal and external assistance. This financing in Lithuania as well as in the other Baltic countries greatly depends on the economical situation.

Within the limits set by the political environment, the Government's fiscal, monetary, industrial and labour market policies have contributed significantly to realizing the initial stages of the transformation to a market economy.

In spite of the measures taken, inflation rates are high, real incomes have dropped significantly (an estimated 30% in 1992 by International Monetary Fund) and industrial output has declined dramatically (by as much as 45% according to Government and World Bank estimates). The Government will have difficulties sustaining the present, relatively rapid pace of reform, without substantial assistance from the international donor community.

Due to such economical situation we find ourselves in a vicious circle: we can't improve the situation in environmental protection as much as we want because of the shortage of money; we cannot get the necessary money because at the moment the Government is unable to give the priority to this field. In fact, one cannot get the money because one has no money.

Nevertheless, the Government is very aware of the urgency of environmental measures and, having in mind the importance of sustainable development, has identified a number of priority areas in this field.

The financing of capital investments for the improvement of water quality from the State budget was confirmed by the Decision of the Supreme Council of the Republic of Lithuania "On Implementation and Financing of Environmental Protection Programmes in 1992". According to this document the construction of Vilnius, Kaunas, Klaipeda, Siauliai and Palanga waste water treatment plants is of state significance. So they are of the highest priority in Lithuania. As all Lithuanian rivers are in the Baltic sea catchment area, Lithuanian inner priorities coincide with these set up by HELCOM. This makes abilities to put out "hot spots" easier.

Considering the present situation, the Lithuanian Government allocates quite a number of means for environmental purposes. It is foreseen to allocate approximately 3% or 3.6 billion talons for expansion of the waste water treatment facilities in the State budget for this year. According to our calculations, about 10 billion talons are needed for these purposes. So it is evident, that the state budget covers only the third part of the sum needed and we have to find additional financing sources.

Lithuania has used the aid of other states or international organizations by now. As it is known, Pre-Feasibility Study of the Lithuanian Coast and the Nemunas River Basin as well as bankable projects of the highest priority hot spots were carried out. The further stage requires capital investments, the main source of which are the loans. Even if it was possible to get loans for all hot spots, it would be unrealistic to expect the Government guaranties. Therefore, an example of the Swedish aid in the form of the subsidy, which is under consideration now, demonstrates the way of the most effective allocation of means on the Baltic scale.

Other possibilities to finance the Programme are discussed at this Conference. We hope that all possible financing sources will be used and Lithuanian hot spots will be extinguished for the sake of all the people living around the Baltic.

**HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION
OF THE BALTIC SEA JOINT COMPREHENSIVE
ENVIRONMENTAL ACTION PROGRAMME, GDANSK,
POLAND, 24-25 MARCH 1993**

**Statement by Assistant Director General Irene Bauer, Norwegian
Ministry of Environment**

Mr Chairman, Excellencies, Ladies and Gentlemen,

On behalf of the Norwegian Minister of Environment, Thorbjørn Berntsen, I would like to thank the Polish Minister of Environmental Protection and the City of Gdansk for organizing and hosting this Conference on Resource Mobilization. The interest for and attendance at the conference reflect the great concern we all share for the environmental situation in the Baltic Sea Area. This concern represents a good starting point for the necessary integration of environmental aspects into the economic restructuring process in the region and for the required common endeavour to remedy the neglect of the past.

Although Norway is not a Party to the Helsinki Convention, we have taken full part in the work on the Baltic Sea Joint Comprehensive Environmental Action Programme. At the Diplomatic Conference in Helsinki in April -92, Norway also gave her support to the Environmental Action Programme for the Baltic Sea Area and adopted the Ministerial Declaration..

Thus, Norway shares the concerns of the countries most affected by the pollution problems described in the Action Programme. We also recognize that environmental measures in the Baltic area will have

positive effects for the North Sea. It is therefore in Norway's own interest to improve the environment in the Baltic Sea.

The most important environmental challenges in the Baltic Sea Area have been identified in the Action Programme. Now we have reached a stage where it is up to us, the governments, financial institutions and international organizations concerned, to ensure the implementation of this Action Programme.

As none of the "hot spots" identified in the Action Programme are located in Norway, our situation is somewhat different from most of the other countries represented in the Programme Implementation Task Force.

Although Norway will participate in this work to facilitate and coordinate the implementation of the Action Programme.

Norway considers the multilateral effort to be very important in the implementation of the Action Programme. Through the international financial institutions the different countries have the possibility of joint action. This is a strategy which Norway supports. As for the Nordic countries, common efforts are channelled through the Nordic Investment Bank and Nordic Environment Finance Cooperation. Norway finds these institutions very well placed for joint Nordic action, and will continue her support for their activities in this field.

The Norwegian involvement in the Baltic region has so far been concentrated on our bilateral cooperation programmes with Poland and Russia, as well as cooperation on a project basis with the three Baltic States. The Action Programme will be taken actively into account in our cooperation with Poland and Russia. Through an active participation in the PITF we shall seek coordination of our bilateral efforts with the work of other countries.

Last year a Programme for cooperation with Eastern European countries was adopted by the Norwegian Parliament. As cooperation with the Baltic States is given a high priority in this programme, we hope to expand this cooperation already this year. In this work due account will also be given to the Action Programme.

Thank you, Mr Chairman.

STATEMENT IN THE NAME OF THE POLISH DELEGATION
BY MR. ZYGMUNT HORTMANOWICZ,
MINISTER OF ENVIRONMENTAL PROTECTION,
NATURAL RESOURCES AND FORESTRY OF POLAND
TO THE CONFERENCE ON RESOURCES MOBILIZATION
IN GDANSK ON 25 MARCH 1993

Your Excellencies,
Ladies and Gentlemen,

Since the time, when the deep changes in the Polish political system were initiated, the deep changes have been observed in the field of environmental protection. They are intended to stop negative trends damaging the environment and to create the market economy system ensuring the sustainable development. The turning point was an adoption of the "National Environmental Policy" document by the Polish Parliament in 1991. It defines the main actions and priorities in the environmental protection for the main sectors, both in the short and long terms. The particularly important sector, where the changes are the deepest, is the water resources management.

Poland began - with assistance of the bilateral and international organizations - the reconstruction of the water management system.

The system solutions are specified in the new act on the "Law on Water Resources Management", which draft has been submitted to the Parliament. The water management is to be regionalized due to the hydrographic division, and this is to be managed by specialized regional units. These units will have the considerable autonomy in water resources management programming and the financial resources gaining and usage.

Seven regional water management authorities are already working, including those in Szczecin and Gdansk - covering the sea shore area of the direct Baltic water basin. There is also an efficient system of the local authorities' investments support in environmental protection, executed by the National Fund for Environmental Protection and Water Management and the Bank of Environmental Protection, collecting the funds created by the fees for the environment use. This hastened the implementation of many environment protecting sites, mainly the sewage treatment plants.

One of the most urgent tasks described in the "National Environmental Policy", besides the protection of the clean water intakes and reservoirs for a community use and also the lakes protection, is the protection of waters in the sea-side area. In 1991 and 1992, 586 sewage treatment plants began their operations, with the capacity of 1.5 million sq. m./day, in that 15% in the sea shore districts. It has a direct influence on the Baltic Sea waters improvement. We particularly want to eliminate small but numerous sources directly polluting the Baltic Sea. There is a chance that soon all the sewage in the sea shore districts will be utilized properly. Now, 250 big and medium sewage treatment plants are constructed, for such towns as Cracov, Szczecin, Radom and Gizycko (the area of the Green Lungs of Poland).

The financial outlay in 1991, for the environment protection, amounting to 8.4 billion zloty (in that 45% - 3,7 billion for waters protection), is in 95% cover from the domestic resources: the budget, purpose funds (National and District Funds for Environmental Protection and Water Management), investors' own resources and credits. The foreign assistance, making only 5% of all expenditures for the environmental protection, is used mainly in situation when there is a need and possibility for the implementation of highly efficient processing technologies. That concerns the case where the high reduction of biogenic compounds is necessary, as in the Szczecin and Koszalin treatment plants. Taking into account, that the whole territory of Poland is in the Baltic Sea water basin, this is our reasonable contribution to the implementation of the Helsinki Conference Decisions and the Ronneby Declaration.

It is obvious that the efficient solution of Polish problems would not be possible without a wide-spread international assistance. The international cooperation in the Baltic Sea area is of the utmost importance.

The establishment of the international Commission for the Odra River Protection Against Pollution, gathering the representatives of Germany, Czech Republic, the Commission of European Communities and Poland is to be of a great importance for the coordination of international actions, protecting the Odra River against pollution, resulting in the reduction of the waste water being led to Baltic. Poland is highly interested in the establishment of this Commission with its Secretariat in Wroclaw.

Your Excellencies,
Ladies and Gentlemen,

The investing priorities in our country, intended for the water resources improvement in a reasonable degree take under account the "Baltic Option", in spite of the fact that it is sometimes contradictory to our national priorities.

These priorities cover the water quality improvement in the upper, source part of the water basin, in that the surface waters salinity problems' solution, particularly in the upper Vistula and the protection of intakes and reservoirs, placed mainly in the southern part of Poland.

The new Helsinki Convention of April 1992, puts for its parties, Poland being one of them, much bigger requirements than before. Poland is to cover financial expenditures for the international, mainly the European Community, standard introduction into the Polish regulations.

Thus, in order to stand to the "Baltic Option" in the priorities, as well as taking under account the tasks specified in the Baltic Sea Joint Comprehensive Environmental Action Programme by the Diplomatic Conference, Poland looks for the creation of new, efficient financial mechanisms.

I have already mentioned in the invitation to this Conference that the critical point of this Programme is its financing. The identification of the mobilization possibilities of the local, domestic and international, private and public resources for the most important projects financing, becomes the crucial - not only for Poland - condition of the Baltic Programme implementation.

Apparently, there are numerous way of adressing this problem. Poland submitted the prospective system of funds mobilization and allocation for the promotion of Programme priorities, and hopes for the kind attitude towards this proposal. A part of this is proposal of the establishment of the International Centre for Promotion of the Baltic Sea Protection which would render advisory, management and financial help for the ventures connected with the Baltic Sea Comprehensive Environmental Action Programme.

We would like to reiterate our offer to settle this Centre in Gdansk.

I do hope, that the results of this conference will form a basis for the perspective system of funds mobilization for the Joint Comprehensive Action Programme, which materialized in the various projects will enhance the Baltic Sea environment protection, the common wealth of all the nations living at its sides.

Letter from Mr. Victor I. Danilov-Daniljan,
Minister of Environmental Protection and Natural Resources of the Russian Federation,
for the attention of the High Level Conference on Resource Mobilization
to implement The Baltic Sea Joint Comprehensive Environmental Action Programme

Dear colleagues,

Having no chance to be present at the Conference in person, I would like to share some considerations on the prospects of the Joint Integrated Programme of nature protective measures in the Baltic Sea basin.

Multi-year cooperation of Baltic countries in the framework of the Helsinki Convention, preparation and implementation of the Programme may be considered as a model for joint activities of post-industrial nations and countries with economy in transition in their strive to solve regional and global environmental problems. The model is especially important for the general implementation of the decisions taken at the Rio de Janeiro Conference and for the process "Environment for Europe".

The Joint Integrated Programme of nature protective measures in the Baltic Sea basin is based on the interaction and interrelation of the three essential components:

- improvement of environmental policy;
- institutional reforms in the system of nature management and environmental protection;
- financial support of urgent investments for the improvement of the natural environment.

The 1992 fundamental reform in Russia and more strict budgetary and credit policy prevented the allocation of large investments for nature protective measures, including the ones in the Baltic Sea region. Under these conditions the environmental policy of the Russian Government was mainly aimed at developing a new economic mechanism of environmental protection. Special governmental decisions were taken to increase the rate and specify the procedures of taking charges for air and water pollution and solid waste disposal, to improve the generation and use of federal and local environmental funds, to stimulate the enterprises in allocating their own means to carry out nature protective activities.

The above decisions allowed to stabilize, and in some cases to reduce the anthropogenic load on the Baltic Sea ecosystems. However, the country is unable to provide sufficient funding for the projects envisaged by the Programme from national sources. We place our hopes on finding outside financial resources to carry out the Russian part of the Programme.

While considering the prospects of attracting foreign investments to Russia and other countries with economy in transition to implement the projects under the Programme, one can make the following conclusions:

1. Possibilities to mobilize large financial resources on a multi-lateral basis are so far ambiguous.
2. Bilateral agreements with post-industrial countries and international financial organizations are still the most real source.
3. It is essential to enhance the potential of Baltic countries with economy in transition in the development of environmentally oriented investment projects in compliance with the Programme priorities and, to this end, to set up new or strengthen the existing national and local bodies (centres) for project preparation and implementation.
4. These bodies (centres) should be rendered financial support in the framework of technical assistance from international organizations and governments.
5. Establishment of any additional institutional structures to provide multi-lateral coordination of the Programme should be considered only after the implementation of the previous task.
6. The private sector of post-industrial countries is an important potential source of funding for the Programme. It is necessary to involve national and regional chambers of commerce and industry in the mobilization of financial resources, to facilitate the establishment of environmental offices (like the German-Russian environmental office set up in Berlin in 1992).

7. Governments of all the countries in the region should provide beneficial conditions for the businessmen taking part in the Programme realization.

I hope that the above considerations would be of some interest to the participants of the Conference.

Best regards,



V.I. Danilov-Daniljan,
Minister of Environmental
Protection and Natural
Resources of the Russian
Federation

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION
Gdansk, Poland
24-25 March 1993

STATEMENT

by Mr. A. Averchenkov
Deputy Minister of Environmental Protection and
Natural Resources of the Russian Federation

Mr Chairman, Distinguished Representatives,
Ladies and Gentlemen,

On behalf of the Minister of Environmental Protection and Natural Resources of the Russian Federation I would like to emphasize the great importance of this Conference for practical realization of ideas and decisions worked out during the fruitful and long-term cooperation of Baltic States under the auspices of the Helsinki Convention.

I would like to express thanks to the Government of Poland for their initiative to host the Conference. We hope that the commitments of the Conference will give a definite impulse to practical realization of the Baltic Sea Joint Comprehensive Action Programme.

The priority "hot spots" and problems outlined in the Programme represent a serious threat to the environment of the Baltic Sea Area and to the human health.

Pulp and paper mills, municipalities, management of hazardous wastes and agricultural activities in the St. Petersburg and Kaliningrad regions, which are included in the Programme, contribute to about 50 % of anthropogenic load entering the Baltic Sea from the Russian territory and form a major part of the entire pollution load. Unfortunately, some enterprises-polluters are not included in the Programme, but we intend to carry out necessary environmental measures at these sites as well.

The Baltic Sea Joint Comprehensive Environmental Action Programme was submitted to the Russian Government for inclusion in the Federal List of priority ecological programmes in order to provide necessary conditions for its implementation on the territory of Russia.

This Programme is also included in the Draft Federal Programme for Economic Structure Modernization. At present it is under consideration by the Government.

The Russian Federation Law for Environmental Protection defined the competence of the federal, regional and local executive bodies and enterprises using natural resources in elaboration and realization of ecological programmes. Governmental financial support from the federal budget is envisaged for implementation of federal ecological programmes and international environmental obligations of Russia. But the main financial source should be the budgets of enterprises-polluters, regional and local budgets of all levels. Besides, financial resources of existing non-budgetary ecological funds will be allocated for these purposes.

For principal solution of financial problems in 1993 we envisaged to intensify introduction of new economic instruments in environmental protection, systems of ecological restrictions and regulations to adjust them to market conditions.

However, now our country has no real possibility to provide the sufficient national sources for financing the environmental activities in the framework of the Programme. The efforts of federal and local authorities aim at keeping the existing level of ecological safety of population of our country and not allowing the increase in ecological damage to the neighbouring states.

During recent years the ecological situation in the Russian part of the Baltic Sea Area has not changed considerably. The discharges of some heavy metals and oil products remain at the same level, the phosphorus discharges have reduced.

It's self-evident that the stabilization of the pollution load at an unacceptable high level could not satisfy us nor our neighbours in the Baltic Region, and so the involvement of the outside financing, technology transfer and technical cooperation would have a great importance for us and our partners due to common ecological problems.

We understand that the political and economic situation in Russia, and imperfection of our legislation do not favour the development of international financial and economic relations but we hope that even in conditions of political and economic instability we should jointly find common approaches to the solution of ecological problems.

To this end the activities of potential donors in Russia do not look sufficient. As one can see from the Background Paper for this Conference, for the time being only Finland has provided a real financial support to Russia for implementation of the projects set up in the Programme.

Russia and Finland have prepared themselves for signing an Agreement on realization of concrete environmental protection projects in the North-Western Region of Russia. In that Region we have also started a preparation of joint projects with Denmark and Germany.

But I regret to admit that our contacts with the international financial institutions leave much to be desired. The presentations of the Nordic Investment Bank and the European Bank for Reconstruction and Development at this Conference did not give us too much hope and inspiration.

In this regard the Russian Delegation hopes that the proposals contained in the letter of the Minister Mr. Victor Danilov-Daniljan would promote the elimination of the weak-points stated above.

In conclusion I would like to put forward two concrete proposals:

1. To adopt at the Conference the Background Paper (Conference document No 2) as a basis for further Programme implementation work.
2. To present the agreed Baltic List of "hot spots" to the European Conference of the Ministers for the Environment in Luzerna, as an important element for preparation of project portfolio. This project portfolio will consist of concrete proposals facilitating the

implementation of the Environmental Action Programme for Central and Eastern European Countries.

I really hope that an acceptance of these proposals would strengthen the practical value of the Gdansk Declaration.

Thank you for your attention.

MINISTRY OF THE ENVIRONMENT AND NATURAL RESOURCES

MINISTER OF THE ENVIRONMENT OLOF JOHANSSON

Statement at the Gdansk Resource Mobilization conference, Thursday,
March 25th 1993

Mr President, Dear Colleagues, Ladies and Gentlemen,

Let me express our thanks to the hosts, the Polish Government, for organizing this conference.

We are only too well aware of the environmental conditions in the Baltic Sea. Sweden is the country with the longest coast-line to the Baltic Sea. The environmental debt - which will have to be paid by coming generations to clean the Sea - is still rising. Recently, the Swedish government has expressed as a basic principle in the budget bill that "the environmental debt must not rise."

The implementation of the Baltic Sea Environmental Programme began three months ago. We now have a good basis for further action. But the most difficult part has still to be decided, that means the financing. In the opinion of the Swedish Government, we must very soon proceed from words to action.

One of the most important conclusions drawn in the Draft Declaration, later to be adopted, is the recommendation that appropriate economic, market-oriented instruments should be used more systematically in order to reduce emissions into the Baltic Sea.

A gradual transition to market prices on energy and water, which fully reflects the environmental costs is a particularly important measure. Such market prices will also reduce the risk of competitive distortions. As a more specific example I would like to mention that I have initiated a study on a Nordic basis of a charge on ferry traffic to contribute to the financing of the programme. However, all constructive ideas are welcome and must be seriously examined.

Most projects have to be financed from a multitude of sources, like local resources, foreign aid and loans. It is necessary to work efficiently and jointly and in a coordinated fashion. Many actors will be involved in the implementation of the programme. Therefore it is necessary to arrange for countries and international organizations to take on a lead party responsibility as coordinator for different parts of the programme. The purpose of this should be to reduce bureaucracy, to avoid overlapping and to make the most efficient use of the financial resources.

As chairman for the Nordic Ministers for the Environment, my aim is to develop further efforts to support the restoration of the Baltic Sea.

When it comes to the actual financial support from Sweden to the Baltic Sea Region and the environmental field in particular, this is what Sweden does during this fiscal year:

1.1 billion Swedish crowns in financial support for the reestablishment of democracy, reintroduction of an effective market economy and for measures in the environmental field, particular the Baltic Sea.

* 230 million crowns for measures in the environmental field.

Proposed for 1993/94 is:

* 870 million crowns for the same general purpose as this year.

* 230 million crowns for specified actions in the environmental field.

Altogether this means more than 2.5 billion Swedish crowns in financial support to the Baltic Sea region for this and the next fiscal year. About 250 million crowns are dedicated to measures within the framework of the Baltic Sea Joint Comprehensive Programme. The largest support within this programme will go to investments in waste water treatment plants in Estonia, Latvia or Lithuania.

Furthermore I would like to express the readiness of Sweden to participate in the establishment of a joint, voluntary trust fund, primarily for project preparation, but also for co-financing investments and other projects. For that purpose Sweden is willing to earmark 50 million Swedish crowns as the Swedish grant contribution to such a fund already today, and we urge all participants to consider the possibilities to join this initiative.

Finally let me stress the importance of linking this conference to the Pan-European discussions in Luzerne next month. The Baltic region must be seen as one important area also for the European Environmental Action Plan.

ANNEX:

Actual financial support from Sweden to the Baltic Sea region.

Decided for 1992/93:

* 1.120 billion SEK to support the reestablishment of democracy, reintroduction of an effective market economy and for measures in the environmental field, particularly the Baltic Sea.

* 231.5 million SEK for measures in the environmental field.

Proposed to the Parliament for 1993/94:

* 871 million SEK to support the reestablishment of democracy, reintroduction of an effective market economy and for measures in the environmental field, particularly the Baltic Sea.

* 234 million SEK for measures in the environmental field.

Altogether this is nearly 2.5 billion SEK in financial support to the Baltic Sea Region. Approximately 0.5 billion is aimed for measures in the environmental field. About 250 million SEK are dedicated to measures within the framework of the Baltic Sea Joint Comprehensive Programme (BSJCP).

Specific project support within the BSJCP.

25 million SEK to the agricultural sector in Estonia, Latvia, Lithuania, Poland and Russia for training and demonstration.

108 million SEK for investments in one or more waste water treatment plants in Estonia, Latvia or Lithuania.

1 million SEK to a feasibility study of sewage treatment plant in Haapsalu, Estonia

1 million SEK to a feasibility study for a new Pulp and Paper industry in Kehra, Estonia

600 000 SEK to a study of the environmental situation at the Sloka Sulphite Mill in Sloka, Latvia.

5 million SEK to a study of the sewage treatment plant in Kaunas.

0.5 million SEK to a study of the sewage treatment plant in Klaipeda, Lithuania.

2 million SEK to an agriculture run-off study in Estonia, Latvia and Lithuania.

1.5 million SEK to a study of the sewage treatment plant in Szczecin, Poland.

16 million SEK to measures to solve the problem of sludge dewatering and aeration of the sewage treatment process in Warsaw, Poland.

13 million SEK to institutional strengthening in Estonia, Latvia, Lithuania, Poland and Russia.

**THE BALTIC SEA
JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME**

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, Poland

24-25 March 1993

Statement by Mr. Michel DELEAU

Head of Department

European Investment Bank

Mr. Chairman, Your Excellencies, Ladies and Gentlemen,

1. My Institution, the European Investment Bank, would like to express its continuing support for the actions undertaken in favour of an improved environment in the Baltic Sea catchment area, and its appreciation to the organizers of the present Conference.

2. The European Investment Bank, which is the "house bank" of the European Community, is able to mobilize large amounts of capital for priority investments. In 1992 it granted total loans worth 4.5 bn ECU for investment projects directly related to the protection of the environment (27 % of total lending in 1992, with an average of 18 % over the last 5 years). Most of these loans went to EC Member Countries, which are the main focus of EIB finance. Outside the European Community, a significant increase in environmental lending can be observed in particular for the Mediterranean region, where the Renewed Mediterranean Policy of the European Community has made sustainable development a priority objective, with a stress on environmental projects. Within the Central and Eastern European countries, EIB has up to last year granted loans worth 820 MECU, of which 170 MECU concern the modernization of the energy sector and contribute to improving the environment. More projects are in the pipeline, including investments directly related to the environment (wastewater, forestry...).

3. A general conclusion, valid for all countries inside and outside the Community, is that well-organized local structures are crucial partners for a swift and efficient financing of such environmental projects. Promoters in charge of preparing project proposals should be clearly identified. The proposals themselves should be economically justified and technically feasible as well as embodying appropriate financial packages. Experience shows that this request can be accommodated, even under difficult situations, through various institutional arrangements. The Multilateral Financial Institutions can support the preparation of such viable project proposals.

4. An active role by local promoters is a prerequisite not only during the preparation and implementation phase, but also during the subsequent operating phase. In order to keep a new investment (say, a wastewater treatment plant) operating and thus generating the financial or economic benefits to justify its existence, the installation must be properly maintained and run, which requires the generation of appropriate domestic resources. Where possible, this should be done locally through an appropriate tariff system: this is in line with

the user/polluter pays principle. It encourages users to pollute less and it makes operations independent of the sometimes unstable budgetary process.

5. In conclusion, the implementation of priority environmental investments in the Baltic Sea catchment area, as in other areas, will best advance if based upon appropriate partnership structures involving efficient local promoters. The European Investment Bank stands ready to take part in such partnerships and contribute to the financing of viable and well prepared projects.

HARRO PITKÄNEN

Director

The Nordic Environment Finance Corporation - NEFCO

Honourable Ministers, Distinguished Delegates, Ladies and Gentlemen,

NEFCO was established in 1990 by the five Nordic countries; Denmark, Finland, Iceland, Norway and Sweden as a multilateral institution to support environmental investments in Central and Eastern Europe.

The purpose of NEFCO is in essence to provide risk capital in support of long-term cooperation between business enterprises from the Nordic countries and from Central and Eastern Europe in the field of environmental technology.

A main focus is, therefore, on the environment effects that can be obtained through the projects. Special emphasis should be given to projects that contribute to a reduction of transboundary pollution that affects the Nordic Region.

Thus, the purpose and activities of NEFCO are closely linked to the aim of the Joint Comprehensive Programme - the restoration of the ecological balance of the Baltic Sea. Of the countries participating in the Programme NEFCO's operations extend to Belarus, the Czech Republic, Estonia, Latvia, Lithuania, Poland, Russia, Slovakia and the Ukraine.

NEFCO, according to its charter, should invest its funds only in commercially sound projects. Therefore, not only the expected environmental effects from the business activity in the investment projects are considered but every project is scrutinized for its technical, institutional, economic and financial viability to ensure that external and local funds are mobilized only for projects which have the potential for successful business.

Such projects can be established e.g. through the formation of enterprises that cater for the environment sector. Potential areas include production of equipment for waste water treatment or consultant services related to environmental protection. As soon as the demand on the market reaches a sufficient level, a development which is linked to environmental legislation and its enforcement, there will be business opportunities for entrepreneurs in this field.

Environmental investments in themselves are often conceptually looked upon as being "defensive" in the sense that they have to be undertaken in order to deal with an environmental problem but do not in themselves generate additional income that would secure the payback of the investment. Most of so-called end-of-pipe solutions are likely to fall within this group. The investor in these cases has to mobilize the funds needed e.g. from its other operations which underline the importance of corporate and institutional restructuring.

It is important to recognize, however, that this does not apply generally to all environmental investments. In a number of cases it is possible to achieve the desired effects through investment into new technology that will also increase the revenues of the investing company. This would be the effect e.g. when the process-technology of a plant is upgraded through the introduction of new production methods that are both more efficient and less hazardous to the environment.

In some cases it will be also possible to structure single environmental investments on a self-financing basis. The general idea is to isolate the investment into a one-purpose company which undertakes to implement the investment and manage the operations either for a pre-determined period of time or indefinitely. This company procures the project and raises the financing for it. External financiers will base their financing decisions on the commercial and financial predictions for the company. A group of investors is needed to provide a sufficient equity basis for the company. The investors would make a return on their investment and the lenders have their debt serviced only if the company is able to generate sufficient income. Although mainly used in connection with energy or communication projects this technique can also be applicable to environmental investments in areas such as water treatment plants or waste management services. A prerequisite is that the project-company is granted a right to set sufficient tariffs in return for providing its services, so as to ensure a continuous revenue stream.

NEFCO is already today involved in a number of projects, smaller as well as larger, which are of relevance to the Baltic Sea Programme. NEFCO is also involved in the pre-investment, project preparation phase, on the basis of special funds provided by the member countries.

The Nordic Ministers of Environment, at their recent meeting in Oslo, specifically discussed NEFCO's role in connection with the Baltic Sea Programme. They emphasized that NEFCO, indeed, should be one of the financial instruments of the Nordic countries supporting the Programme.

NEFCO, therefore, looks forward to playing an active part within its particular field of operations in securing the successful implementation of the Programme.

THE BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME
HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, 25 March 1993

NORDIC INVESTMENT BANK

STATEMENT
Mr. Klas Ringskog
Senior Vice President

Ministers, Excellencies and distinguished Participants,

On behalf of the Nordic Investment Bank I am happy to accept the invitation and hospitality of our gracious hosts. It is fitting that the process that started at the Ronneby Conference in September 1990 has now moved across the Baltic Sea and is continued here in the historic city of Gdansk. The Nordic Investment Bank, which is the multilateral investment bank of the five Nordic countries, has been closely involved, starting with the Ronneby Conference, with the elaboration of the Joint Comprehensive Environmental Action Programme and with the preparations for this High Level Conference on Resource Mobilization.

We would like to express our satisfaction with what has been accomplished during the two and a half years since work on the Baltic Sea Environmental Programme was initiated. What started once as a general aspiration to restore the Baltic Sea to its ecological balance is now a carefully analyzed and widely disseminated Programme where some actions have already been taken along the path of implementation. Although we are all impatient, by the standards of international action programmes, the Baltic Sea Environmental Programme stands out for its insistence on concrete joint actions.

We would like to reconfirm the readiness of the Nordic Investment Bank to continue supporting the Programme and our participation in the Programme Implementation Task Force.

What could our support be ?

First, we expect to keep supplying Nordic industries and municipalities with part of their funding needs to control pollution originating in those countries. Our lending over the past three years for environmental purposes in our member countries has been in the order of USD 750 million. Most of those investments have already benefitted the Baltic Sea. It should not be forgotten that pollution of the Baltic Sea does not only originate on its eastern and southern shores but in all the riparian states.

Second, the Nordic Investment Bank is prepared to continue serving as Executing Agency for some of the present and future feasibility studies that are a necessary step before large-scale investment. On the basis of the studies underway now we are certain that funds expended to pinpoint the indispensable high priority works yield very high returns. One recent study showed that a large share of the environmental pollution control could be achieved at a fraction of the costs originally estimated in the Joint Comprehensive Programme. Such studies point to the necessity of spreading scarce environmental funding across the most acute needs or bottle-necks of a number of projects. Let us not make the perfect the evil of the good! Should there be a need for the Nordic Investment Bank to assist in the actual analysis of projects and channelling of bilateral funds under the Baltic Environmental Programme, we are willing to consider doing so. Our small size and intimate knowledge of the entire Baltic region gives us the possibility to act efficiently and rapidly.

Third, we expect to consider a potential role as a financier of environmental projects on a case to case basis in the Czech and Slovak Republics (where we are already active), and in Estonia, Latvia, Lithuania, Poland and Russia. Our latitude in funding investments is constrained by our strict requirements of the feasibility of the investment projects themselves and of the borrowers' willingness to borrow for environmental projects. However, given the right type of project and the possibility of co-financing with local, national, bilateral and other multilateral financing sources the Nordic Investment Bank is keen to consider proposals, particularly of such projects that have a regional environmental impact and where Nordic industry would play a role.

We have already considered environmental projects of this nature in Karelia and on the Kola peninsula. No doubt similar projects will emerge as a result of the future feasibility studies.

We look forward to a continued fruitful collaboration in the implementation of the Baltic Sea Environmental Programme.

I thank you for your attention!

**THE BALTIC SEA
JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME**

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION

Gdansk, Republic of Poland
24-25 March, 1993

WORLD BANK PRESENTATION

Mr. Ian Hume
Director
World Bank Resident Mission
Warsaw, Republic of Poland

Mr. President, Ministers, Excellencies, Chairman of the Commission and Distinguished Participants,

On behalf of the World Bank, I would like to thank you for the invitation to attend this meeting and for your generous hospitality. The World Bank is pleased and honored to participate in the High Level Conference. I wish to confirm our desire for continued partnership in implementing the Joint Comprehensive Environmental Action Programme. We welcome the opportunity to cooperate with the countries of the region through the Helsinki Commission and especially to participate in the Programme Implementation Task Force.

We see the Baltic Sea Environment Programme as an initiative that is complementary and closely linked to the Environmental Action Programme for Central and Eastern Europe that will be discussed at the Ministerial Conference in Lucerne, Switzerland, at the end of next month. The region-wide Action Programme, which involves over forty countries, presents criteria and methods to identify high priority actions in the short term, and provides a broad strategy for the integration of environmental concerns into the economic transformation of the countries of Central and Eastern Europe. As such, the region-wide Action Programme does not so much prescribe *what* must be done, but it suggests ways of looking at *how* to address the problems, by applying a mix of policy, investment and institutional actions.

The Baltic Sea Environment Programme complements what ministers will be discussing in Lucerne by providing a long-term program including specific "priority actions" which have been endorsed by the countries immediately involved. Some of these "priority actions" under the Baltic Sea Environment Programme are explicitly mentioned as examples of possible short-term measures in the region-wide Action Programme being prepared for Lucerne. Examples include: low cost/high gain actions for industrial pollution control; municipal wastewater investments that achieve significant improvements in ambient water quality at least cost; and the protection of high ecological values where immediate actions are justified. The Action Programme specifically gives priority to addressing, in a phased and cost-effective manner, municipal and industrial discharges from Tallinn in Estonia, Liepaja in Latvia, Klaipeda in Lithuania, Gdansk, Gdynia and Szczecin in Poland and Kaliningrad and St. Petersburg in the Russian Federation, as they would improve public health, enhance recreation and ecological conditions, and contribute to mitigating transboundary pollution in the Baltic Sea.

We believe that HELCOM provides an important model for coordination of regional environmental initiatives within Europe and beyond. World Bank experience with the Environmental Programme for the Mediterranean and the Environmental Programme for the Danube River Basin

leads us to recommend that additional full-time staff resources be made available either directly or indirectly to support the activities of the Programme Implementation Task Force. These additional resources would be especially useful for improving coordination of technical assistance, cofinancing opportunities, training, and establishment of twinning arrangements and other types of cooperative activities needed for successful implementation of the Programme.

The World Bank has taken measures to internalize the Programme's objectives in its country strategies, sector studies and development of its lending operations. We view this as a key part of the on-going process with our Borrowers to assure the integration of environmental concerns into their economic development plans. This has included work on policy reforms that will lead to increased efficiency in the use of energy, water, raw materials, and inputs in all sectors. A major instrument in this process has been our collaborative preparation of country environmental strategies, as in the case of Belarus, Czech Republic, Poland, Slovak Republic and Ukraine, and country environmental studies in Estonia, Latvia and Lithuania. In addition, we are currently planning preparation of a country environmental strategy for the Russian Federation.

This Conference marks a significant transition from the planning to the implementation phase of the Programme. At the World Bank, this means a shift in our work to a greater use of staff resources to support the collaborative preparation and implementation of projects with our Borrowers. Recognizing the current financial and institutional constraints faced by our Borrowers within the region, we anticipate that a phased approach will be required for investments. Specific investments will require financing from domestic, commercial, loan and grant resources. The municipal utilities involved will also need to take steps to introduce better tariff structures and thus, over time, to create a self-financing capability. Activities for institutional strengthening and human resources development will be a key aspect of project design.

Bank actions to support institutional strengthening and human resources development, which are central to the success of the Programme, include the following:

- Since early 1990, the World Bank has worked with the Ministry of Environment of Poland on implementation of the Environment Management Project. Our experience leads us to emphasize the importance of establishing a properly staffed unit with personnel specialized in the administrative aspects of project implementation, particularly financial management and procurement, as a key step to effectively mobilize and use both domestic and foreign resources for environmental programmes. The Polish Ministry of Environment has provided support to Lithuania, Russia and Ukraine among others for the development of similar units.
- In the Russian Federation, we are currently in the process of preparing an Environment Project which would support institutional strengthening at the local and national levels, including enhancement of water quality management systems.
- With support from the United Nations Development Programme (UNDP), we have established the Baltic Utilities Initiative. Its first activity was the Water Supply and Sewerage Utilities Partnership Workshop which was organized with the cooperation of the Government of Latvia and the Nordic Investment Bank. The outcome of this meeting was the "Riga Declaration" submitted to this Conference, which notes the need for autonomous and self sufficient public utilities. The World Bank plans, with the support of UNDP, to conduct a second regional seminar later this year in Poland on water conservation in combined municipal and industrial water and wastewater systems.

The World Bank would continue to support a variety of environment related projects, including those linked to implementation of the Programme.

- In Poland, the planned Municipal Water and Sewerage Sector Project would provide support for water and wastewater improvements in Krakow, Bielsko-Biala and Wroclaw. It would be complemented by two additional proposed lending operations - one would establish a water and wastewater investment credit programme which could be used by a number of cities and a second which would support investments in Warsaw. We see these projects as important models for operations in this sector in Poland and possibly elsewhere in the Baltic Sea catchment area.
- We have initiated discussions with the Governments of Estonia, Latvia and Lithuania concerning potential projects in the agriculture, energy and infrastructure sectors, which may include environmental components. Possible candidates from the Programme priority list include activities in Haapsalu and Matsalu Bays in Estonia, Liepaja in Latvia, and Klaipeda in Lithuania.
- The World Bank has supported the preparation of industrial efficiency and environmental reviews at major industrial enterprises in Poland and an associated training programme. The World Bank is assessing the possibility of a Heavy Industry Restructuring and Environment Project and a Coal Sector Restructuring and Environment Project, both in Poland, which would address the complex technical, economic, social and environmental issues related to steel, chemical and coal mining operations which are a major source of pollution of the Vistula and Oder/Odra Rivers and contribute to regional air pollution.
- The World Bank is working closely with the United States Environmental Protection Agency and the Nordic Investment Bank in evaluation of potential project activities which could be undertaken to address control of agricultural pollution and management of livestock wastes in the Baltic Sea catchment area. We believe that policy actions concerning pricing of agricultural inputs, demonstration of pilot projects, and development of agricultural extension services will play a major role in the initial years of addressing this important issue.
- Presently, the Bank is implementing complementary Forest Biodiversity Protection Programmes in Poland and Belarus with support from the Global Environment Facility (GEF). In cooperation with riparian countries and the World Wide Fund for Nature, we would be prepared to participate in the development of a regional project for management of coastal lagoons and wetlands, for potential funding from the GEF, during the proposed operational phase of the GEF. We would also be prepared, in the GEF context, to cooperate in the development of activities to conserve major wetlands in the Baltic Sea catchment area.
- In addition, the World Bank recognizes that complementary actions are required to improve air quality in the region in order to successfully protect the Baltic Sea. In this regard, we have recently approved the Power and Environment Improvement Project in the Czech Republic and are implementing a series of energy projects which address air pollution concerns in Poland. In the transportation sector, we are working with several countries in Central and Eastern Europe to improve their vehicle emission standards, phase out leaded fuel, and improve the efficiency of urban transport systems.

In conclusion, I would like to reiterate the commitment of the World Bank to actively support the implementation of the Programme. We are honored to participate in a Programme which provides an outstanding example of international environmental cooperation.

Thank you very much.

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION **25 March 1993**

MR. TUE ROHRSTED
 Commission of the European Communities

Main points of the speech

1. The European Community has four programmes of financial cooperation with Eastern and Central Europe including the Baltic Sea Area.

The PHARE-programme is of assistance to Estonia, Latvia, Lithuania, Poland, the Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Albania, Slovenia, Croatia. The annual budget of the PHARE for 1992 was approximately 1000 Million ECUs.

The TACIS-programme is of assistance to the former USSR Republics, except the Baltic States now assisted by PHARE. The 1992-budget for TACIS was 450 Million ECUs.

The LIFE-programme is a specific environmental programme of EC, designed primarily for projects in the EC-Member states. However, a proportion of 5 % is set aside for support to non-EC-Member states of CEE. In 1992 3.5 Million ECUs was utilized in the Baltic Sea Area.

The TEMPUS-programme specifically supports cooperation and exchange programmes between Universities, Higher Teaching and Research Institutions etc. in CEE and in the EC. A good number of cooperation projects and exchanges take place within the environment sector.

The PHARE and TACIS programmes cover all sectors agreed between EC and the Individual CEE States and subject to the internal regulation laid down by EC. However, it is fair to say that from the outset the environment sector has played an important part in the overall PHARE-programme. In total up to now about 280 Million ECUs have been utilized for improvements to the environment sector in CEE. This represents an overall percentage of 10-11 %. All the four EC-programmes are grant-financed and in principle "demand-driven". This implies that it is for the individual CEE-countries to present their requests to the EC for the earmarking of EC-funding on programmes and sectors in their respective countries. If, therefore, the environment sector is going to maintain its importance in the PHARE-programme, and indeed for the Baltic Sea Area, it is for the countries of this region to keep environment high on the political agenda in the future. Otherwise PHARE and TACIS investments will go to other sectors of the economics.

I have utilized the terminology "environment sector". This should be understood in a narrow sense. In addition the PHARE-programme operates with support for energy and nuclear safety. Up to now approximately 300 Million ECUs have been committed for nuclear safety done by EC.

2. For the Baltic States in particular EC had committed 75 Million ECUs (up to and including 1992) to Poland's environment sector, 1 Million ECUs to Estonia, Latvia and Lithuania for 1992 (the first year of PHARE-cooperation), and through the LIFE-programme support has been given to establish two environmental centers for administration and technology, one in St. Petersburg and one in Riga. Both projects are designed as twinning-arrangements between the municipalities St. Petersburg-Hamburg and Riga-Bremen with EC-cofinancing.

Under the required programme of PHARE for 1992 2 Million ECUs has been committed for the Action Programme for the Baltic Sea.

3. It is fair to say the funding from PHARE primarily has been utilized to strengthen the institutional framework of CEECs including legislation, administrative capacity building, monitoring of the environment and managerial skills development. Significant amounts have been utilized to get an exact picture of the environmental damage and overall situation. We also participated in this respect in the preparation of the Action Programme for the Baltic Sea. However, it is clear now that the funding should increasingly be utilized to serve as "seed" funding leading to investments to reduce emissions.

This is also the role we have been interested in playing in connection with the preparation of the Action Programme for Eastern and Central Europe's Environment being prepared for adoption at the Lucerne Conference of European Environment Ministers in a month's time. A better linkage must be created between policy-measures undertaken by the CEE countries to improve their environmental management, introduce charges for utilizers and polluters and set obtainable priorities for investments taking into account domestic funding and foreign funding available, institutional strengthening and capacity building assisted by G-24 donors and indeed PHARE itself to safeguard the sustainability of investments and the investments themselves, which will lead to reduction of emissions.

4. The Conference takes place at a very appropriate time, and the discussions have been useful to create a better linkage between the previously mentioned elements. The PHARE programme will be ready to assist with the full implementation of improvements to the environment in the Baltic Sea Area through our on-going programmes with the CEECs in the area and our Regional Programme. We can support the Declaration as it now is tabled.

BALTIC SEA ENVIRONMENTAL PROGRAMME CONFERENCE ON RESOURCE

MOBILIZATION, GDANSK, REPUBLIC OF POLAND

24-25 MARCH 1993

STATEMENT BY PROFESSOR DR. CZESLAW DRUET, THE OBSERVER OF THE INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION (IOC)

Mr. Chairman,
Distinguished Delegates,

The IOC (Intergovernmental Oceanographic Commission) is an observer at your Conference because we wish to share with you the experience you are making in your work to support the Baltic Sea Environment Programme. The Secretary IOC, Dr. Gunnar Kullenberg, has specifically asked me to convey to you the readiness of the IOC, just approved at the Seventeenth Session of its Assembly (Paris, UNESCO, 25 February - 11 March 1993), to use our Commission as the appropriate mechanism to implement programmes mentioned in UNCED Agenda 21, particularly human resource development and strengthening of institutional capacities for integrated coastal and ocean management for sustainable development through marine scientific research and related data and information services.

The IOC and its 122 Member States are working in all fields of oceanography and are responsible within the UN System for the development of cooperation in marine research, ocean observations and services, such as data exchange, marine information, management, voluntary observations, sea-level observations and preparation of related products for practicable application. A major IOC interest and responsibility is the development of an increased capability in marine sciences and services and all related matters. The TEMA - Training, Education and Mutual Assistance in marine science - programme is a focal programme for this, but training is part of all IOC programmes. The IOC work in marine pollution through the Global Investigation of Pollution in the Marine Environment - GIPME Programme - includes development of chemical analytical methods for levels of

pollution and techniques for quantifying the biological effects of marine pollution, and standards and reference materials, with related manuals in all cases. The methods and techniques are tested in field workshops and are introduced in regional programmes through hands-on training courses. This work is done in co-operation mainly with UNEP, but also with IAEA through the Monaco Laboratory, and IMO. The scientific and training work is done through three Groups of Experts with experts in their own capacity from most parts of the world. The co-operation is also close with ICES, and several of the experts involved with the IOC programmes are also participating in the work of ICES. Thus, we are benefiting from the experiences made in ICES. The work in relation to Ocean sciences and living marine resources is done jointly with FAO in the OSLR programme. This includes one component studying Harmful Algal Blooms, one component on Global (Marine) Ecosystem Dynamics and one component on Recruitment. The basic aim of this programme is to help to solicitate the relationships between distribution, availability and recruitment of fish and the conditions in the marine environment. These, of course, include physical, chemical and general "health of the sea" conditions. The main areas of interest are the coastal zones and shelf seas.

The coastal area conditions are also given much attention in the programme on Ocean Science and Non-Living (Marine) Resources (OSNLR). This includes matters related to the sedimentary budgets, coastal erosion, beach profiles, distribution of resources, such as minerals, sand, gravel, implications of their retrieval, and oceanographic problems related to the coastal zone as a resource in its own right. The results of these programme activities can feed into Integrated Coastal Area Management.

A major initiative of the IOC starting in the end of the 1980's is the development of a Global Ocean Observing System - GOOS - together with other UN Specialized Agencies and the International Council of Scientific Unions (ICSU). This aims at obtaining adequate data on the ocean in an interdisciplinary and holistic approach. It recognizes that the oceanic and marine areas cannot be treated in isolation, but that the coupling between the oceans and the land, mainly in the coastal zone, and the atmosphere and the hydrological cycle, the sea bottom must be taken into account.

A specific example and proposal for co-operation concerns the data management aspects. IOC last month at the 14th HELCOM meeting (Helsinki, 2-6 February 1993) initiated co-operation with HELCOM in relation to the development of specific requirements of regional data centers for marine environmental protection and management, and to its "International Data Archaeology and Rescue Project" to ensure availability of unique and long-term systematic observations.

Mr. Chairman, in briefly outlining some of the IOC recent activities, we look forward to close co-operation towards the improvement of the Baltic Sea marine environment, using the Commission's global and regional programmes for providing comparable and accurate data and facts to support and evaluate practical measures and decisions to guide or to narrow down uncertainties in efficient coastal zone management.

Thank you, Mr. Chairman.

THE BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME

HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION 25 March 1993, Gdansk Poland

Mr. Bent H. Fenger
World Health Organization
European Centre for Environment and Health

Mr. Chairman, honorable Ministers, distinguished Delegates, Ladies and Gentlemen

It appears from the action programme that it is very oriented towards ecological issues. This is no surprise since its starting point is the mandate given at the Ronneby conference, namely to "restore the ecological balance" of the Baltic Sea.

However, restoration of the Baltic Sea is not only of ecological importance, it is also of great importance for the health and wellbeing of the population of the riparian countries. And this aspect is the working field of my Organization. I have three points to raise in this context:

1. Water supply

It appears from the action programme that most of the improvements to be made are in the field of waste water treatments plants. This is quite logical but it should never be forgotten that water supply and consumption, waste water production and waste water treatment are inextricably intertwined. And we know from several sources that consumption of water in many of the riparian countries is much higher than it needs to be. May I therefore suggest that the feasibility studies, which are to be performed, take water consumption as their starting point for design and construction of waste water treatments plants. If this is not done, investors will run a considerable risk of building waste water treatment plants bigger than needed which we cannot afford, neither from an investment point of view nor from an operation and maintenance point of view.

I think that a reduction of water consumption - with its necessary repair and maintenance schemes - would also give many people a more reliable water supply which is definitively an important health and wellbeing factor. In addition, water production costs would be reduced and water as a resource would be saved.

I would strongly recommend that this integrated approach be used when improving waste water treatment.

May I add, Mr. Chairman, that in the action programme I have not seen provisions made for introduction of mechanisms to monitor if the objectives set are met through the investments made. I trust that such mechanisms will be introduced in due course.

2. Economic development

My second point is regarding economics.

During the past two days we have discussed a lot about investments, financing and co-financing, pay back periods, interests, cost recovery etc. as if these investments only have negative aspects. I am, of course, not saying that such investments are free of charge, because that is not true. But I think that it should be taken into account that many of the investments discussed will also have a positive effect on the economies of the riparian states. I am especially thinking of investments which will improve bathing water quality - as well microbiologically as aesthetically.

I think that it should be remembered, that the beaches of the Southern and Eastern Baltic Sea riparian states have once been among the major tourist resorts of Europe, although this is many years ago. But it might well be so again if tourists could be given beaches with safe bathing water and not, as now, beaches where bathing is prohibited in many areas.

However, tourists are nowadays not only looking for clean bathing water. They also want clean beaches and they want a reliable supply of drinking water of a good quality. Again things should be looked at in an integrated perspective.

3. Decentralization

My third point regarding the action programme is concerning decentralization which has also been discussed at this conference. The involvement of local authorities and NGOs - which is necessary when decentralizing - is also an important issue of agenda 21 of the Rio conference.

It is the experience of my Organization that problems like the ones we are dealing with here are solved most efficiently if planning, decisions, implementation, monitoring and enforcement takes place as close as possible to the place where the effects are felt, i.e., at the lowest appropriate level. Decentralization therefore has my full support.

However, decentralization of tasks - for example to build and operate a waste water treatment plant - will never become successful if authority is not delegated as well. And authority, when solving environmental health problems, is often closely associated with money. In Europe, expenditures spent by local authorities vary from 6 % to 70 % of total public expenditures. It is clear, that local authorities in the latter part of the scale have much more flexibility and thereby better possibility to influence environmental quality in a positive way.

This should be thought of when asking local authorities to take responsibility for the tasks of the action programme.

Finally, Mr. Chairman, allow me to take off my WHO chapeau for a moment in order to inform you that for more than 15 years before taking my present position in WHO, I was head of environmental protection in the Danish province south of the Copenhagen region, right in the middle of the Baltic. Through careful monitoring over all these years - and sometimes on my own body - I was able to follow and feel the deterioration of the water quality of the Baltic. We often asked for something to be done in order to stop the deterioration. Sometimes we also felt that the Helsinki Commission did too little, that reports were just elaborated and then put on the bookshelf. At some point we even reached across the Baltic towards our colleagues in the region of Gdansk and to the Polish secretariat of the Helsinki Commission in order to have things speeded up.

I therefore think that you will understand how satisfied I am that now at least an action programme has been prepared.

May I express my sincere wish that it will not take another 15 years to have the action programme fully implemented.

I wish you good luck and would like to assure you of the willingness and readiness of my Organization to assist you in any possible way.

Coalition Clean Baltic

Statement at the High Level Conference on Resource Mobilization for the Baltic Sea Joint Comprehensive Environmental Action Programme

Gdansk, Poland
March 25, 1993

Mr. Chairman,
Your Excellencies,
Distinguished Delegates,
Ladies and Gentleman,

I have the honor to speak on behalf of the Coalition Clean Baltic, a network of 22 environmental NGOs from all of the Baltic Sea Region Countries. We held a NGO Seminar on Public Awareness and Environmental Education in Gdansk on March 21, 1993.

The Seminar adopted some conclusions and recommendations that we presented yesterday at the session on actions to effectively use programme resources.

We need not elaborate on the importance of protecting the Baltic Sea. It is obvious that we all agree on the need for action. We are here, however, to discuss Resource Mobilization and implementation of the Joint Comprehensive Programme.

First of all, we must begin the implementation process for the Action Programme. It is clear that the financial institutions have money available for loans. It is, however, also clear that the investors are hesitant due to a number of problems. For example, the financial and administrative capabilities of the recipients to manage and generate returns for investments. This concern was addressed by the World Bank yesterday.

It is necessary to have a clear commitment from governments to provide the initial funding in order to facilitate further investments. Without such commitments we risk the failure of the Joint Comprehensive Programme and the possibility of it becoming yet another mere statement of intent.

Mr. Chairman,

Considering the resources to finance and mobilize the Joint Comprehensive Programme, we propose several options.

1. The use of Debt-for-Environment Swaps as a source of financing necessary projects in environmental and nature conservation, citing the Polish proposal as an example. We await commitments from all Western governments to further serious study of these possibilities.
2. The new climate of understanding and cooperation between the Baltic Sea Countries will allow substantial resources to be transferred from the military sector to comprehensive environmental protection measures in the Region. This possibility was originally discussed as a source of funding in the Ronneby Declaration 1990 by the Prime Ministers of the

countries in the Baltic Region. We propose that all countries in the Baltic Sea Region reduce their military expenditures by at least 2% and allocate those funds for the implementation of the Joint Comprehensive Programme. At this point, we have had no reaction from the governments in the Baltic Sea Region.

3. A commitment for mobilizing resources could also be constructed in the following way. "One appropriate goal for the countries around the Baltic would be a fixed percentage of the GNP of each of the countries should be used annually for the coming ten years exclusively for the implementation of the Programme."

Mr. Chairman,

We realize all investment activities on both point and non-point sources within the Joint Comprehensive Programme are in need of financing. However, regarding the reduction of pollution loads to the Baltic Sea, funding activities that target non-point sources (e.g. agricultural run-off, rural settlements, air-pollution from transportation and energy production) should be given more attention than it currently receives.

The stress should be on eliminating the sources of pollution rather than installing end-of-pipe technology. It is in this respect that the use of ecological engineering approaches must be encouraged. This is consistent with the 8 Key Principles of the Joint Comprehensive Programme. Of these 8 Key Principles, applied research in eco-technology satisfies seven of them, while many current initiatives satisfy one or two at most.

The total estimated costs of the Joint Comprehensive Programme are distributed as follows: 78% to Investment activities for point source pollution, 19% for Investment activities for non-point sources and 3% for the other five components of the Programme. This represents a great imbalance between proposed investment activities for point and non-point sources and their respective contribution of pollutants to the Baltic Sea. Rather, if we were to take into account, nitrogen loads, for example, the proportion of investment activities should be reconstructed in a more cost-effective manner. The financing of activities that address non-point sources must be increased.

Mr. Chairman,

Also of special importance is the funding of the other five components of the Joint Action Programme, besides Investment activities. Although they represent only 3% of the total estimated costs of the Programme, they are equally important. We welcome funding proposals in these areas as well.

Coming from the NGO community, we want to underline the importance of an immediate start of activities designed to increase Public Awareness and Environmental Education within the Action Programme. We believe that our organizations can and indeed should play an important role in the implementation of the Programme. It is vital to inform the public about HELCOM activities to create a public understanding and build support for HELCOM work. We believe substantial resources should be allocated, primarily in the form of government or other funding, to support environmental education, training, and increasing public awareness. Coalition Clean Baltic has already started several activities in this area. We would very much like to see proposals for financing and direct involvement by governmental and other institutions. The contribution from educational institutions is necessary for the

implementation of the Public Awareness and Environmental Education component of the Programme. We expect concrete commitments as an expression of government responsibility for this implementation process.

Mr. Chairman,

Without financial commitments there will not be any subsequent investments of the necessary scale and hence the implementation of the Joint Comprehensive Programme will be a failure. The success of the Baltic Sea Joint Comprehensive Programme now lies with the governments.

Thank you.

Annex **GNP and Military Expenditures for Baltic Countries**

Estimations of 1% of GNP and 2% of Military Expenditures

No	Country	GNP (total) 1991/92 mln. USD	Military expend. 1991/92 mln. USD	GNP 1.0% 1991/92 mln. USD	Military expend. 1991/92 2.0% mln. USD
1.	Denmark	110 161	2 423	1 102	48.46
2.	Estonia	10 076	?	100	?
3.	Finland	116 838	1 986	1 168	39.75
4.	Germany	1 482 549	69 670	14 825	1393.40
5.	Latvia	18 610	?	186	?
6.	Lithuania	22 415	?	224	?
7.	Poland	70 365	4 855	704	97.10
8.	Russia	882 501	?	8 825	?
9.	Sweden	191 673	5 560	1 916	111.20
	TOTAL	2 905 188	?	29 050	?

STATEMENT BY
MR. JESPER GROLIN, POLITICAL ADVISOR,
GREENPEACE INTERNATIONAL
AT THE HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION
24-25 March 1993, Gdansk, Poland

Mr. Chairman,

I shall confine myself to two brief points, which this conference of Baltic Environment Ministers could deal with.

Let me begin by saying that Greenpeace International shares the view, expressed by the Coalition clean Baltic, that far too little money is allocated in the Baltic Action Programme to control of diffuse, non-point source of pollution.

This is particularly critical with regard to the nutrient load of the Baltic. There is a very real danger that the environmental benefits achieved by huge investments in waste water treatment will be cancelled out and negated by increased nitrogen discharges from the agricultural and transport sectors of the Eastern Baltic countries.

Not only are the planned investments for diffuse sources too small, but most of the money will only be spent in the second phase of the Programme in five years time, when it may be too late.

Hence, there is a need to refocus the Action Programme.

Mr. Chairman,

Turning to the Gdansk declaration to be adopted here today, Greenpeace finds it worrying that the ministers have not even been able to make firm, unconditional commitments to ensure that adequate funds will be available to implement the Action Programme.

In this context, Greenpeace finds it particularly worrying that there are not commitment to increase grant financing since this is likely to be especially important to the control of diffuse sources.

Hence, Greenpeace would like to suggest to the ministers that they amend the declaration to include an acknowledgement of the particular importance of controlling diffuse sources of pollution, and that they make an unconditional commitment to ensure at least the availability of the necessary financial resources to implement the Action Programme.

The latter could be done simply by substituting the words "make all efforts to mobilize..." in operative paragraph 1 with the words "ensure the mobilization of ...".

Mr. Chairman,

Greenpeace fully shares the Danish Minister Auken's critique of the Financial Institutions and their unwillingness to provide soft-loan packages for Eastern European states, but ultimately, it is the responsibility of the Baltic states to make sure that the money for the implementation of the Programme is available.

If they can't twist the arms of the Financial Institutions, they have the responsibility to find other sources. Many imaginative ideas been circulating at this conference. A Baltic Lotto has been suggested by some, cuts in defense budgets have been mentioned by others.

However, this is not the place to discuss the details of implementation; this is the place to define responsibilities for ensuring adequate financial resources, and it would be a disappointment - to say the least - if the ministers, by adopting the Gdansk declaration with the present formulation of para. 1, raise doubts about their willingness to accept the ultimate responsibility for the full implementation of the Action Programme.

Thank you, Mr. Chairman.

Statement by Bertil Hägerhäll, WWF Baltic Programme Co-ordinator. Gdańsk, 25 March 1993

Excellencies, Ladies and Gentlemen!

On behalf of World Wide Fund For Nature, WWF, I thank you for this opportunity to address this important meeting. We are all aware of the urgent need for concerted action in order to implement the Baltic Sea Joint Comprehensive Environmental Action Programme, and this meeting is a manifestation of that awareness.

WWF has enjoyed observer status with HELCOM since 1991. During these two years we have made great efforts to contribute constructively to the work of HELCOM, especially on issues of nature conservation and the protection of biodiversity in the Baltic Sea region.

We have, indeed, appreciated the constructive co-operation between WWF and the HELCOM Task Force, as a promising start, and now, particularly, the continuing co-operation with the HELCOM Programme Implementation Task Force. Hence, WWF welcomes the opportunity to act as co-ordinating organization for the implementation of the Action Programme component Management Programmes for Coastal Lagoons and Wetlands. In doing so, WWF acts on behalf of HELCOM PITF.

Last Monday, 22 March, here in Gdańsk, WWF organized a Seminar on Integrated Coastal Zone Planning and Management, and the discussions and conclusions from that exercise clearly demonstrated what profound interest there is from all areas and regions listed for priority action in the Programme, to work together. There is a genuine wish to pool resources in order to develop truly integrated management plans which will protect or restore the ecological functions of the coastal area in question and, at the same time, ensure that any economic activity within the area is also sustainable in the long run.

Sustainability can, as you know, be interpreted in many ways. In this context we have, however, a clear meaning of the concept. Man and nature can and must live in harmony in these sensitive and multifunctional areas around the Baltic Sea. Such a balance can be struck, and there is still time to find and establish it, for the long-term benefit of ourselves and our living environment.

Coastal planning and management includes an overall perspective of the role and importance of these areas. People can make their living off the coastal zone for a long time, on a solid basis, if natural values are maintained. Sustainable fisheries, and sustainable tourism, as well as the operation of urban eco technology has a clear economic value and a socio-economic one, too - and the latter is just as important. Coastal zone planning and management is, therefore, not solely a question of nature conservation for its own sake - although the overall protection of the economically and ecologically rich biodiversity in coastal lagoons and wetlands is important enough per se. Coastal zone planning and management is a concern for society as a whole, for the coastal areas themselves as well as for society inlands, in each of the countries around the

Baltic.

Excellencies, Ladies and Gentlemen !

The Joint Comprehensive Action Programme, together with the Second Pollution Load Compilation form a solid basis for action. Although not perfect or definite, these two documents probably constitute the best basic material presented for any region of the world. We know enough about the environmental state of the Baltic Sea region, and about the ways and means to improve the environment and preserve the natural values of our region, to be able to act now, concertedly and with firm determination.

However, today practically no financial resources seem to be available. We still have the urgent Action Programme, with its clear price tags, but the financial resources for its implementation are scarce, to say the least.

We urge you to give the Baltic a fair chance of recovery. Another failure will be fatal, and is unforgivable. Therefore, WWF suggests a constructive refocusing of the Action Programme. Let us put a hold on all grand plans and expensive new studies. Instead, let us concentrate on a more realistic and ecological approach, with a larger number of small projects that will protect, restore and enhance the environment's own capacity to handle a substantial share of the pollution load, particularly of nutrients. A variety of such very interesting and promising projects were presented at our seminar, and I hope that the resulting funding proposals will be considered favourably. We believe that they are cost-effective in the best sense of the word. They combine the benefits of local resources utilization with a minor demand for foreign currency, and they allow for a fruitful transfer of know-how both ways across the Baltic. In other words, they meet with the criteria agreed at this conference yesterday.

One way or another the spirit of the Action Programme must be honoured. WWF, on its part, is prepared to do its share - and to do it now!

Thank you!

High Level Conference on Resource Mobilization

Statement by Anders Engström President of the Union of the Baltic Cities

Mr. Chairman,
Your Excellencies,
Ladies and Gentlemen,

As the President of the Union of the Baltic Cities, an organization comprising almost forty cities located by the Baltic Sea, I would like to give a short statement on the role, we assume, the Union can play in the ongoing Programme aimed at the Baltic Sea environmental restoration.

For our organization that was the Baltic Sea Conference of Ministers, held in Ronneby, Sweden, in 1990, which was a prerequisite for founding the Union. Also, similarly to the spirit of that Conference, the goal of the Union is to contribute to a positive democratic and economic development for the benefit of people living by the Baltic Sea as well as for the entire region.

We are now witnessing the creation of a new model of activity at the level of the cities. The Union is a forum of clearing, harmonizing and implementing many ideas of possible and demanded cooperation and forms of activity.

A lot of citizens in our cities as well as their welfare depend on, to a big extent, and are conditioned, traditionally, by the nearby existing Sea.

Economic activities like fishing, fish processing, recreation or water sports strongly depend on the quality of the marine environment.

Therefore from the very beginning tens of mayors who were present at the Founding Conference did not hesitate about the fact that there is a need for establishing a commission that would let, in a continuous and competent way, include cities with their societies into the process of restoration of the marine environment.

At this meeting, which is inevitably an important historical step in cooperation in the Baltic Sea Region, our Union participates already as a formal observer of Helcom Programme Implementation Task Force. We consider this fact, first of all, as an obligation that all the Member Cities of the Union will be included in the implementation of this programme in a practical way.

Some cities need assistance with environmental problems. Some cities are ready for feasibility studies. Many cities have a unique knowledge and experience in different fields - waste water treatment, waste disposal, energy planning, heating systems and so on. Use these resources and you can make progress in a cheap and successful way.

Our Commission on Environmental Protection, led by the cities of Århus and Turku, had a number of remarkable achievements in this field.

We have a wide experience from a project called "City Sustainable Development" programme implementation concerning rational planning of the city development; we have started a process of experience and knowledge exchange leading to the institutional strengthening and development of human resources necessary for a successful protection of the Environment.

Therefore I would like to emphasize that there is a strong political support from the cities and their authorities for effort aimed at environmental protection. This support was expressed by Mayors of our Cities at our meetings as well as during the Annual Conference of the Union which was held in Kalmar, Sweden, last year. That time it was decided to recommend to adopt by the Cities Councils text of the Nordic Council Declaration so called Oslo Declaration dealing with the democratic development of the decision making procedures in environmental protection context.

Now, from this place, I would like to declare the support of all the Union Member Cities for the process of the follow up to the Baltic Sea Programme. We see our role, as it was stated in the background document of the Gdańsk Conference, in coordinating municipal twinning initiatives.

We look upon this event from the broader context of support for a long and complex process of practical implementation of political changes in the cities whose societies have to create a practical model of procedures of decision-making; cooperation of political parties in the decision-making process; governing the budget and many other matters conditioning proper building of welfare in the market economy.

The experiences we can exchange in that sphere are of a crucial importance for the practical realization of the programme and possibility to achieve improvement. We are highly aware of the scale and responsibility of the process.

As a conclusion we should like to put forward a concrete proposal: that a systematic programme of expertise transfer through twin city arrangements is adopted as a part of the Institutional Strengthening and Human Resource Development component of the Action Programme. The Union of the Baltic Cities hereby offers to take the leading role for such an activity.

Thank you for your attention.

Baltic Sea Environmental Programme
Diplomatic Conference on Resource Mobilisation
Gdansk, Republic of Poland
24 March 1993

Peter Laurson

Mobilising Resources for the Baltic Sea Environmental Action Programme - An Overview

Mobilising resources to implement the Baltic Sea Environmental Action Programme is inevitable a long term task.

Potential resources are very fragmentary and the resource basis has actually been diminishing.

In the initial phase, priority should be given to lay a solid foundation to carry out the task. The legislative and policy framework has to be put in place, local institutions have to be strengthened and economical incentives have to be established. Scarce resources have to be used efficiently, concentrating on achievable targets and on those projects which in reality can be carried through.

Resource mobilisation comprises not just grants and loans. NGO-action, twinning city co-operation and a broad private sector involvement is as important.

When preparing environmental projects, increasing emphasis has to be given to overcome financial constraints. Innovative financial engineering is as important as proper technical planning.

The bulk of the resources needed to implement the Baltic Sea Programme have ultimately to be raised domestically. Foreign borrowing and, in particular, foreign grant assistance is, however, of critical importance under present economic constraints in Central and Eastern Europe.

The severe problems in mobilising financing for environmental

improvements in the Central and Eastern European countries are thoroughly discussed in the Conference background document. There are also many proposals to overcome constraints in the short run and in a more distant future. The pace will depend on general economic developments in the recipient as well as in the most relevant donor countries. The background document outlines a number of important proposals for initial action, requiring donor grant financing for technical assistance, studies and special projects.

In my presentation, I will supplement this with highlighting what could be done to mobilise existing financing resources to benefit environmental projects, and to use such financing efficiently. Furthermore, I will focus on issues which are of joint interest for the participating countries, and which could be commenced in the short run, even with present constraints.

Firstly, make environmental projects more attractive for financing.

Environmental projects have to compete with other needs for scarce domestic and international financing. From a lender's, investor's or guarantor's perspective, a fundamental project approval criteria is whether a project will generate a positive cash flow, in order to

- secure sufficient owner's resources to implement the investment and operate the plant, including proper maintenance;
- provide a buffer for unexpected increased financing needs during implementation;
- enable direct debt servicing; and
- provide a return to equity investors.

The basis for this is that the consumer pays the full costs, including capital costs, for clean water and waste disposal services.

Could anything be done regionally in this respect? At least, there could be a strong joint endorsement to implement the principle of "consumer and polluter pays", as a general requirement for financing, but also to avoid pollution related production and trade distortion in the region.

Secondly, improve the quality of environmental financing proposals

Too often, project proposals submitted to financiers are insufficiently prepared even to decide whether to start scrutinising the proposal. In such cases, there is a need to assist municipalities, industries and other investors contemplating environmental investments. For example, an investor might need outside expert advice to improve the viability and cash flow of a project, to identify and evaluate potential financing sources, to present the project for financing and to negotiate the financing terms. A key task might also be to assist in financial engineering.

An environmental investor advisory scheme could be arranged in a cost effective way by mobilising presently under-utilised environmental technicians and managers, for example within twinning city arrangements. Such a scheme could be modelled according to established small scale business advisory service schemes in the region.

Could HELCOM or NEFCO, with a backing from the international financing institutions, consider to organise such a scheme?

Thirdly, develop domestic financing sources.

In the long run, the bulk of financing for environmental improvements must be raised from domestic sources.

A project that doesn't generate foreign exchange income should be financed domestically, in order not to expose the project's cash flow to a foreign exchange risk. Export credit agencies, multilateral institutions and bilateral donors have also restrictions in providing financing for local cost procurement.

Where special purpose environmental Funds have been established to channel pollution fees or budgetary funds to environmental improvements projects, these Funds should be supported, where needed, with staff training and management advising, as well as through cofinancing, in order to improve the efficiency in allocating scarce financing resources.

The same applies for commercial and investment banks providing

medium and long term project financing. When foreign credit lines are extended to refinance lending for environmental projects, it would be important that initial support to this aim is also made available.

Could it be a task for the World Bank or EBRD set up an appropriate institutional strengthening programme, focusing on the environmental sector?

Fourthly, use available financing efficiently.

To the extent possible, projects should be made financially viable and funds for such projects should be recycled. A recycling requires an appropriate financial mechanisms.

For example, an alternative to provide loan interest subsidies or grants to pay for certain project components, would be, in cases of financially viable projects, to provide such funds in the form of equity. Initially, equity is not a burden to the cash flow of the project, nor does it increase the indebtedness of the recipient. However, if and when a project becomes profitable and generates a positive cash flow, the funds can be recovered and recycled.

An example is the Nordic Environment Finance Corporation (NEFCO). Would such a financial mechanism be of interest for national environmental funds and development finance institutions?

Fifthly, mobilise additional resources through cofinancing

Fragmentary sources which are potentially available for the Baltic Sea Environmental Programme could be mobilised through cofinancing instruments, addressing key constraints such as financier's

- lack of administrative resources to identify and prepare environmental projects for financing decisions, as well as monitor project implementation; and
- need to reduce project and/or credit risks.

Specifically, I envisage cofinancing instruments whereby the World Bank or EBRD would provide long term project financing, coupled with an "umbrella" for participating cofinanciers. Such an umbrella should comprise a reduction of project risks by a thorough project appraisal and implementation monitoring, including cofinanced

project components. It should also provide assistance in debt collection and a comfort as to credit risks.

Environmental cofinancing could be designated for (i) bilateral donors, (ii) export credit agencies or commercial banks and (iii) domestic financing institutions, which would be expected to provide additional, co-ordinated financing on favourable terms.

Could the participating international financing institutions look into the special problems with regard to environmental projects and the Baltic Sea countries, and develop tailor made cofinancing instruments for mobilising both domestic and relevant foreign financing sources ?

Last, a Push & Pull for the Programme

It is evident that a successful implementation of the Baltic Sea Environmental Action Programme will require continuous and extraordinary efforts in resource mobilisation.

There are key elements where the participating countries and financiers would clearly benefit from joint action, such as

- to raise the profile of the programme and its projects in a competition for scarce resources;
- to develop and implement for the environment sector tailor-made training, management advice and institutional strengthening programmes; and
- to initiate well targeted cofinancing instruments and schemes.

The Conference background document proposes improved co-ordination, which I fully support.

But isn't it necessary to go even beyond this, and establish a "Push & Pull" for the programme?

In my view, a highly competent P&P-Commando Force is needed for practical work on the spots in financial engineering, cofinancing assistance and lobbying. It is of critical importance that the international financing institutions remain fully involved, including taking a lead role in actual project financing. After all, the technical assistance will only clean sewerage if and when project financing is also made available to modernise and build the needed treatment plants.

HARRO PITKÄNEN

Director

The Nordic Environment Finance Corporation - NEFCO

EQUITY FINANCING

The purpose of this paper is to briefly discuss the role of equity financing in the context of environmental investments. In many, if not most, cases environmental action requires some level of capital investment, thus causing a need to raise the financial resources necessary for the implementation of the project.

One way of mobilizing financial resources for investment purposes is to structure the project as a corporate entity. This requires an adequate equity basis to make the company strong enough to survive difficult periods and to be able to mobilize additional external financing.

What is then characteristic for equity compared to other financial resources? Equity can be described as the money put at risk in a project by the sponsors/investors, i.e. the shareholders or owners of the project-company. Equity is different from loans in particular because it does not have a specific term within which it is paid back to the investor and because it is only compensated out of the net profits of the company. Lenders again normally require repayment of the capital and a continuous yield in the form of regular interest payments, principally regardless of the performance of the borrower.

On the other hand equity is different from grants because the equity investor is making the investment expecting a return on the investment, i.e. as a commercial undertaking.

It can also be pointed out that equity constitutes the lowest priority funds of a company (with the exception, of course, of grants that are never expected to be repaid) meaning that in a liquidation all other holders or claims are entitled to be paid prior to the equity investors. On the other hand these are then entitled to share all the remaining assets of the company, which in the positive case means an increase of the value of the original investment.

Why is equity then so important? First of all precisely for the reasons cited above. Equity is a favourable source of funding, particularly at the early stage of a company's life, because it does not impose a financial burden on the project-company until this is able of generating profits which can be distributed as dividends. Undercapitalization is one of the main reasons for failure of particularly new enterprises, because the burden to service external debt becomes too heavy.

Secondly, on the other hand, a sufficiently strong equity basis is required in order for a company to be in a position to raise other, external, financing. Other financiers, be they banks or other lenders, are never willing to provide all the funds but require that the sponsors of a project show their commitment by placing their own resources at risk in the form of equity.

Also other external parties such as suppliers, trade creditors and contract counterparties view equity as an essential "buffer" and proof of commitment from the investor's side.

Thirdly, from the sponsors point of view, under the rules of company law the equity investors are the parties who are in control of the company (although in practice of course this control is limited by public intervention and regulation and conditions imposed by external parties such as financiers). This also entails that the ultimate financial benefits which can be derived from a successful investment belong to the equity investor. In principle the upside potential is unlimited, the equity investor is entitled to all the assets after external liabilities have been paid off.

Finally it deserves to be mentioned that from the point of view of public sector financing mechanisms, equity investment schemes compared to grant programmes have the attraction of being by nature recyclable. The same funds can be used again and again for new projects as a well managed investment portfolio will maintain and even increase the value of the assets which can then be disposed of.

In principle even 100 % of the necessary resources for a project could be mobilized in the form of equity, which in smaller new projects may indeed in many cases be the best solution. But then again the sponsors would normally not be willing to tie their own capital to a project more than necessary, if the project is in a position to service external loans. Thus the normal situation would be a combination, pooling, of different resources.

On the other hand, needless to say, all projects cannot and should not be implemented as equity based investments. This in particular goes for many public sector investments. But it should be emphasized that the commercial nature of an equity based project frequently would promote a more efficient use of resources. It also follows from this that a particular activity which can be established as a financially self-sufficient entity lessens the burden on e.g. budgetary allocations.

Turning then to the environment sector, equity financing is an important instrument i.a. for the following reasons:

- the general scarcity of resources makes it necessary to pool funds as far as possible. Mobilization of private sector resources forms one crucial element in this process;
- public and semi-public sector resources can gain a better gearing, i.e. be put to a more efficient use, because an equity based project is considered viable and is thus in a position to mobilize other resources through direct investment and loans;
- such projects increase the transfer of management skills and technology from the domestic or foreign corporate sector; and
- it is important to involve the corporate sector into the environmental area, on the longer term only a marriage of ecology and economy can provide a framework for sustainable development.

In which ways can this then be applied to the environment sector, how can we design environmental projects which do meet the prerequisites for equity investment?

In our experience at least the following types of projects would have the potential of being structured in a way which opens up the possibility for equity based financing:

1. Provision of environmental services.

Experience from several countries shows that various municipal services can be managed very efficiently by special purpose enterprises. In particular this concerns waste management and water treatment. The entity handling the waste management services for a specific region or operating the water and sewage treatment plant/s can be established and managed as an independent, profitable company. The key element here is that the company has the right, based on agreements and/or concessions, to charge a sufficient fee for the services provided and, of course, that the collection success ratio is high enough to generate a revenue stream which covers both operating and capital costs. Admittedly in many of the CEE countries today the economic situation imposes severe constraints for the setting of tariffs on an adequate level. The situation has to be analyzed case-by-case and in some instances it may for example be possible to mobilize external support to smoothen the transition to real tariffs. Nevertheless, on the longer run the corporatization of this type of services may be the best way of charging the polluter the actual cost of taking care of the problem.

2. Modernization of industrial plants and energy production facilities.

The industrial structure of the CEE countries is in an unfortunately large number of cases outdated. Technological modernization has not taken place even for decades and the processes thus are based on knowledge and values that prevailed a long time ago. This in combination with poor maintenance is a major reason for poor performance and large scale emissions. It therefore goes without saying that the modernization of industrial plants in many cases will bring at the same time critical improvement in profitability of the enterprise as well as considerable reduction of the environmental burden, simply because up to date technology is generally both more efficient and less polluting than its predecessors. Such modernization projects will often also include end-of-stack solutions which, if singled out, would not as such be financially viable, but when taken as a part of comprehensive industrial rehabilitation project will be financially viable. A precondition for any such project of course is that the investment as a whole is viable, to put it simply that the plant in question after rehabilitation will be in a position to be competitive and operates in a sufficiently strong market.

The same argument is in many cases applicable to the energy sector as well.

3. Supply of equipment and services needed for environmental investments.

A third group of potentially profitable environmental projects are those which are based on the setting up of enterprises that provide goods and services needed for environmental investments. In most cases environmental action, be it on the individual, corporate or municipal level, requires an input of some form of hardware or software. This creates a demand for various types of equipment and services and thus a business opportunity for those who can supply what is needed. The critical preconditions for success in this field are on one hand the legal framework and on the other hand the purchasing power of the potential customers. Only if the laws and regulations of a country impose sufficiently strict requirements and if these rules are efficiently enforced will demand for environmental products sustain businesses catering for the environment sector. And only if those needing such goods and services are actually able to pay for them will the producers have a market supporting their business.

Finally let me briefly mention the main sources for equity investment in the environmental sector in the CEE countries.

On the basis of what has been said before the private sector naturally should be the prime source of funds for this purpose. To be precise we should not only talk about the private sector but rather the corporate sector, because in many cases it is irrelevant from the point of view of mobilization of equity, whether the investor is a truly private enterprise or a state of publicly owned entity. Because investments in this field are frequently associated with high risk, it will in many cases be beneficial and even critical to have the support of financial institutions specifically set up to work with these issues. On the multilateral level this group includes institutions such as the EBRD, the IFC and NEFCO. In addition there are a number of national, bilateral, development financing institutions working in the field of equity investment. As markets develop we can also expect commercially based investors to get involved for example through participation by various investment funds etc.

As a concluding remark I would like once more to emphasize that equity financing of course is not and cannot be THE answer to all financial needs in the environmental sector. The purpose of this intervention has rather been to point out that whenever we can, we should look for possibilities to implement environmental investments in the form of self-financing, viable entities and that there are more opportunities for this than we may think at the outset.

THE BALTIC SEA JOINT COMPREHENSIVE ENVIRONMENTAL ACTION PROGRAMME

PRIVATE SECTOR FINANCING

**RANDOLPH S. KOPPA
GENERAL MANAGER
INTERNATIONALE NEDERLANDEN BANK N.V.
WARSAW BRANCH**

GDAŃSK, 24 MARCH 1993

ING  BANK

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- Introduction - self and ING

"SAY WHAT YOU ARE GOING TO SAY"

- Conference primarily concerned with the Baltic Sea; but no specific experience of private sector financing for Baltic environmental projects; hence private sector perspective based on other environmental-related projects in Poland
- As Poland probably among the countries with more difficult access to finance sources, using it as an example should be representative of potential problems other countries in the region may encounter in financing their projects
- Proposed contents:
 - Focus on the issue of Poland X-border risk and explain why interest among commercial banks for new Polish risk is low
 - Explain possible solutions which neutralise the risk perception of commercial banks
 - Practical examples
 - Summary: the role that commercial banks could play in the environmental projects in the Baltic region

"SAY IT"

- Poland X-border risk perceived to be high
- Reasons:
 - no agreement with London Club (explain London Club if necc.)
 - high debt service ratio
 - high budget deficit
- Impact on the international bank market:
 - very few banks interested in providing facilities to Poland, the very few that are for short periods of time, normally not exceeding 6 months
 - sovereign risk provisions imposed by the central banks as a percentage of the exposure being undertaken, making new money lending unprofitable
 - Polish state considered poor credit risk
- Effect: lending to undertakings operating in Poland by international commercial banks unlikely in the foreseeable future, to state-owned enterprises even more so, without significant credit enhancements

- Ways of making transactions more acceptable to international banks:
 - receivables-based structures (stress OECD, ie. "quality", receivables); explain concept and significance
 - IFIs involvement in the transactions: they bring their own money, but even more importantly they provide a major credit enhancement in the form of the preferential creditor status (explain); importance of the preferential creditor status - no sovereign risk provisions required; stress that pref. creditor status is not a guarantee
 - ensure that the borrower is independent from the state, ie. that it operates on commercial principles, understandable to intl commercial banks, without any possibility of political pressures; spin the borrower off from the state if necessary
- Example: Polish power station for which ING is acting as financial adviser in respect of reconstruction/modernisation of 2 generating units
 - scope of project: installation of modern technology which will cut down dramatically SO₂, NO_x and CO₂ emissions
 - but problem: USD 300 million required to carry out modernisation, well in excess of what would be available from commercial sources
 - IFIs' involvement very important - would be expected to take longer maturities and provide commercial banks with preferential creditor protection
 - direct export (stress direct thus reducing credit risk within Poland) of electricity would provide the means of repaying the incurred debt thus removing the reliance on the Polish state to generate necessary FX to amortise the debt
 - independent company independent from the state (as far as operating decisions are concerned; strategy decisions agreed in advance) to operate the two units being modernised for a number of years (on a concession basis) could in such circumstances provide separation from the sovereign and reduce the political risk
 - anticipated result (provided above measures adopted by the company and successfully implemented): ability of commercial banks to consider the transaction on its merits (although nothing will remove the political risk of Poland altogether)
- Example: Polish co-generation plant wanting to remove a serious environmental problem of fly ash
 - scope of project: purchase and installation of modern technology which will receive the fly ash and turn it into a building material of highest quality

- problem: sales of the end product anticipated to be largely domestic with resultant convertibility risk
- equipment will be purchased by a special purpose company, majority privately owned, which will operate it and receive payments for service rendered to the co-gen plant and for the building material
- IFI involvement would provide the lender with the preferential creditor status and also take 50% of the risk (co-financing)
- some export sales of the building material would provide FX to cover at least some of the debt service
- anticipated result: commercial bank (ING) should be able to consider the transaction on its merits

Example: Polish coal mine wanting to reduce ash content in the coal it sells thus resulting in lower emissions at the burning stage

- scope of project: purchase of coal washing plant
- problems: coal mine state-owned, majority of coal sales to domestic purchasers
- an offshore special purpose company, financed by ING, owns the plant and leases it to a joint venture formed by the mine with a Western operator
- joint venture majority privately owned to provide separation from the mine
- some washed coal exported to provide funds to cover the lease payments

Reasons why a project sponsor would turn to a commercial bank, and not directly to a multilateral agency:

- a commercial bank, like ING, keeps in touch with a number of multilateral/bilateral financial institutions; the result of these contacts is a good understanding of the selection criteria of these various institutions; suitability of a particular project for financing from these may be assessed and the project referred to the right institution as a result
- multilateral funds are finite; therefore they should be used, as much as possible, as a catalyst to attract commercial bank funds

"SAY WHAT YOU'VE JUST SAID"

- Focused on problems faced by the commercial banks when considering transactions in countries like Poland: political risk, convertibility risk, increased credit risk
- Considered ways in which environmental projects could be made bankable (IFI involvement, SPVs, receivables structures)

- Illustrated these concepts on the basis of two transactions ING Bank is currently involved in
- Described the role that commercial banks could play in financing environmental projects in the Baltic region

FINNISH GUARANTEE BOARD

Eero Timonen/17.3.1993/MLI

BALTIC SEA ENVIRONMENTAL PROGRAMME CONFERENCE ON RESOURCE MOBILIZATION Gdansk, 24-25 March 1993

Financing the Baltic Sea Environmental Programme;
Constraints and Issues

LOAN RISK GUARANTEES
MR EERO TIMONEN, DIRECTOR,
FINNISH GUARANTEE BOARD

Export Credits

Broadly defined, an export credit arises whenever a foreign buyer of exported goods or services is allowed to defer payment. Export credits are generally divided into short term (usually below two years), medium term (usually two to five years) and long term (usually over five years). They may take the form of "supplier credits", extended by the exporter, or of "buyer credits", where the exporter's bank or other financial institution lends to the buyer (or his bank). Export credit agencies may give official support to both types of credit. This official support may be limited to "pure cover", by which is meant insurance or guarantees given to exporters or lending institutions without financing support. Alternatively, it may be given in the form of "financing support", which is defined as including direct credits, refinancing and all forms of interest subsidies. Official financing support may or may not be given in conjunction with the basic guarantee or insurance facility.

Export Credit Agencies

The expressions export credit and export finance mean the set of facilities available to an exporter in any country to help him cover the risks of non-payment in his export business. It is, therefore, essentially an insurance concept. Since, however, there will be no risk if cash is received from the buyer with each order, this insurance is required only when deferred payment terms are offered to the buyer, or when specific financing facilities are made available to him. Export credit is, therefore, a mixture of insurance and banking mechanisms.

No two national export credit systems are identical. Each has evolved in its own pattern, and each operates in its own political and commercial environment. The structure of each economy, the nature of its major industries and of their markets, the sophistication of its banking sector and insurance indus-

ry, all play a part in determining the set of facilities available to the exporter of that country, and how they work.

A common type of export credit agency is the straightforward insurer. Such a company is sometimes a general insurer from the private sector who will insure the risk of non-payment in a domestic or export transaction. However, the large size of export transactions, the long credit periods required and the difficulty of assessing risks mean that private companies are either unwilling or unable to insure them and national governments have stepped in as underwriters, by reinsuring the commercial insurers.

In other countries, the state plays a more direct role, either through a state-owned insurer or through a department of government. Whatever the formal system, however, the net effect is the same. For political reasons, governments undertake to cover the unquantifiable risks which the private sector cannot insure. Following the debt crisis, most governments have faced serious losses from their export insurance activities.

The provision of a government guarantee will encourage commercial banks to make loans for exports. But some export credit agencies can also provide finance, as well as insurance, in their own right. Alternatively, finance can be provided by a specialist bank, wholly or partly owned by the government or completely independent.

Export Credit Insurance

The risks covered in export credit insurance are normally regarded as divisible into commercial and political or buyer and non-buyer risks. The commercial risk is that which rests with the customer, i.e. his ability to pay for what he has purchased. The political risk is that associated with the customer's country and includes losses arising from such events as the cancellation of an import licence, war and civil war and more commonly of late the prevention by the authorities in the buyer's country of the transfer of the foreign exchange reserves (the Transfer Risk). While Government purchases may often involve a buyer risk, they are generally regarded as a political risk.

But the division is not always so clear cut; the same underlying events can give rise to one or the other category of risk. If a country which is getting into serious economic difficulties applies severe deflationary measures these will lead to insolvencies and private buyer defaults. If it delays taking corrective action this may end with transfer delays, cancellation of import licences and Government defaults.

Government and Export Credit Insurance

Export credit insurance is provided or supported by Governments because they want to encourage national exports. Government intervention has been considered necessary since it is generally believed that the risks, especially the political ones, are too large and unpredictable to be borne by private insurers who need to make a profit to live. While some export credit institutions have entered into reinsurance arrangements with the private sector which include the political risk, the quantum of risk involved coupled with the increasing number of countries rescheduling debt because of foreign exchange shortages, indicates that the major portion of global political risk is likely to remain with Governments.

Some agencies may have other special programmes, supported by their governments for certain sectors like for **environmental projects**.

Agencies providing officially supported export credit insurance are expected to do so without making a loss and without, on the other hand, being so cautious or charging so high a premium that they do not provide a satisfactory and competitive service to their exporters at a reasonable cost.

Claims paid during the recent past have generally been very heavy and indicate the contribution which export credit insurers and their respective Governments are making to minimise the negative impact of the debt crisis on exporters and financiers. Agreements for rescheduling unpaid maturities bearing a market or near-market rate of interest provide a means of reducing the financial burden for creditor countries and of the prospect of eventual recovery.

International Cooperation

Export credit agencies are both in competition and in communication with each other. Regular communication at a technical level has been taking place since the formation in 1934 of the Berne Union of Export Credit Insurers, which includes private sector insurers as well as government agencies. More recently, since 1973, a series of negotiations and agreements has been pursued under the auspices of the OECD, seeking to prevent harmful competition on credit terms.

The OECD members participate in the Arrangement on Guidelines for Officially Supported Export Credits, which came into being in April 1978.

Although it was, and continues to be, developed within the framework of the OECD, it is not an act of the OECD Council. It is an arrangement among its participants, with the OECD providing secretarial services. Its main purpose is to provide an institutional framework for an orderly export credit market and thus to prevent an export credit race in which exporting countries compete on the basis of who grants the most favourable financing terms rather than on the basis of who provides the highest quality and the best service for the lowest price.

The Arrangement does not cover the conditions or terms of insurance or guarantees - only the conditions or terms of the export credits that benefit from such insurance or guarantees. As such, it deals with actions and policies of official export credit and insurance agencies. Each importing country is placed into one of three categories depending on its per capita income, with the most generous terms confined to the poorest countries. The Arrangement sets limits on the terms and conditions for export credits with a duration of two years or more that are officially supported - that is, are insured, guaranteed, extended, refinanced or subsidised by or through export credit agencies. Within these limits, certain "derogations" from the rules and some "deviations" from what is considered normal practice are possible. These must be notified to all other participants in the Arrangement who can then "match" the deviation or derogation. The most important conditions are as follows:

- a) At least 15 per cent of the contract is to be covered by cash payments;
- b) The maximum repayment term is eight and a half years. This may be extended to ten years for relatively poor and for a limited number of intermediate countries;
- c) Minimum rates of interest are set for country categories. Since February 1992 export credits to relatively rich and intermediate countries can only be extended at the CIRR (Commercial Interest Reference Rates) rates and for relatively poor countries at the SDR-based rate. This interest rate minima condition applies only to credits benefiting from official financing support.

Several sector understandings, setting special terms for the respective sectors, have been developed. In most cases these sector understandings are closely linked to the Arrangement. Sector understandings have been accepted for nuclear power plants and aircraft. A separate understanding on ships is also in effect among eighteen OECD countries. There is no sector understanding for environmental projects. These projects are financed according to normal Consensus rules but environmental implications are taken into account, if necessary, in particular consultations sometimes needed.

In addition to export credit activity, the Arrangement also covers tied or partially untied aid financing: that is to say, credits or grants that are wholly or partly from public funds for development purposes and that are tied to purchases from the donor and from most developing countries. A number of governments combine such development aid with export credit to create "mixed credits" or soft loan facilities. According to the Arrangement guidelines the conditions for credits may be more favourable than those listed above for export credits if the overall concessionality level of individual transactions is at least 35 per cent. Credits granted to support environmental protection are treated by this same way as all other credits.

Risk Assessment in Baltic Sea Countries

There are two broad areas of risk to assess:

- country risk
- buyer risk

Both are dealt within different ways depending upon whether the risk is short term or medium/long term.

Country Risk

There is first a need to ascertain whether there are reasonable prospects that a country will be able to pay for its imports. The factors that need to be considered include:

- past record
- level of reserves
- debt
- balance of payments position
- political stability/morality
- existing level of commitments

- adherence to any IMF programme

Buyer Risk

Assuming that the country risk is acceptable then one has to consider the buyer (or borrower) risk. Assessments are made in rather different ways depending upon whether one looks at short or medium/long term business.

Short Term In countries which enjoy a fully operational market economy assessment of the buyer can be undertaken with a degree of certainty.

Eastern European trade may still cause special problems. All buyers (and banks) in Eastern Europe were regarded as entities within a state controlled structure and could therefore be underwritten as if they were akin to sovereign risks. The recent liberalisation/semi-privatisation of the operations of these entities (both in terms of state backing and state control) has left underwriters with major problems in accurately assessing the new risks.

Medium Term

Medium/long term risk assessment is very different.

- Generally speaking State risk is considered the strongest in the country concerned. The important point to consider is whether the buyer is committing the State: for example the Ministry of Finance and the Central Bank will almost certainly do so. Other Ministries, banks and state bodies will not do so unless the constitution so provides.
- Other public sector buyers are more difficult to assess. It will be necessary to examine any accounts that are available. It will also be necessary to examine the extent of State backing and the likelihood of Government interference in the operating of the enterprise. Consideration will also have to be given to possibility of future privatisation. As a general rule of thumb it would be unwise to assume state backing for a public sector body unless it is specifically written into the statutes. Without that backing the enterprise should be considered as a private sector buyer.

Banks are also difficult to assess as their balance sheets are particularly difficult to evaluate. For large sums it seems inevitable that in Eastern European countries the State will have to undertake the borrowing. For those banks which have experience in operating foreign trade transactions, modest amounts of support could be considered.

Project Financing - this is where the repayments will entirely depend upon whether the project is successful or not. Obviously there are enormous risks involved and one needs to assess them with a whole range of experts. Considering these cases is time consuming and costly. In order to filter out the more unrealistic proposals it is necessary to share risks with other lenders.

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**THE BALTIC SEA JOINT ENVIRONMENTAL ACTION PROGRAMME
HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION**

Gdansk, 24 March 1993

Mr. Klas Ringskog
Senior Vice President
Nordic Investment Bank

ACTIVITIES OF THE NORDIC INVESTMENT BANK

Background

The Nordic Investment Bank (NIB) is the multilateral financial institution owned by the five Nordic countries and is headquartered in Helsinki. It has been lending in Central and Eastern Europe since 1983 and in the former Soviet Union since 1987. Starting in 1991 the Nordic Investment Bank has been particularly active in the Baltic countries and the NIB is playing a central role in the implementation of the Nordic Baltic Investment Programme (BIP).

The Nordic Investment Bank has participated in the Baltic Sea Environmental Programme since the Ronneby Conference in September 1990. It was Executing Agency for five of the pre-investment studies that were the basis for the formulation of the Joint Comprehensive Environmental Action Programme. These five studies concerned the geographical areas of Karelia, the St. Petersburg region, Estonia, Latvia, Lithuania, Kaliningrad and part of Belarus.

Feasibility Study Trust Funds

At the Helsinki Conference in April 1992 the Ministry of the Environment of Finland established a Trust Fund with the NIB to be used for feasibility studies for five of the hot-spot projects. The Finnish Trust Fund was later on supplemented by funding from Sweden for two studies. One of the feasibility studies for the Klaipeda waste water treatment is already finished and I would like to draw your attention to the lessons learned.

Lessons learned

Our first experience is that well-designed and executed feasibility-studies are an extremely cost-efficient use of funds. The Finnish-Swedish consultant consortium that executed the study at a cost of only ECU 60.000 proposed a substantially cheaper solution to Klaipeda's sewage treatment problems instead of the original estimate of ECU 27 million to finish the half-constructed treatment plant according to the original design. The consultants have proposed a solution costing ECU 4 million. This is only 15 % of the original estimate.

How was this drastic economy achieved? In start, the consultants have designed the plant for the present consumption level (which has actually fallen due to industry closures). They have used substantially more economical, modern design standards, and they have proposed a solution that initially aims at only making the best possible use out of the existing structures and instead rely initially upon higher chemical costs.

Our second experience is that the key question is to make a conservative estimate of the probable financial resources and then see how these could be used in the optimal way. The financing plan assumes a mixture of local user contributions, central governmental support, and foreign grant and loan financing. The forms of trying to wring the best possible use out of realistic financial resources is different from the route usually chosen by consultants where there may be a tendency to overestimate the technical investments and underestimate the difficulties in obtaining the financing. It also points to the benefits of using financial institutions as Executive Agencies for feasibility studies since these are well experienced in the difficulties of achieving the financial feasibility of projects.

Our third experience is that it is absolutely vital to focus on the institutional feasibility of the project. Klaipeda has chosen to create a financially and institutionally autonomous water supply and sewage utility. The trend seems to be catching on in the region. In the recent workshop in Riga on 15-17 February 1993 representatives from municipalities in Estonia, Latvia, Lithuania, Poland, and Russia adopted the Riga Statement stressing the need for municipalities to create autonomous water supply and sewage institutions to secure these needs. A copy of the Riga Statement is enclosed.

We look forward towards a successful implementation of the Programme and declare our willingness to apply our institution's competence and experience in support of the Programme.

I thank you for your attention!

THE RIGA STATEMENT ON WATER AND WASTEWATER
AND
THE BALTIC SEA ENVIRONMENTAL PROGRAMME

PREAMBLE:

Under the auspices of the UNDP Water Utilities Partnership, a group of seventy professionals met in Riga, Latvia, 15-17 February 1993. The professionals included: government, municipal and utility officials from Estonia, Latvia, Lithuania, Poland and Russia; officials from governments and water utilities in the Nordic countries; officials from regional and multilateral development banks and the UNDP; and representatives of the major international water and sewerage professional associations.

The meeting analyzed the economic and environmental conditions in the water and sewerage sector in the Central and Eastern European countries bordering on the Baltic Sea and was briefed on the status of the Baltic Sea Environmental Programme and the involvement of the bilateral and multilateral financing agencies in the Programme.

The attendees at the meeting reached broad consensus on the critical issues facing the countries' water and sewerage sector. Accordingly, the participants decided to transmit, in their individual capacities, "The Riga Statement", to be considered at the Diplomatic Conference on Resource Mobilization of the Baltic Sea Environmental Programme in Gdansk on 24-25 March 1993.

CONSIDERATIONS:

On water and wastewater utilities

(1) The municipalities and water and wastewater utilities of the Eastern European countries bordering the Baltic Sea face an historic task. They are simultaneously attempting two difficult transitions. The first is to develop from poor-quality, high-cost service providers, to the high-quality, least-cost performance which characterizes modern water and sewerage utilities. The second transition is to make water and sewerage services a positive force for reducing the discharge of municipal and industrial pollution.

(2) Municipalities and the water utilities have made remarkable efforts to simultaneously keep these vital services functioning and to effect these two transitions. Nevertheless, many of the systems are in a precarious state, and the health of the population seriously threatened. These efforts will have to be sustained in the face of difficulties and can only be done with the active support of citizens and governments.

(3) There was unanimous agreement in Riga that the first transition - to customer-oriented, efficient services - is a necessary condition if the second transition - to greater respect for the environment - is to be made. Strengthening of the institutional and financial performance of utilities is, accordingly, vital if sustained improvements are to be made in the condition of the Baltic Sea.

On investments in wastewater management

(4) The need and urgency to make improvements creates a tendency to regard any wastewater treatment project as a good thing. But the ad hoc financing of individual wastewater treatment plants taken up in isolation can be inappropriate and a poor use of resources. The participants noted the potentially high payoffs from investments in water conservation (including metering), the rapidly changing composition of industry and the high opportunity cost of limited resources. The participants therefore agreed that attention be given to the likely evolution of domestic and industrial water demand, and to identifying a phased, least-cost, high priority investment programme.

RESOLUTIONS:

The Riga participants therefore urged that the following three recommendations be considered at the Gdansk Conference.

Resolution 1, regarding the development of water and wastewater utilities:

High priority should be given by national governments and external support agencies to supporting the remarkable efforts of municipalities in Estonia, Latvia, Lithuania, Poland and Russia to foster the development of autonomous, self-financed water and sewerage utilities which provide good service efficiently to their populations. Critical elements in this reform programme include:

- ... new legislation enabling this process to go forward strongly and widely;
- ... intensive human resource development and capacity building programs, especially in the areas of financing and management;
- ... the phasing in of more appropriate tariff systems, with particular attention being given to closing over a period of several years, the wide gap between current domestic tariffs and the cost of services;
- ... least-cost investment programs focusing on rehabilitation, demand management and commercialization.

Resolution 2, regarding investments in environmental improvement

Priority should be given to the use of grant financing to conduct comprehensive feasibility studies to identify a medium-term package of high priority investments. Isolated investments in wastewater treatment facilities should be avoided. This would both ensure that the best use is made of limited resources, and increase the possibility of obtaining financing by international financial institutions. This could initiate a sustained improvement in the quality of Baltic Sea.

Resolution 3, regarding mechanisms

Addressing these challenges will require a disciplined, sustained partnership involving; municipalities and utilities, national governments, bilateral and multilateral financing agencies, professional associations and the private sector. The Gdansk meeting should consider mechanisms for strengthening existing partnership arrangements (such as the Union of Baltic Cities) and fostering and facilitating the other forms of partnership which are needed.

Environmental Policy in the Federal Republic of Germany
Presentation on activities by KfW

Prof. Dr. Werner Fassing
Dr. Michael Ruffing

1. General background

The term environmental protection has been in use in the Federal Republic of Germany since about 1970. The policy issue, however, has a much longer tradition and especially measures to protect water resources and waste water treatment date back to the early fifties. KfW has always played a major role in financing proper investments relating to environmental protection, the total of loan commitments over the decades amounting to more than 50 billion DM.

A series of laws relating to the various environmental fields was passed in the course of time. With these laws a strong reduction of the permissible levels of pollutant emissions was generally achieved. The basic principle of environmental protection policy in Germany is the "polluter-pays-principle". Notwithstanding this, a number of promotional schemes extending financial benefits to private (and sometimes also public) investors has accompanied the use of compulsory (i.e. legally binding) instruments such as specific environmental protection laws and regulations. Financial benefits may take the form of tax reliefs, direct subsidies, and - already mentioned - loans at favourable conditions for the financing of environmental protection investments.

The Treaty on Unification called upon the Federal Government and the new east-German Länder to raise the environmental conditions to a standard at least equal to that prevailing in the western Länder. At the same time a comprehensive catalogue of EC environmental legislation became binding for the area of the former GDR, for which various periods of transition were conceded because of the disastrous environmental damage.

The cost of the necessary environmental cleanup of the former GDR is difficult to assess. Estimates indicate a sum of over DM 250 billion over the next ten to fifteen years.

The cleanup must essentially cover all areas of environmental protection, i.e. air pollution (in particular by restructuring the energy system), protecting the waters, improving waste management, de-contaminating old sites and waste dumps.

The use of lignite as the only fuel in energy production is one of the main reasons for the high pollution levels. In addition, the obsolete and inefficient supply systems preclude the rational use of energy. Industries and home heating systems produce large amounts of pollution. Toxic emissions must be reduced through a supra-regional, combined programme to foster the conversion to low-emission energy sources (such as natural gas), the improvement of the efficiency of existing facilities and the re-equipping old facilities with modern plant.

A big problem is the bad quality of the waters resulting from a completely inadequate treatment of industrial and municipal waste water and by intensive use of fertilizers in agriculture. Only about 50 % of private households are connected to a waste water treatment plant. As a consequence of the water and ground water pollution, only about half the population is being supplied with drinking water that satisfies the EC water directives. Priority must therefore be given to the renewal of drinking water systems, the construction of waste water treatment plants and to the enlargement of the sewage system. In the next 10 to 15 years investments of about DM 150 billion will have to be made.

What cannot be assessed at all are the costs of investments needed to eliminate inherited soil contamination and to de-contaminate waste dumps. In the ex-GDR, reusable waste was fed into an indeed exemplary recycling system encouraged by the scarcity of raw materials. On the other hand, unusable waste was often left in uncontrolled, wild waste dumps. Besides, hazardous waste was taken from Western Germany in exchange for hard currency and not properly disposed. These wild waste dumps as well as the toxic wastes left to contaminate many industrial sites represent a serious threat to the ground water. Emergency measures to avert immediate dangers to the ground water must be taken.

2. The specific loan programmes of KfW

In line with its task as a state-owned bank, Kreditanstalt für Wiederaufbau pursues economic-policy goals. Apart from favourable financings to small and medium-sized businesses as well as regional and structural programmes, KfW has always placed special emphasis on environmental protection loans.

Reflecting not only the change in awareness but also the new legal requirements, financing measures in environmental protection has become more and more important in recent years. The just described environmental situation in unified Germany demonstrates that the new eastern Länder must be treated with priority.

The following table sets forth loan commitments by KfW for financing environmental protection investments in Germany during 1992, subtotalling commitments for the new Länder:

Promotion of environmental protection investments by KfW 1992

Programme	loans	investments	
	number	- millions DM -	
<u>Special programmes</u>			
ERP-waste water treatment	564	179	719
ERP-air pollution	776	235	818
KfW-programme	1 291	973	2 376
KfW/BMU-Programme "demonstration-projects"	5	169	242
Total private companies	2 636	1 556	4 155
of which: East-Germany	<u>632</u>	<u>792</u>	<u>1 918</u>
<u>Promotion of environment from other programmes</u>	76.800	9.600	16.600
<u>Total of environmental protection</u>			
of which: East Germany	79.400	11.200	20.700
	77.400	10.400	18.500

With special regard to the Baltic Sea region - those parts of Mecklenburg-Vorpommern bordering the Baltic Sea as well as the areas next to the Polish border - about 350 million DM have been provided as loans for financing waste water treatment plants since 1990. Total investment expenditures of the relevant treatment facilities amount to about 500 million DM. There are included major projects at Rostock, Neubrandenburg, and Wismar, as well as a number of smaller ones. In certain cases KfW did not only provide finance but also expertise in planning, building and conducting the plants. The consultancy business has furthermore been extended to Polish-German partnership projects.

Since the beginning of 1990 there exists a German-Polish committee which was established by both governments. This committee was entrusted with advising the German ECA HERMES, i.e. the German government, with respect to Polish projects in

which sizeable German exports are involved. The decisions of the committee are made on the basis of KfW's concise appraisal reports considering economic, environmental and technical aspects. By now several projects aimed at the protection of the environment (desulfurisation plants, waste water treatment plants etc.) have been appraised. KfW's technical staff was able to assist in improving the projects' specifications during the process of appraisal at the project site. As soon as the Federal Government is prepared to extend an export cover, KfW will also be prepared to support the projects by means of long-term export credits.

Another German-Polish partnership project is also worth to be mentioned in the context of environmental protection: The Business Promotion Agency (BPA) for the German-Polish border region. This project financed by the German Federal Government and four Federal Länder is dealt with in a close cooperation between KfW and Polish Development Bank. Although the main objective of the BPA will be attracting and assisting investors and identifying and supporting cross-border business projects, we expect also BPA to be a platform for the bilateral dialogue on environmental protection.

Baltic Sea Environment

Resource Mobilisation Conference : Gdansk, 24/25 March 1993

Statement on the activities of the European Investment Bank, Luxembourg

(by Mr. Patrick Walsh, Senior Loan Officer)

Mr. Chairman, your Excellencies, Ladies and Gentlemen,

I am very pleased to represent the European Investment Bank today at this very important and timely Conference. In the short time allowed, I would just like to give you a very brief resumé of the Bank; I would be happy to provide further information and details afterwards.

For those of you who may not be too familiar with our Bank (the "EIB", for short), I should first of all explain that the EIB is a **European Community Institution** which operates as a Bank providing long-term finance for projects. Owned by the **12 Member States of the Community**, it was set up 35 years ago under the Treaty of Rome. It is based in Luxembourg and employs about 800 people.

The principal role of the EIB is to support capital investments which promote the balanced development of the European Community. In addition, however, the EIB finances projects **outside the European Community** pursuant to various protocols, conventions and cooperation agreements: the Bank now operates in 12 countries in the Mediterranean region, in 69 countries which are signatories of the Lomé Convention, while as regards **Central and Eastern Europe**, the EIB's Board of Governors authorised the Bank in November 1989 to lend up to **1 000m ECU in Poland and Hungary**, and in April 1991 to lend up to **700m ECU in Bulgaria, Romania, the Czech Republic and the Republic of Slovakia**.

In 1992, for instance, the EIB made loans totalling over **17 bn ECU** (equal to about 20 bn USD), of which almost 900 m ECU was for projects outside the European Community.

Of course, the EIB places great importance on environmental protection. Proof of this, is that about **a quarter of the EIB's total lending in 1992** (in other words, some 4.6 bn ECU, or almost 5.5 bn USD) was for projects directly related to the protection of the environment - you can see the breakdown of this lending, per country and per type or category of investment, in the attached tables/slides.....

In the context of today's Conference, it is worth highlighting that the Bank has also in recent times financed a number of projects (such as wastewater treatment plants) in the eastern regions of **Germany**, with beneficial effects as regards the Baltic Sea.

Furthermore, within the countries of **Central and Eastern Europe**, the EIB has provided loans **totalling 820 m ECU to-date**, of which about 170 m ECU have been for projects in the energy sector with a positive environmental effect. These have mainly concerned more rational use of energy, upgrading of older power plants and installation of air pollution abatement equipment.

Indeed, in passing, it should be mentioned that the EIB in its appraisal of **all projects** (no matter what sector) takes into account the environmental impact of the proposed investment and its compliance with the relevant legislation.

In addition to its active participation in various **regional cooperation programmes** -- for instance, the Bank also has supervised, in close cooperation with our "sister" institution, the European Commission, the studies of the environmental problems in the **Oder and Upper Elbe basins, as part of the Baltic Sea environment rehabilitation programme** -- the EIB also is currently in the process of examining further **investment projects** which would contribute directly to the amelioration of the Baltic Sea's environment.

The EIB can help, in this regard, by providing long-term loans, with appropriate grace periods, at fine rates of interest, reflecting its own prime credit rating on the world's capital markets. Loans can be provided either **directly** to project promoters, or **indirectly via a number of lines of credit** which have been made available to domestic banks to finance small to medium-sized projects in the environment field, inter alia.

Without at this point referring to certain matters which would facilitate the mounting of environmental projects in the Baltic Sea region (which aspects will, in any event, be dealt with in more detail in other papers to be presented to the Conference today and tomorrow), I would just like to reiterate that the EIB stands ready to facilitate, in whatever way it can, the financing of well-prepared projects which are economically, financially and technically justified.

In the latter connection, I would just like to recall that all our projects in Central and Eastern Europe (in no matter which sector) require the **support and guarantee of the Government of the country concerned**. This support is a fundamental prerequisite, and our experience elsewhere confirms that much can be achieved in the environmental area with such active support.

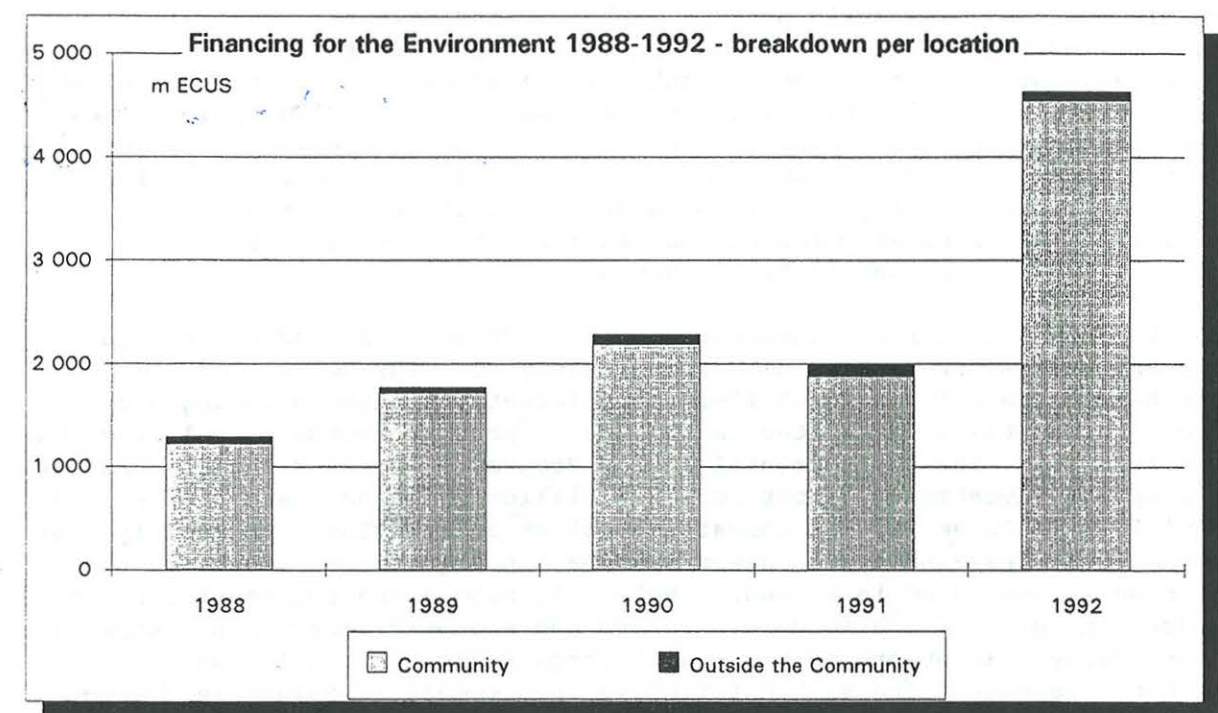
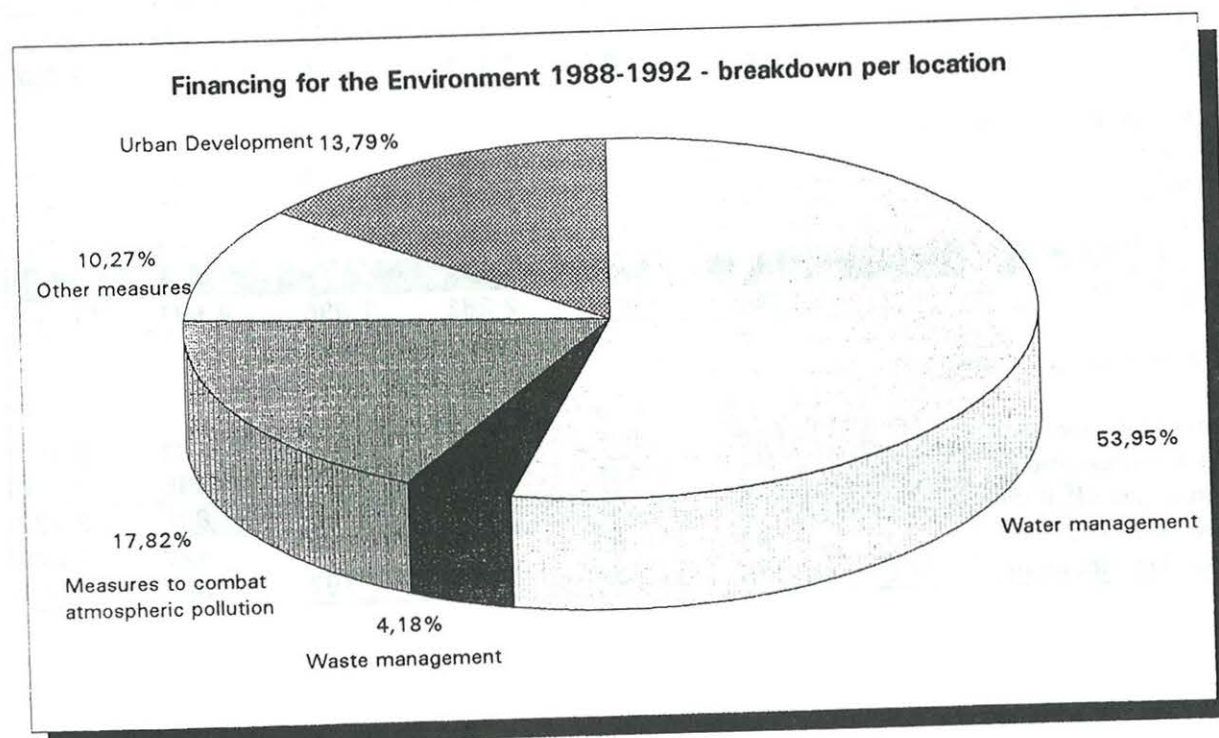
Thank you very much for your attention.

Patrick Walsh

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EIB Financing for Protection of the Environment (1988-1992)

	1988	1989	1990	1991	1992	Total
A. Breakdown per Country						
<u>I. Community</u>						
Belgium		10			12	22
Denmark	27	21	37	24	62	172
Spain	260	143	215	209	705	1 532
France	10	117	16	104	359	605
Greece	32	92	31	1	167	322
Ireland	12	15	38	59	106	230
Italy	575	579	734	692	671	3 251
Netherlands	3					3
Portugal	18		43	3	459	523
Germany	275	288	272	92	1 104	2 032
United Kingdom	16	458	806	702	905	2 887
Total	1 229	1 725	2 192	1 886	4 549	11 580
<u>II. Outside the Community</u>						
Mediterranean		23	21	28	22	94
ACP-OCT	61	23	19	22	15	140
CEEC			50	60	45	155
Total						
General Total	1 289	1 771	2 282	1 996	4 631	11 968
B. Breakdown per Category						
Water Management	816	945	1 262	1 131	2 303	6 457
Waste Management	24	148	145	48	135	500
Atmospheric Pollution	360	337	185	444	805	2 132
Other Measures	44	162	428	176	420	1 229
Urban Developments	45	178	262	197	968	1 651



BALTIC SEA ENVIRONMENTAL ACTION PROGRAMME
CONFERENCE ON RESOURCE MOBILIZATION
GDANSK, REPUBLIC OF POLAND - MARCH 24/25, 1993

by Walter Stottmann, Principal Engineer, World Bank¹

WORLD BANK ACTIVITIES IN THE MUNICIPAL WATER/WASTEWATER SECTOR

I. INTRODUCTION AND BACKGROUND

1. The purpose of this conference is to discuss the mobilization of financial resources for protecting the Baltic Sea against pollution from all possible sources. The World Bank, a member of the Helsinki Commission Programme Implementation Task Force (HELCOM PITF), stands ready to face this challenge together with the governments of countries riparian to the Baltic Sea, bilateral and multilateral financial institutions and non governmental organizations. The World Bank is actively involved in a number of initiatives directed towards improving environmental conditions in several countries of Eastern and Central Europe. This presentation deals with the Bank's initiatives in municipal water and wastewater with special focus on municipal/industrial waste water treatment.

2. To date the Bank has concentrated its efforts on Poland's municipal water and wastewater sector, and appropriately so. The Baltic Sea - Joint Comprehensive Report has identified insufficiently treated discharges of municipal/industrial wastewater as the most important source of pollution for the Baltic Sea. The Environmental Action Programme earmarks roughly half of all proposed investments, about ECUs 2.6 billion in Phase I and another ECUs 8.6 billion in Phase II, for combatting pollution stemming from municipal or combined municipal-industrial sewer systems. A significant amount of this pollution is generated in Poland. Poland is also among the countries most advanced in terms of public sector reform and economic capacity and appears to be more ready than others to begin with large scale actions for water pollution clean-up. The Bank's intensive involvement in Poland is designed not only to assist that country in addressing its municipal/industrial wastewater cleanup effort, but also to develop a practical assistance strategy which could guide similar initiatives in other Central and Eastern European countries.

^{1/} Background paper for Mr. Stottmann's presentation on World Bank activities in the water and waste sector at the Gdansk Conference. The content of this paper are Mr. Stottmann's personal views and not necessarily those of the World Bank, although they reflect many of the stated policies and current strategies of the World Bank for Central and Eastern European countries.

The Challenge Ahead

3. Cleaning up the water resources of the countries riparian to the Baltic Sea will require enormous financial and technical resources. Just taking care of the municipal/industrial "hot spots" identified for the Vistula River and the Baltic Coast of Poland carries a projected price tag of almost US\$ 2 billion for the next five years. In reality this price tag will be even higher, as it does not include other "hot spots" in the Polish territory which are be of lesser interest for the Baltic Sea Program, but carry high priority for other reasons. There is wide consensus that these resource mobilization targets will be exceedingly difficult to achieve. At this time of economic transition and acute scarcity of resources, municipal governments and their water and wastewater enterprises, already facing an uphill battle in raising resources for improving their water supply and sewage collection systems, will not be able to contribute but a fraction of the resources needed. Industries, most of them fighting for survival in a new market environment will find it very difficult to allocate large resources for wastewater treatment. The need for fiscal discipline and the competition from many other high priority investment needs in other sectors will severely constrain the Polish government's ability to contribute to the clean-up effort. The recent economic downturn in the Western European countries places strict limits on the amount of resources which can be expected from these countries. Finally, mobilization of credit resources from bilateral and multilateral financial agencies is constrained by macroeconomic concerns and the high cost of repayment. In addition, there is concern with the proper maintenance and operation of wastewater treatment facilities. Once constructed, enough technical and financial resources must be found to ensure that the effectiveness of treatment plants can be sustained over their useful life. This will place an additional large burden on those institutions responsible for maintaining and operating wastewater treatment facilities.

4. Realizing that available resources will most likely fall far short of needs, it is therefore imperative that the limited funds which will become available are employed as wisely as possible. The more effectively these resources are invested and the better new facilities are maintained and operated, the faster the clean-up of Poland's water resources and the Baltic Sea will proceed. The challenge faced by all involved in this effort is not only to make resources available but also to put in place a framework of appropriate policy and institutional structures which will ensure that resources are invested such that they yield the largest possible return. This will require a cooperative and disciplined effort not only by the Polish government on all levels but also by the agencies providing the resources.

Concerns with Past and Present Activities

5. In spite of the good will and effort since the beginning of the Baltic Sea Environmental Initiative, little investment has actually taken place. Many investment proposals have been developed but few have led to investments. A closer look at these proposals may explain why. The great majority of these proposals deals with ambitious projects in the construction of new or expansion of existing wastewater or water treatment plants. Upon close

scrutiny almost all of these proposals have questionable justifications in both technical and financial terms. Most of them are conceived in isolation of other parts of the water and wastewater system. They tend to be oversized and costly. Their high costs bears no relation to the ability of municipalities and their water and wastewater enterprise to raise the funds to pay for them. In many cases, they don't coincide with the priorities of water and wastewater enterprises, many of which struggle to provide adequate water supply and wastewater collection services. Municipal governments and their water and wastewater enterprises undertaking some of these proposals run the risk of committing their scarce resources in costly ventures which more serious analysis may prove to be unnecessary or could be achieved at much less cost. At worst, such commitments may limit their capacity to finance other possibly higher priority investment needs. The adoption of a more comprehensive and analytic approach to the definition of investment needs and priorities advocated and routinely applied by the World Bank promises to yield more cost-effective investment decisions than the isolated approach employed so far.

II. PROPOSED WORLD BANK APPROACH

General Concept

6. The approach towards the financing of municipal wastewater treatments proposed by the World Bank is based on the realization that municipal wastewater treatment plants are really an integral part of three separate administrative systems:

- o local government and water and wastewater enterprise responsible for providing water and wastewater services;
- o environmental and water resources agencies concerned with raw water abstractions and wastewater discharges by municipal water and wastewater enterprises in terms of their effect on water quantity and quality aspects on the national and river basin level; and
- o if present, industries obtaining water from municipal enterprises and discharging industrial waste into the municipal wastewater collection and treatment system.

7. All three have different institutional objectives. The municipal enterprise is primarily interested in minimizing the cost associated with raw water abstractions and waste discharges. Likewise industry wishes to pay as little as possible for water and wastewater services provided by the municipal enterprise. Environmental and water resources interests, responsible for integrating the externalities associated with water use, see as their main objective the protection of water resources from pollution. To make cost-effective and affordable investment decisions for municipal water treatment requires an integrated and balanced approach which harmonizes the different

objectives of each of these three systems while recognizing financial limits and the technical complexity involved in defining effective solutions.

8. The Bank's proposed strategy for supporting investments in municipal wastewater treatment is guided by a number of basic principles outlined in the following paragraphs. These principles, most of which are applied routinely in Western Europe and North America, are crucial for selecting cost-effective and sustainable investments in municipal/industrial wastewater treatment. They also coincide with the spirit of the "Riga Statement" elaborated at the Water and Wastewater Utility Partnership Workshop which was held in Riga in February 1993 in preparation of the Gdansk Resource Mobilization Conference.

The Need for Strong Water and Wastewater Utilities

9. The efficient management of municipal wastewater treatment plants depends very much on the institutional and financial strength of the institutions responsible for constructing, maintaining and operating such plants. Poorly managed and under-financed institutions cannot maintain and operate wastewater treatment plants effectively, let alone be expected to raise the funds required to contribute to their construction, improvement and expansion. World Bank experience throughout the world shows that the efficient management of water and wastewater infrastructure requires strong autonomous utilities run by competent management and staff in accordance with corporate and commercial principles. Utility autonomy regulated and overseen by government is imperative to allow professional management and technical decision making unencumbered by short-term political considerations. For such utilities to be successful it is of key importance that they are permitted to charge cost covering rates which allow the internal generation of funds sufficient for adequate maintenance and operation and enable the utility to contribute to its investments needs and qualify for loan funds to finance the improvement and expansion of its services.

The existence of a strong water supply and wastewater utility is an essential condition for sustainable investments in municipal wastewater treatment. Any investment decisions regarding municipal wastewater treatment should, therefore, be greatly concerned with the development of autonomous self-financing municipal/regional public or private water and wastewater utilities.

The Need for Integrated Least-Cost Planning and Investment Selection

10. Design decisions and investment needs as well as maintenance and operating costs of municipal wastewater treatment plants are directly tied to the characteristics of the wastewater entering the plant and the degree of treatment to be achieved. The volume of water which needs to be treated is a direct consequence of the amount of domestic and industrial wastewater being collected in the sewer system. This in turn is determined by the amount of water produced and consumed. The quality characteristics of the wastewater depend on the characteristics of water use, specifically the extent and nature

of industrial wastewater discharges to the municipal system. All of these factors have to be taken into account in designing a wastewater treatment plant.

Municipal wastewater treatment plants are an integral part of the municipal/industrial water supply and wastewater system and should be sized and designed in that context.

11. Under the socialist system, planning and design of water and wastewater system was dominated by technical, construction-related considerations. Relatively little attention was given to maintenance and efficient operation. The central planning system did not require investment justification on financial/economic grounds. The least-cost principle in the design of water and wastewater systems was not applied. Nor was there concern with the financial viability of the water and wastewater enterprises. These planning practices often led to poorly functioning systems. Failure to pay attention to proper maintenance caused premature failure of pipe networks and treatment facilities. Today, many systems exhibit losses in excess of 50% of production. As water rates were kept low, domestic and industrial water consumption grew to levels which in many cases are twice as high as those in Western Europe. The great challenge now faced by water and wastewater enterprise is to rehabilitate systems, improve operational practices and control leakage and high water consumption. To make better use of scarce resources, investment planning in the future should follow Western practices which at their best aim at reducing investment costs to a minimum and stress efficiency in operations. Applying the planning principles described below has the potential for large scale savings in investment and operating costs.

12. Water Demand Management. It is well established that in most of the Central/Eastern European countries water production and consumption is excessively high. In many Central and Eastern European cities per capita water production is double that in Western Europe. This is partially due to high industrial consumption, but also often caused by domestic consumers not accustomed to conserve water. In a great many cities throughout the Region the introduction of demand management aimed at inducing domestic and industrial consumers to use water more wisely would lead to substantial reductions in water consumption. This in turn would allow reductions in the capacity of water production, storage and transmission, and wastewater collection and treatment. Decreasing water consumption to Western European levels through determined demand management efforts has the potential for large savings of investment resources. Efforts to reduce water consumption are already under way in many cities in the Region and some astounding results are already being achieved. In some Polish cities, industrial restructuring, higher rates and increased awareness of the population to conserve water has already caused significant reductions in water consumption of up to 30%.

The introduction of demand management has large potential for stretching investment resources and reducing operating costs. It should be a key consideration in any future investment planning.

13. Efficient Utility Operation and Expansion: In addition to demand management, there are many other actions which can yield important savings in investment and operating costs of utilities. Making better use of existing systems is one major promising area. This would involve system rehabilitation, repair of leaks in the water transmission and distribution system and reducing inflows of storm water and infiltration of ground water into sewer systems. Reconfiguration of existing networks and facilities and closure of bottlenecks to allow more efficient operations could bring important additional savings. Likewise rigorous least-cost phasing of system expansions and the utilization of more cost-effective technologies would contribute to reducing investment costs. Therefore:

The rehabilitation of existing systems, improvements in operational efficiency, staging and utilization of cost-effective technologies will significantly reduce investment and operating costs.

Industrial Water Consumption and Waste Emissions

14. In many municipal systems throughout the Region, industrial enterprises are important and sometimes dominant water consumers and dischargers of often hazardous waste to the municipal sewer system. In comparison to western standards, industrial processes tend to use much more water. The introduction of hazardous industrial wastewater into the domestic wastewater stream has important deleterious effects on waste flows and selection of treatment processes. Keeping hazardous toxic or difficult to treat industrial wastewater out of the municipal sewer system through appropriate pretreatment or adjustments to the industrial process employed by the industry can lead to important overall cost savings and more reliable and efficient treatment at the municipal plant. For cost-effective investments in water supply and waste collection and treatment, it is therefore imperative that both the water and wastewater issues related to industry are analyzed and addressed. In many cases, this will only be possible within the context of the ongoing restructuring of industries through process changes rather than end of pipe solutions. Appropriate policies and incentives as well as enforcement mechanisms must be established to induce industries to undertake measures leading to reduced water consumption and waste emissions.

Investment decisions in municipal water and wastewater should be accompanied by a careful analysis of the impact of industries and consider actions to reduce industry's water consumption and waste emissions.

Least-Cost Investment Strategy for Municipal Wastewater Treatment Plants

15. The suggestions presented so far (demand management, least-cost planning, institutional strengthening, reduced industrial water consumption and waste emissions) will help decrease investment needs in municipal wastewater treatment. More can be done, however, by directing available funds

to those locations where the greatest benefits in terms of ambient water quality targets can be achieved at the least cost. Also appropriate phasing of construction and phasing the level of treatment can lead to more effective use of resources. It is imperative that countries develop for their national territory - as a whole and for each river basin - a minimum cost, maximum benefit investment strategy as a guide for directing the allocation of scarce resources.

16. To develop a truly cost-effective strategy for investments in municipal wastewater treatment will require adjustments to the present overly stringent and ambitious policies regarding ambient water quality objectives and emission standards. The management of water quality in a river basin should be regarded as an exercise in system planning where inputs (financial resources) are employed and decision variables (location and level of treatment) selected such that they maximize output (ambient water quality). A river basin is a highly complex system which needs to be analyzed as a whole rather than treating each investment decision on the basis of local considerations. It is therefore inappropriate to impose uniform emission or technological standards on all municipal wastewater treatment plants. Poland's environmental and water resources agencies face the challenge of defining an investment strategy which results in the most effective allocation of resources to reach realistic ambient water quality objectives which are phased over time.

17. The recommendations presented in the Baltic Sea Environmental Program provide valuable guidance in this respect. The recommendations identify "hot spots" and provide specific recommendations for gradual process expansion. The recommendations also provide a first approximation of the strategic investment plan referred to earlier. The list of "hot spots" and resource needs will grow, if other "hot spots" less relevant to the cleanup of the Baltic Sea but important in terms of other national interests are included. From the above discussion emerges another principle:

Investments in municipal wastewater treatment plants should be justified within the context of a basin-wide least-cost strategy for improving ambient water quality in accordance with a staged plan for water quality improvements.

The Need for Comprehensive Studies

18. Technical: To bring all of these principles to bear and to realize the potential cost savings described above will require the elaboration of appropriate technical, financial, economic, and institutional studies, including master plans and feasibility studies. Such studies would begin with a thorough analysis of the existing system focussing on water consumption patterns, state of repair of facilities, water losses, efficiency of operations and bottlenecks. The next step would be to revise existing demand projections to include the effects of undertaking a determined demand management effort. Based on these demand projections, least-cost system improvement and expansion needs could be defined. This work would have to give serious consideration to system rehabilitation, leak detection and repair, operational improvements and the introduction of water demand

management measures in comparison to capacity. Optimum staging of investments would have to be studied. Measures by industry to reduce water consumption and wastewater emissions as well as a review of the treatment standards required under the river basin least-cost pollution control plan would also enter into the analysis. The final result of this planning exercise would be a prioritized 3-5 year integrated utility investment program with a clearly defined implementation and investment schedule.

Investment decisions should be guided by a medium-term prioritized least-cost investment plan covering all of a utility's needs. The definition of this investment program requires the preparation of comprehensive master plans and feasibility studies.

19. Financial/Institutional: To ensure that the proposed investment plan is realistic, financial and institutional studies must be prepared. Financial projections should demonstrate how the utility will be able to generate sufficient resources to provide adequate maintenance and operation of existing and future facilities. A financing plan should show a realistic scenario of financing the investment program from a mix of different sources, including internal generation of funds, contributions from government, loans from official local and external sources and the private sector. A key component of the financial analysis would be a tariff study to demonstrate that users are willing and able to pay the tariff levels needed to maintain the financial viability of the utility. In addition, a thorough audit of the utility's institutional performance should lead to the definition of programs for institutional restructuring and strengthening tailored to the present performance level and future performance objectives of the utility.

Investment decisions should be validated by financial (financial projections) and institutional (institutional reform and strengthening) action plans to ensure that the proposed investment program is financially viable and that the utility is prepared to assume the responsibility for effective management of systems and facilities.

Private Sector Participation

20. Throughout the world, local governments are turning to the private sector for the management of water supply and wastewater systems. In doing this, they seek efficiency gains in management and operation and mobilization of private investment capital. Also, many local governments in the Region are considering more involvement of the private sector. They should be encouraged to consider any of the many options of private sector involvement in utility management and operation such as service or lease contract arrangements. As financial markets develop and utilities become credit worthy, the financing needs of utilities should be satisfied from private sources. The present reliance on subsidies from government or government guaranteed loans from official credit agencies should be discontinued as soon as possible.

21. In Poland, there have been many attempts by the private sector to get involved in water supply management. Most of these were initiated by foreign providers of equipments or services. Very few of the initiatives have come to fruition, as the private sector, after an initial energetic push, perceived the risk as too high. Local authorities also shrunk away from many of these proposed arrangements which exceeded the locality's financial capacity. While the potential for private sector entry is high, the lack of an established regulatory framework and the inexperience of local authorities in dealing with the private sector has resulted in very little mobilization of private equity resources. It is therefore imperative that the government establish a system of regulations and incentives which gives local authorities and the private sector the confidence to conclude mutually beneficial arrangements under fair and competitive conditions.

For accelerated and efficient sector development, the participation of the private sector in the management and operation of the utility and/or the provision of finance for investments should be strongly encouraged. Appropriate regulatory structures and incentives need to be introduced, however, to ensure that private sector activity develops under equitable conditions beneficial for both local government and the private partner.

Overall Sector Policies and Organizational Structure - Enabling Environment

22. The future development of Poland's water and wastewater sector, the development of strong institutions and the selection of cost-effective investment programs is only possible if the government succeeds in putting in place an enabling environment of policies and incentives in which utilities can flourish. The main players affecting municipal wastewater treatment and the capacity and performance of water and wastewater utilities are local and regional governments and environmental and water resources management agencies. Other important players include industry, financial institutions and markets, academia and the private sector. All of these have important functions to fulfill and must work together in a cooperative spirit under a framework of clearly defined responsibilities and authority established by the national government.

23. Regarding the relationship between local governments and environmental institutions, experience in other parts of the world has shown that a clear division of responsibilities works most effectively. Municipal or regional governments charged with the responsibility of providing water supply, wastewater collection and treatment services in a geographically defined area should be free to manage these services in accordance with best utility practices. This would include the freedom regarding technology choices for building wastewater treatment plants. As a general principle, financial resources required for the maintenance, operation and expansion of water and wastewater facilities should be generated from user fees, except for investments in wastewater treatment where limited subsidy financing could be justified. Utilities should be expected to pay reasonable fees for raw water abstractions and pollution discharges.

24. Environmental and water resources institutions are charged with the responsibility to manage water resources in terms of quantity and quality. These institutions have as their primary objective to integrate the externalities associated with water use in general and the discharge of wastewater in particular. Their main concern is to ensure that water resources are used efficiently and not compromised through the discharge of water polluting substances. They should have a strong planning capability to ensure that resources for water treatment and water resources construction are expended efficiently. As recommended earlier, they should elaborate a strategic priorities investment strategy to direct resources. While they should not interfere with the responsibility of water resource users, local and regional governments, and water and wastewater utilities and industry, they should regulate raw water abstractions and waste discharges. Effective enforcement authority is essential to forcing water users to meet regulatory standards and collect fees and fines. These funds may be reinvested in support of environmental investments.

Efficient sector development depends on the introduction of an appropriate enabling environment which specifies a clearly defined framework of policies and assigned responsibilities which induces all institutions involved to work together towards improving water and wastewater services and ambient water quality.

Project Financing Strategy

25. Cost-effective investments in municipal wastewater treatment plants will in all likelihood also require investments in water supply and sewage collection. Strengthening of the utility will also be necessary. The utility will have other investment needs, especially in water supply which must be balanced with those for wastewater treatment. In fact, investment needs in water supply may be of higher priority than those in wastewater treatment. A safe and dependable water supply is not only essential for public health reasons but also a very important consideration regarding consumer willingness to pay for services. Therefore, providing finance for wastewater treatment only would be shortsighted. A new, more prudent approach is to offer financing packages which satisfy all of a utility's needs as identified by a least-cost prioritized investment program. The World Bank will therefore consider financing of investments for wastewater treatment only under the umbrella of integrated water supply and wastewater projects. Such projects would have two basic objectives: (i) assisting the present water and wastewater enterprise to develop into a strong viable utility; and (ii) ensure the availability of financing for all of the utility's priority investments.

26. As part of such projects, the World Bank would attempt to facilitate the involvement of the private sector, either in the management and operation of the utility (through a concession contract, for example) or by attracting private capital for investment components of interest to a private investor (a BOT for a Treatment plant, for example). Within the context of such project, the World Bank would also look for participation of the Ministry of the Environment. The Ministry should provide the river basin plan identifying priority investments in treatment plants and its affiliated financial

institutions, the National Fund for Environmental Protection and the ECO Bank, would be expected to play a key role in the cofinancing of waste treatment plants. The Ministry of the Environment together with the Ministry of Industry would also be expected to assist industry in finding and implementing appropriate solutions for reducing water consumption and to curb the emission of hazardous or difficult to treat industrial wastewater into municipal sewer systems.

III. PROJECT FINANCING ACTIVITIES PROPOSED BY THE WORLD BANK

27. The principles introduced in the previous chapter determine the sector assistance strategy which has been proposed to the Polish government. This strategy consists of two parts: (a) the preparation of a Sector Review; and (ii) the financing of specific investment projects.

Sector Review

28. As in many other countries, the reform of the water and wastewater sector in Poland is a work in progress. The Polish government has already taken a number of basic decisions which bode well for future sector development. Among these decisions are the devolution of responsibility for water and wastewater services to local governments and the commitment to cost recovery and private sector participation. However, several crucial issues in the area of sector policy, regulation, and organization remain to be resolved. The sector review, prepared by the Bank, is intended to assist the Polish government in addressing these issues. Specifically, the review aims at assisting the Polish government in creating the conditions necessary for the development of an efficient municipal water and wastewater sector founded on strong local or regional water and wastewater utilities.

29. The review focuses on a number of issues which the Bank's sectoral staff and the Government's sector authorities have identified as key to the development of an efficient water supply and wastewater sector. These topics include: (i) general central government sector development policy and overall institutional structure; (ii) the relationship between local, regional, and national government in matters concerning municipal water and wastewater; (iii) the relationship between local governments and water and wastewater utilities; ownership and corporate governance of the utility companies; (iv) the relationship between municipal governments/utilities and environmental and water resources agencies regarding water abstractions and wastewater discharges; (v) the relationship between utility and service beneficiaries, including households, state agencies, and industry; (vi) the organization, management, and performance of water and wastewater utilities; (vii) pricing and tariff setting; (viii) principles of selecting least-cost, priority and affordable investment programs; (ix) mechanisms and conditions for channeling investment capital to utilities; (x) means for increasing private participation in the management and operation of utilities and in the provision of investment capital. The review will also present specific proposals on the scope, instruments, objectives and key operational features of future external assistance to the sector.

30. In Poland, the sector review is being prepared by Bank staff in close cooperation with the Ministry of Physical Planning, the parent ministry for the municipal water and wastewater sector. As the conclusions and recommendations of the review are of great interest to a much wider audience than the Ministry of Physical Planning, the Bank intends to involve other important stake holders, among them the Ministry of Finance, the Ministry of the Environment, and the Office of Public Administration Reform under the Council of Ministers. The review is coordinated closely with other important Bank initiatives dealing with the reforms by local government (decentralization) and the financial sector. The report is expected to be completed in July or August and will be shared with everyone interested. The Bank is tentatively planning to present and discuss the report with local sector officials and the international funding agencies at a seminar tentatively scheduled for September 1993.

Project Financing

31. The second part of our assistance strategy is a series of investment operations aimed at assisting individual local governments in establishing strong utilities and in the financing of least-cost, priority and affordable investment programs in water supply, wastewater collection and treatment. Another objective is to encourage and help sector utilities attract private capital by supporting their efforts to organize joint ventures with potential private sector partners or obtain loans from foreign capital markets. All projects will adopt the integrated utility approach outlined before. Eligibility criteria are the same for all projects: (a) commitment to institutional reform and strengthening; (b) the presentation of least-cost and financially viable investment programs elaborated and justified through appropriate studies; (c) and in the case of wastewater treatment plants, priority in a least-cost strategic plan for allocating resources for municipal wastewater treatment. The World Bank has proposed to the Polish government to carry out three separate loan operations to be initiated as soon as possible.

32. First, direct lending operations with three water and wastewater utilities. The cities of Krakow, Bielsko Biala and Wroclaw have been selected to be part of this initial package of operations. Funding from the United States Trade and Development Agency has been made available to finance feasibility studies in Krakow and Bielsko Biala; the consultant selection process is already under way. Funding for the feasibility work in Wroclaw is still being sought. Appraisal of these projects is expected for early 1994.

33. Second, a credit line operation for all other interested and eligible Polish municipalities to be channeled through an intermediary arrangement which is as yet undefined. These projects would require the same type of analysis and justification as outlined before. The preparatory work for defining an appropriate intermediary arrangement is currently being carried out under the sector review and the Bank's ongoing work on public sector reform. We hope to have a functioning arrangement within a year's time. This in turn means that the preparation of a project pipeline must start as soon as possible with the elaboration of feasibility studies. To date, the Bank has

agreed to assist some 11 Polish² cities which have expressed great interest to prepare themselves for a loan operation under the credit line. Several of them are among the "hot spots" identified under the Baltic Sea Environmental Program. Project preparation is on hold due to a lack of resources to finance the feasibility study. Other cities are welcome to participate if they are prepared to meet eligibility criteria and project preparation requirements.

34. Third, a direct lending operations for the city of Warsaw. Funds for a feasibility study are still being sought.

35. Part of the World Bank's assistance strategy is to encourage cofinancing of these projects by other financing organizations as well as the private sector. The National Fund for Environmental Protection, the ECO Bank and the Polish Development Bank will have an important role in providing local investment funds, particularly for investments in wastewater treatment plants.

IV. NEED FOR DONOR COORDINATION AND SUPPORT

36. The World Bank invites the local authorities and the donor community to critically review the concepts and strategies presented in this paper. In the long run the comprehensive and integrated approach outlined in this paper is essential to creating the conditions required for the sustainable development of the water and wastewater sector and the wise use of scarce resources. Good institutions and justifiable investment programs will result in better local resource mobilization and will encourage international financing institutions such as the World Bank to commit resources. It will also motivate the private sector to participate in future sector development either as managers and operators of water and wastewater utilities or as providers of financial resources for investments.

37. The main obstacle to accelerated action is the lack of appropriately prepared investment proposals. The preparation of a pipeline of properly justified water and sewerage projects must have highest priority. Feasibility studies must be prepared for all cities which are planning to undertake major investments in water and wastewater. These feasibility studies should be prepared on a cooperative basis between local and foreign consultants specialized in the elaboration of these kinds of studies. Their preparation will require substantial external resources. The World Bank hopes that bilateral and multilateral agencies will provide funding for these studies. Terms of reference produced by the World Bank could be used as models. To facilitate the project preparation effort the World Bank strongly supports the creation of a project preparation team in the Ministry of Physical Planning. This team consisting of 3-4 local and foreign experts could provide invaluable assistance in speeding up the project preparation efforts by helping interested utilities to start studies and to coordinate donor assistance.

2/ Cities include: Lodz, Torun, Wloclawek, Bydgoszcz, Lomza, Lublin, Zamosc, Radom, Dabrowa Gornicza, Katowice.

38. To tackle the enormous task ahead, it is now imperative that the Polish government and interested municipalities, international bilateral and multilateral funding agencies and the private sector cooperate under a shared approach to raise and invest wisely the funds which are necessary to improve water and wastewater services in Polish cities and to clean up local water resources. The World Bank stands ready to work together with all involved and, if the Polish government so wishes, to contribute financial resources towards that goal.

39. The World Bank also stands ready to consider the possibility of extending assistance in a similar fashion to other interested Central and Eastern European countries.

**THE BALTIC SEA JOINT ENVIRONMENTAL ACTION PROGRAMME
HIGH LEVEL CONFERENCE ON RESOURCE MOBILIZATION**

Gdansk, Poland, 24 March 1993

Mr. Olli Ojala
Ministry of Environment of Finland
and
Mr. Timo Mäkelä
European Bank for Reconstruction and Development

**INFORMATION ON A STUDY ON FOREST SECTOR DEVELOPMENT AND
ENVIRONMENTAL MANAGEMENT IN THE PULP AND PAPER SECTOR**

Ministry of the Environment
Finland

March, 1993

**INFORMATION ON A STUDY ON FOREST SECTOR DEVELOPMENT AND
ENVIRONMENTAL MANAGEMENT IN THE PULP AND PAPER SECTOR**

Under the Baltic Sea Environment Programme prefeasibility studies were made focusing on the identification of point sources of pollution load in the Baltic Sea. An outcome of these prefeasibility studies has been the identification of environmental hot spots and suggested priorities for investment. For investment activities one of the identified major categories is the Pulp and Paper sector.

The Pulp and Paper Industry pollution and its impact on the environment is considerable in the Baltic Sea itself as well as in the form of transboundary air pollution. The solution of the problems in this sector is of a special interest also to Finland. In our bilateral co-operation with our eastern and southern neighbouring countries projects concerning reduction of environmental load from pulp and paper mills have been identified as high priority projects.

Based on Finland's own experience in the forest sector and pulp and paper industry development and on the expertise that is available in this field we have considered it important to contribute to finding feasible solutions to the environmental problems identified by the Task Force.

With this in view the Ministry of the Environment of Finland has together with the European Bank for Reconstruction and Development and the Nordic Investment Bank launched a study on Forest Sector Development and Environmental Management in the Pulp and Paper Sector in Karelia, St Petersburg and Kaliningrad in Russia as well as in Estonia, Latvia and Lithuania.

The purpose of the study is to supplement the existing prefeasibility studies undertaken within the Baltic Sea Environmental Programme. It has been considered important to take into account the likely effects of ongoing sectoral restructuring. The aim of the sector approach is to identify those plants that would be commercially viable if a programme of privatization and restructuring is implemented. The study is expected to produce a reliable basis for environmental management and investment decisions in the forest industries, particularly pulp and paper.

The recommendations will identify specific project priorities, identify project sponsors and provide a sufficient technical and economic basis for international financing agencies to determine the suitability of each project for financing.

When implementing the concrete projects all possible sources of financing should be thoroughly studied. In our bilateral cooperation the financing of investments projects has mainly been organized by the local partner. The Finnish grant has only been a minor share of the foreign currency costs. The share of the local partner in both local and foreign currency has mainly come from earnings of the company or plant in question. In most cases barter deals have been used for financing costs in foreign currency but also means from governmental and municipal budgets have been used.

In the future it is assumed that the role of international financing institutions will increase and at the same time the role of Finnish governmental grants may - when possible - be in the form of a softener in financial packages, which will consist of payment in hard currency, barter deal deliveries and credits.

Joint United States Agricultural Run-Off Program: Poland Agriculture and Water Quality Protection Project*

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*Prepared for the Baltic Sea Environmental Programme Conference on Resource Mobilization, Gdansk, Republic of Poland, 24-25 March 1993. U.S. EPA Region VII sponsored project. Conducted by Iowa State University and the Polish Ministry of Agriculture and Food Economy, in cooperation with the Ministry of Environmental Protection, Natural Resources and Forestry. Financed through a U.S. AID grant authorized under the Support for Eastern European Democracy with Polish government in-country matching funds. Although the research described in this article has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement #820332-01-0 to Iowa State University, it may not necessarily reflect the views of the Agency and no official endorsement should be inferred.

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Joint United States Agricultural Run-Off Program: Poland Agriculture and Water Quality Protection Project

Stanley R. Johnson, Aziz Bouzaher, Walter E. Foster, and Susan Gordon

I. Introduction

In mid 1992, the Center for Agricultural and Rural Development (CARD) at Iowa State University, under a cooperative agreement with the U.S. Environmental Protection Agency (EPA) Region VII, initiated the Poland Agriculture and Water Quality Protection Project (PAWQPP). The project is being undertaken jointly with the Poland Ministry of Agriculture and Food Economy, the Institute of Land Reclamation and Grassland Management (IMUZ), and local Polish governmental units (voivodships and gminas) in the targeted regions. Also, cooperating in the development of the project are the Polish Ministry of Environmental Protection, Natural Resources, and Forestry; the United States Department of Agriculture; the United States Peace Corps; and selected Polish nongovernmental organizations (NGOs).

The purposes of the PAWQPP involve the transfer and evaluation of technologies and management methods that have been developed in Western Europe, the United States, and in Poland that are designed to reduce agricultural contamination of the environment. The transfer and evaluation activities concentrate on demonstration farms identified in cooperation with local governmental authorities, gminas, voivodships, and ODRs (public institutions responsible for technology dissemination and information transfer in Polish agricultural and rural communities). The transfer and evaluation activities on the demonstration farms and watersheds will be leveraged through educational programs conducted jointly with the ODRs and local agricultural colleges or training schools. Finally, through this cooperative activity (demonstrations of new technologies and management methods, support for the dissemination of information) the policy culture will be influenced, drawing increased attention to environmental problems, to the need for informed government intervention, and to opportunities for designing an educational, regulatory, administrative, and institutional system that is of mutual benefit to agriculture and rural communities and to the environment.

This paper provides a summary of the activities to date and experiences incurred in developing the PAWQPP. Also, the project will be assessed for its potential in contributing to solving the environmental problems that are evident from the deterioration of water quality at farm, village, and watershed levels, and for its implications for addressing widespread water quality problems in major rivers and lakes, and in the Baltic Sea. The latter aspects of the PAWQPP build on the approaches that

have been suggested by work on the project to date for improved management of local watersheds or catchment areas, and the possibility of generalizing the experience to stimulate improved coordination of environmental and economic reforms of agriculture on a broader geographic base.

2. Rationale

The rationale for the development of the cooperative PAWQPP is related to the economic transition in Poland and increasing information on the importance of agriculture as a contributor to the degradation of ground and surface water quality locally, and the quality of water in larger bodies including the Baltic Sea. Each of these two aspects of the agricultural and environmental problems in Poland is discussed. The observations are intentionally brief, highlighting the justification and timing for the PAWQPP and its positioning with the economic reforms in Polish agriculture.

Transition: The transition to private enterprise-market systems has created many uncertainties and introduced important structural adjustments in the Polish economy, particularly with the freeing of prices and administrative controls, and the unleashing of the forces of supply and demand (Csaki 1990a,b). Western economists do not have a good understanding of—and certainly no simple recipes for—designing efficient and equitable transition policies. Still, the distortions and inefficiencies created by the command system have been the subject of extensive research (e.g., Kornai 1980; Stewart 1984). In agriculture the closed nature of the economy along with state ownership has resulted in concentrated production (especially processing and distribution) often one-enterprise subsectors, and farms unable to compete in international markets. A lack of accountability for environmental costs and state-determined incentives emphasizing high output levels have meant that the firms and enterprises seldom conformed to standards for effluent and other by-product discharges. In short, these enterprises given rational behavior in relation to incentives of the command system, have made inefficient use of natural resources and energy (Roe 1992).

Pollution or environmental degradation in general is explained in Western economic theory as occurring from "external effects" of production and consumption due to "market failure" or "ill-defined property rights" that impose the associated costs on society (Baumel and Oates 1988). The corresponding "failure" in the command economies is related to administration problems, since most allocative decisions are centrally controlled. Opening the centrally planned economies to market incentives has resulted in massive unemployment, high inflation, and a falling real output. In agriculture, the sharp rise in input prices (energy, chemical, seeds, and machinery) accompanied by a less rapid increase in commodity prices has resulted in lower yields and smaller planted areas, declining commodity output, worsening terms of trade with other sectors, and a fall in real farm income (ERS

1992). Poland is grappling with the new realities of the market system and responding with policies aimed at stabilizing farm income (e.g., intervention purchasing) while trying to address the major questions associated with privatization and restructuring of state farms and agro-industrial complexes.

In this period of the restructuring of the enterprises and firms in agriculture and the economic system, there is an important opportunity for developing and integrating policies and institutions that contribute to improve the environmental quality. Currently, use of agricultural inputs that have in the past led to high levels of contamination is limited due to relative high prices. But, it is reasonable to assume that as the restructuring progresses, agricultural technologies similar in productivity to those in Western Europe and the United States will be introduced, and will dominate those now used in Poland. Appropriately educating producers, local authorities, and federal officials responsible for agriculture and the environment can influence the introduction of these technologies and management methods, helping to assure that agriculture in Poland is more sustainable. This same attentiveness to environment can also lead to improved extrafarm management systems (watersheds, river basins, lakes, etc.). In short, by raising awareness of the importance of agriculture for the environment and managing the economic restructuring and development of new technologies and management methods, as well as the environmental law, institutions, and administrative structures, Poland can emerge from the transition with a more sustainable agriculture and a healthier environment.

Agriculture and water quality: Poland has severe industrial environmental pollution problems due primarily to high coal use, old technologies, and low energy prices. The average annual coal equivalent per person in Poland was almost 900 kg in 1989, compared with less than 50 kg in the European Community. In addition, 1989 energy prices calculated using a simple index were 60 percent lower in Poland than in the EC (Hughes 1992). The environmental damage in Poland also stems from the concentration of sources of contaminants in some of the most populated regions. For example, 50 percent of the airborne pollution originates from 15 percent of the total areas in south and southwest Poland. And, in these areas the maximum 24-hour ambient concentration of black smoke exceeds the European standard more than sixfold. Just three mines, for example, producing 10 percent of the coal output are responsible for 20 percent of the 30 million cubic meters of saline water and brine discharged daily as a by-product from coal mining, rendering most of the water of the two main rivers (the Vistula and the Odra) too contaminated even for industrial consumption (World Bank 1992). A heavy concentration of industry and power plants also contributes to water pollution in the main rivers. Self-purification in these rivers is low because of the flatness of the terrain and the slow stream flow (Hughes 1992). Changing these and other sources of industrial pollution will require significant capital investment and restructuring of production processes even if an ideal set of laws, administrative

procedures, and institutions are in place.

Agricultural run-off, in addition to municipal sewage from urban and rural areas and industrial pollution, also contributes importantly to contamination of ground and surface water (Bouzaher and Jensen 1993). In rural areas, village water quality is rated very low in 20 percent of the household water supply systems, 48 percent of common wells, and 66 percent of home wells. This results in the health of 50 percent of the village populations being adversely affected by nitrate compounds and bacteria in the water supply. In addition, it is estimated that between 1987 and 1989 only 29 percent of the villages had an active water supply system, only 5.3 percent had sewage systems, and only 2 percent had water purification plants (Central Statistics Office, Warsaw, 1992). Overall, an estimated 65 percent of Polish surface waters are considered unfit for municipal or even for industrial use.

Agriculture is a major contributor to nitrate contamination of water sources. Mismanagement of animal waste, excess use of chemical nitrogen, poor management of drained wetlands, inappropriate tillage practices, and other aspects of the agricultural technologies and management methods contribute an estimated 50 percent to the nitrogen contamination of the ground and surface water in Poland (World Bank 1992). And, agriculture and the rural communities are closely intertwined in influencing the water quality. Village wells are contaminated by agricultural practices and village wastewater treatment contaminates water available for use from agriculture. These natural close connections are even more important in Poland than in other nations given the sandy and organic soils and high water tables in many of the major agricultural producing areas.

The PAWQPP is aimed at the agricultural and rural communities. The idea is that many of the water quality and environment problems can be addressed by the adoption of technologies and management methods that are complementary to improved farm income. If these knowledge-based interventions or changes coupled with appropriate administrative, regulatory, and institutional structures and aggressive educational and dissemination programs can significantly reduce the contamination from agriculture and rural communities, major benefits should follow both for the local users of ground and surface water, and for water quality in the major lakes and rivers, and in the Baltic Sea.

3. The Structure of the PAWQPP

The PAWQPP has a three-year work plan and involves an expanding agenda for providing assistance in improved farming practices, education and outreach, institution building, and in shaping the policy culture. The general design for the project is outlined in Figure 1 and in Table 1. Observe from Figure 1 that the activities proceed from demonstrations and monitoring at the farm and

Figure 1

Poland Agriculture and Water Quality Project A Three Tier Approach

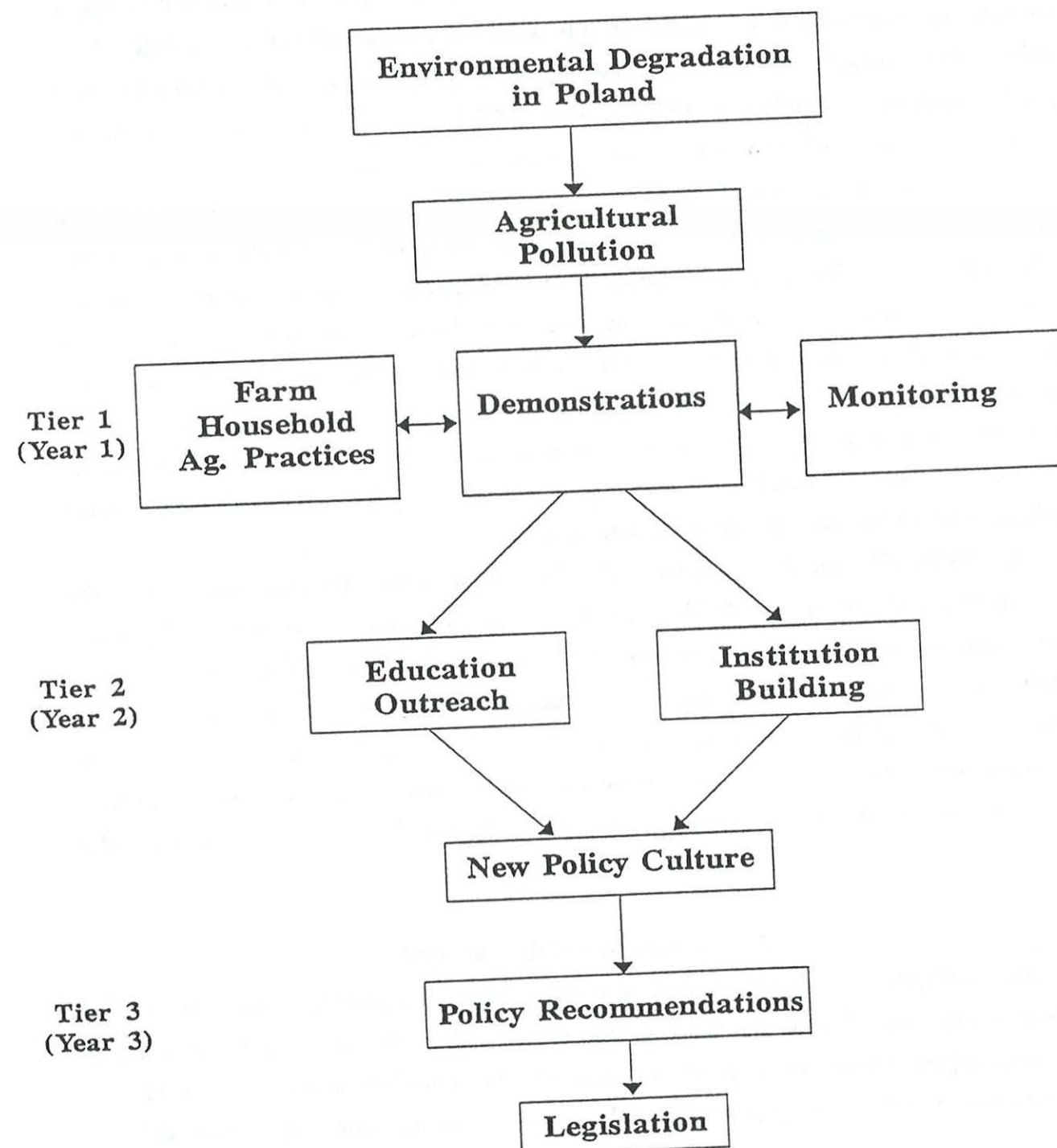


Table 1. Poland Water Quality and Implementation Strategy Summary

YEAR	ACTIVITY			
	DEMONSTRATION		EDUCATION AND DISSEMINATION	POLICY AND INSTITUTIONAL
	FARM	WATERSHED		
1	Select farms, implement demonstrations (simple)	Survey watershed	Review organizations to participate and make contacts	Accumulate legal/regulatory information, determine players
2	Continue demonstrations using more sophisticated technologies	Model watersheds, introductory demonstrations	Prepare materials and conduct dissemination (local)	Negotiate cooperative policy and institutional initiatives
3	Continue selecting and evaluating technologies	Extend to more complex and policy/institutional approaches	Introduce policy and institutional initiatives	

household levels to generalization of these results for their implications for educational programs, institution building, policy recommendations, and legislation. Figure 1 is complemented by Table 1, which indicates in more detail the focus of the project in terms of farm or household activities, watershed management, education and dissemination, and policy and institutional change. Observe from Table 1 that the farm and household demonstrations begin in year 1 and continue in years 2 and 3, when they involve more sophisticated technologies and management methods that are more customized to the local situation in agriculture.

For the watershed demonstrations, the first year is primarily devoted to surveys and information collection. The idea is to accumulate information on the watersheds in which the farm demonstrations reside and to prepare a basis for "demonstrations" that will involve extrafarm and extrahousehold relationships, and the integration of farm and village initiatives, during years 2 and 3. Also, in year 1 monitoring at both the farm and watershed levels is underway, with the focus on the surface and ground water quality near the demonstration areas on the farms, and in streams near the farms and at the outlets of the watersheds.

The education and dissemination activities will parallel the results of the demonstrations for farms and households and in the watersheds. Thus, the education and dissemination activities in year 1 will concentrate on farm and household level management methods and technologies. The education and dissemination activities in years 2 and 3 will involve watershed management in addition to the farm and household demonstrations. Finally, it should be emphasized that the scope of the education and dissemination will increase during the project. In year 1, the focus will be on the local voivodships and gminas, while in the out-years materials will be prepared to leverage the results for application in education and dissemination programs targeted to other agricultural areas in Poland.

The policy and institutional component of the project is the most difficult, in part because the formulation of policy recommendations and suggestions on institutional design requires great familiarity with the cultural, technological, and other aspects of the economic and political systems unique to Poland. During the first year, the activities for the PAWQPP in the policy and institutional area will be primarily devoted to gathering information on regulatory structures, administrative systems, legal and other initiatives for the environment and on the aspects of the economic transition that are important to agriculture and the environment. This information will be used as a basis for negotiating experiments that may be set up in the demonstration areas, in cooperating gminas and voivodships or in other areas focusing on changing institutions and the regulatory structure and as well educational initiatives designed to alter the policy culture. Directly related to the latter is the analysis of information that will be generated from the surveys of the households in the targeted watersheds and associated gminas and voivodships. These surveys will collect information on how households learn

about the environment, attitudes toward the environment, and perceptions of environmental and economic risk.

Thus, the project is designed as a comprehensive package, starting at the grassroots or farm and household levels, and proceeding to address environmental and agricultural problems of greater scope as information is accumulated and the organizations participating in the project become more familiar with one another. The demonstrations on the farms planned for year 1 are currently being implemented. The surveys of the watersheds and related gminas and voivodships have been completed and are being analyzed. And, the networks necessary for facilitating the dissemination and educational activities and preparing for the policy and institutional initiatives have been activated. Plans are now being finalized for the second year of the project and the expansion of the activities to focus more on watershed management, education and dissemination, and policy and institutional reform.

4. Specifics on Area and Demonstrations

Two demonstration areas were selected, primarily on the basis of guidance from the IMUZ and other Polish collaborators. In northeastern Poland the demonstration area is in the Ostralenka/Lomza region. In western Poland, the demonstration area is in Szczecin. The two areas are outlined in Figure 2 and emphasize the concentration of the project activity in northern Poland. The Ostralenka/Lomza area is characterized by small farms, sandy soils, diversified cropping patterns, small livestock herds, and a water table that is quite near the surface. Households on the farms in this area consume water from dug wells as well as from rural water systems.

Agriculture in the Szczecin area more closely resembles that in Western Europe and the United States. This is the area in which the large state and collective farms were formed under the old regime. Again, the agriculture is mixed. The soils are tighter and the demonstration area surrounds Lake Miedwe, the main water source for Szczecin. Available data indicate that nutrient contamination levels in Lake Miedwe have been increasing. It is believed that these elevated nutrient levels are related to the intensity of agricultural production in the areas surrounding the lake. Another feature of the agriculture in the Szczecin area is the existence of large, concentrated, livestock-feeding enterprises.

In the Ostralenka/Lomza area three watersheds are included in the demonstration. Within each watershed, there are three demonstration farms (for a total of nine in the Ostralenka/Lomza area). These watersheds and demonstrations are listed below.

- Szafranki Watershed

- Farm 1: Manure storage and nutrient management

- Farm 2: Grassland management (introduction of clover varieties)

- Farm 3: Septic tank and housewaste management

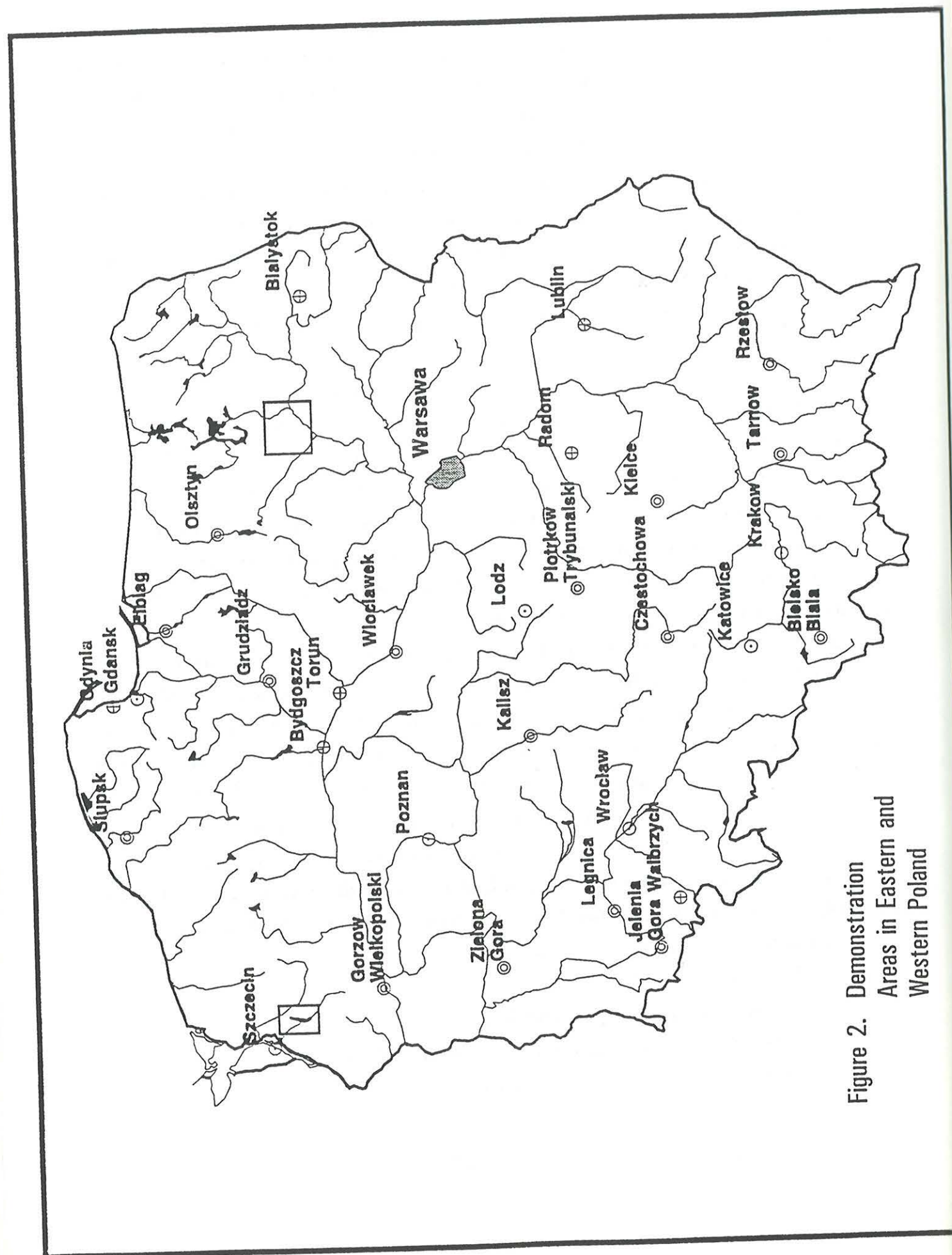


Figure 2. Demonstration Areas in Eastern and Western Poland

- Laddy Watershed
 - Farm 1: Manure storage and nutrient management
 - Farm 2: Grassland management (introduction of clover varieties)
 - Farm 3: Septic tank and housewaste management
- Rupin Watershed
 - Farm 1: Manure storage and nutrient management
 - Farm 2: Grassland management (introduction of clover varieties)
 - Farm 3: Septic tank and housewaste management











In Szczecin there are two watersheds, each on a tributary of a stream flowing into Lake Miedwe. There are fewer demonstration farms in the Szczecin area due to the size of the enterprises involved. Specifically, in each watershed there is one demonstration farm. Also, there is one demonstration farm outside the watershed, selected because it is very near Lake Miedwe. The watersheds and demonstration farms are listed below.

- Warnice Watershed
 - Rensko: IPM/sugar beet
 - Nitrogen management
 - Chmielewski: Cover crop
- Pyrzyce Watershed
 - Przepiórka: Manure storage
 - Nutrient management
 - Sanderek: Silage storage
 - Nutrient management

Geographic Information System (GIS) maps for two of the watersheds (Lake Miedwe in Szczecin and Rupin in Ostralenka/Lomza) are attached as Figures 3 and 4. The maps provide information on cultivatable land, cropping patterns, locations of demonstration farms, roads and other infrastructure, villages, etc. As such, these watershed maps represent information that is being accumulated as a basis for selecting demonstration projects at the watershed level that will be undertaken in year 2 of the PAWQPP. Also, this information will be useful in suggesting possibilities for generalizing the demonstration results to other areas.

Each of the watersheds is located in either a set of gminas and/or a voivodship. Gmina and village officials have been involved in the selection of the demonstration farms. The voivodships and their ODRs are also supportive of the demonstrations, and set to cooperate in the demonstration and educational activities. In each of the two areas there is also an agricultural college. Linkages with these colleges have been made to provide for student involvement in the farm demonstrations, educational

Figure 3
Lake Miedwe
Subwatershed #1

-  Grunty Agrofirmy
-  Lake/Pond
-  Developed Area
-  Forest
-  Other
-  Primary Road
-  Secondary Road
-  Forest Road
-  Path
-  Boundary

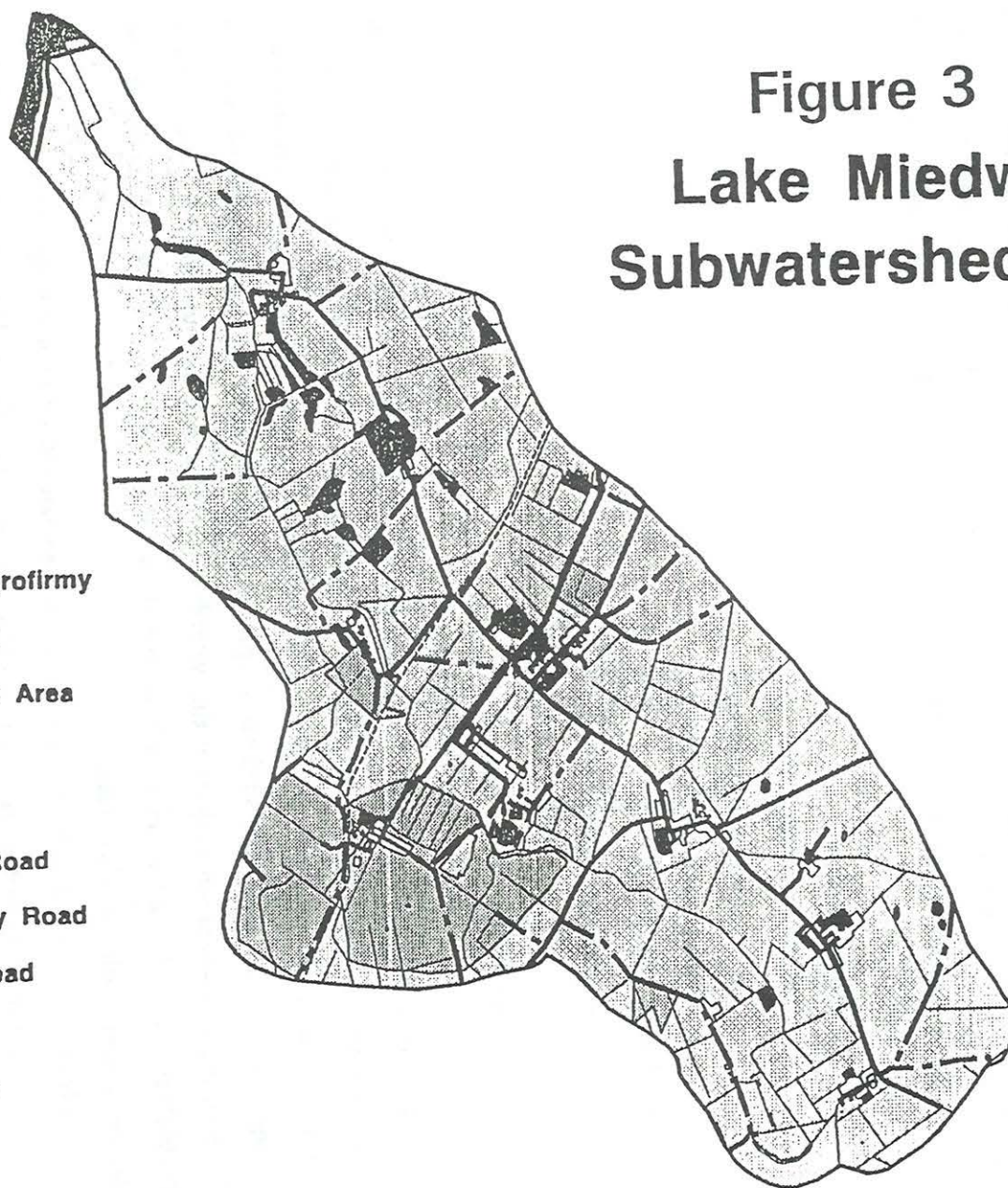











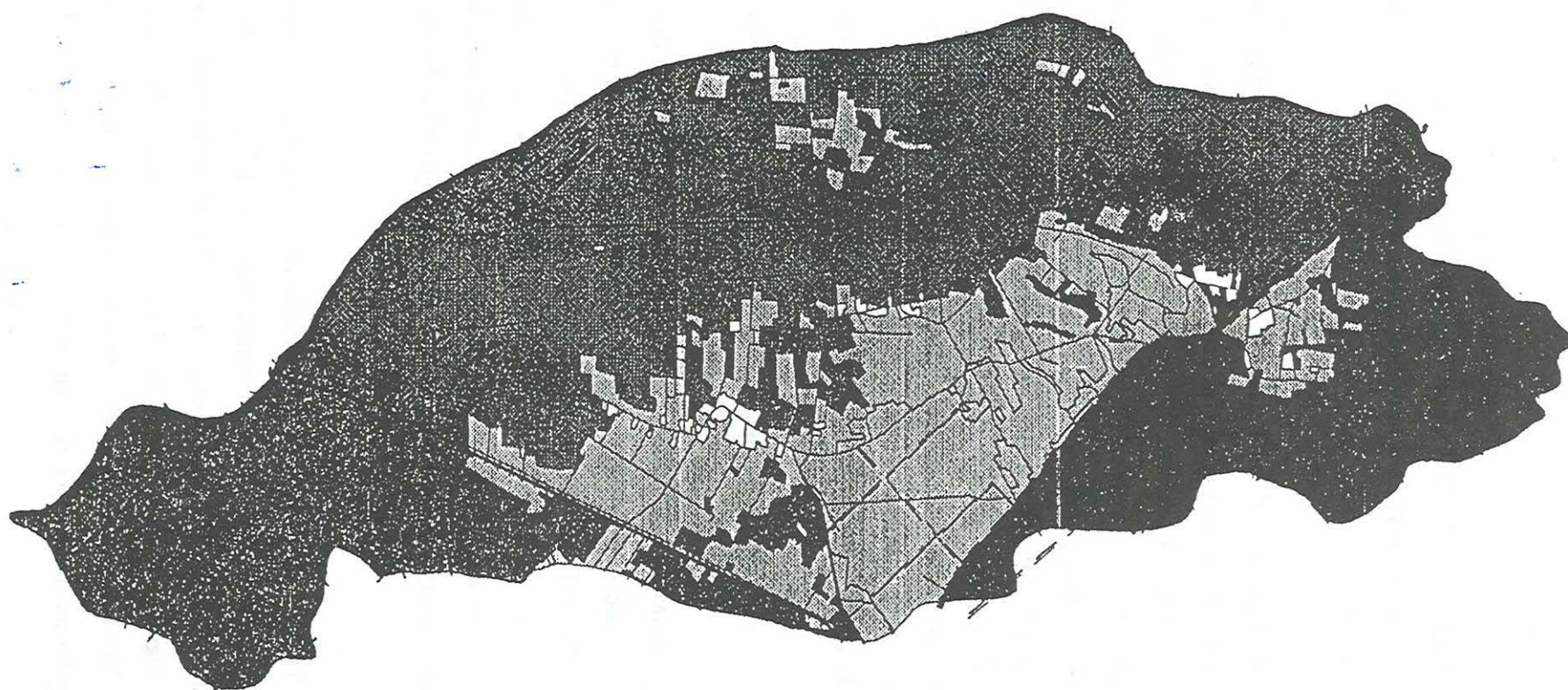


Figure 4
Rupin Watershed

- | | |
|---|---|
|  Developed Area |  Primary roads |
|  Forest |  Secondary roads |
|  Grassland |  Local/village roads |
|  Cultivated Land |  Forest/field roads |
|  Roads |  Paths |
| |  Railroads |



programs, and in the watershed management demonstrations that will be planned and implemented during the summer of 1993.

5. Preliminary Results

Results to date from the PAWQPP are in four general areas: organizational, technology and management demonstrations at the farm or household levels, monitoring in the watersheds and related areas, and survey and descriptive tabular analyses.

Organizational: The organizational results are the least tangible but perhaps the most significant accomplishment. Productive working relationships have been developed with the subcontractors in Poland—IMUZ and the MOAF. Contractually, this working relationship involves matching domestic currency funding of the PAWQPP from the Polish side. The latter is viewed as important by both the U. S. and Polish sides in assuring joint ownership of the project and follow through.

Agreements on cooperation and information sharing have been negotiated with the Ministry of Environment, Natural Resources, and Forestry, domestic NGOs, foreign NGOs, and with scientific institutes in agriculture and kindred disciplines. Finally, an arrangement has been negotiated with the Peace Corps for use of volunteers in the demonstration areas, assisting with education and dissemination. All of this organizational activity has required time and high level participation in the early part of the project from both the Poland and U.S. sides. Again the intent is to achieve maximum leverage of the results from the project and to assure broad participation by interested groups and authorities.

By cooperating with IMUZ and MOAF, working relationships have been developed with gminas and voivodships in the two targeted areas for the project. These relationships are essential to the cooperation necessary for setting up the demonstration farms and watersheds, and for the educational and dissemination activities with the ODRs and other local institutions, including the agricultural schools. The survey was also made possible by the cooperative arrangements with the local authorities. Farm participation is, in many ways, almost conditional on the approval and cooperation of the local authorities.

Demonstrations: The planned demonstrations were listed in Section 4. In most cases the associated activities are being implemented. That is, construction, educational, legal, and other factors associated with the demonstration technologies and management methods have been initiated. To illustrate the planning necessary, Figures 5–7 have been included to describe one of the manure storage facilities being constructed. The facility will help to retain the nutrient content of the manure, prevent migration of barnyard contaminants to surface and ground water and support timely application of the

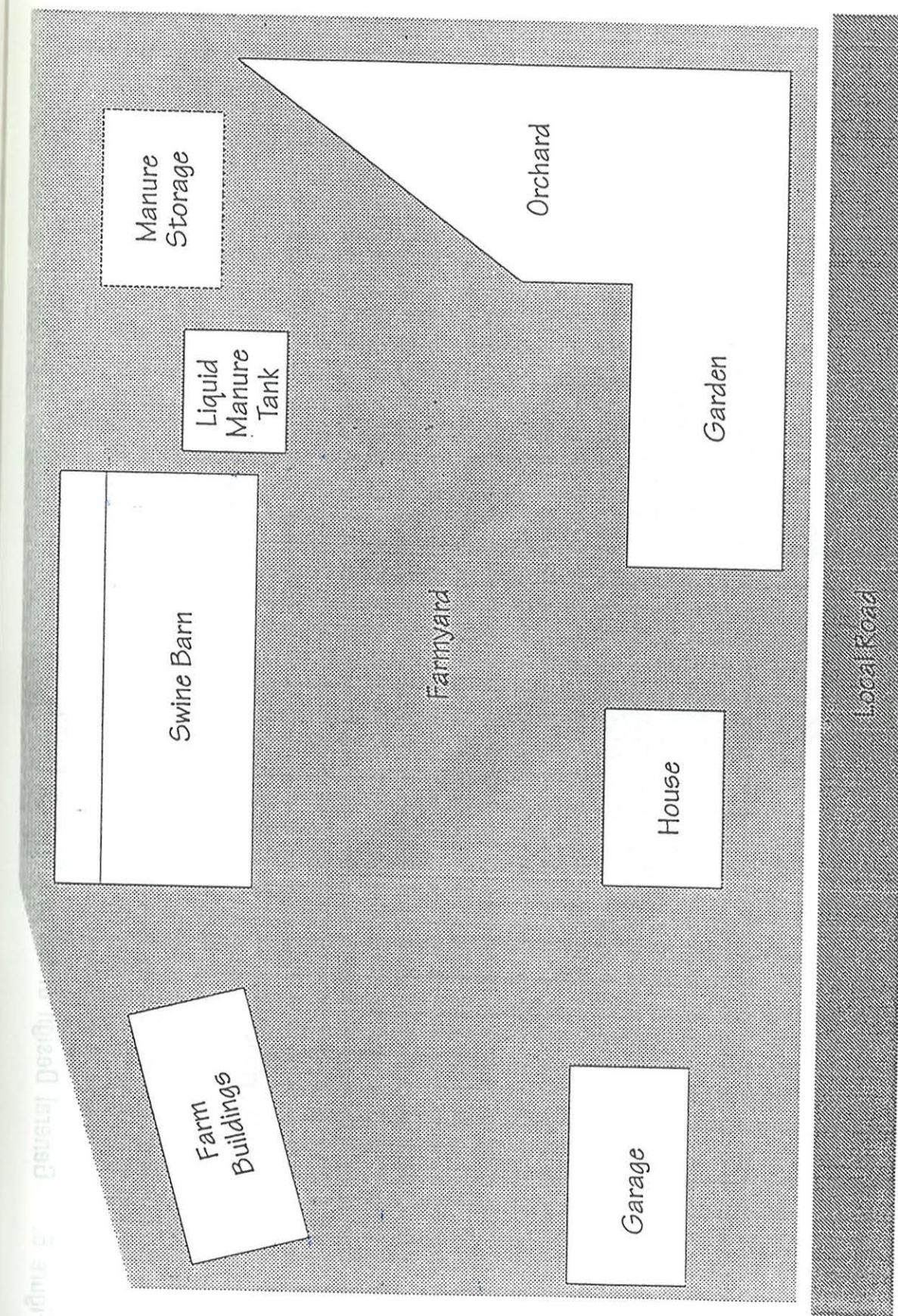


Figure 5. Farm Layout and Site of Manure Storage Facility

Manure Storage

Size of manure pad: 6 x 15 m
 Height of side wall: 1.2 m
 Thickness of wall: 0.15 m
 Thickness of pad: 0.20 m

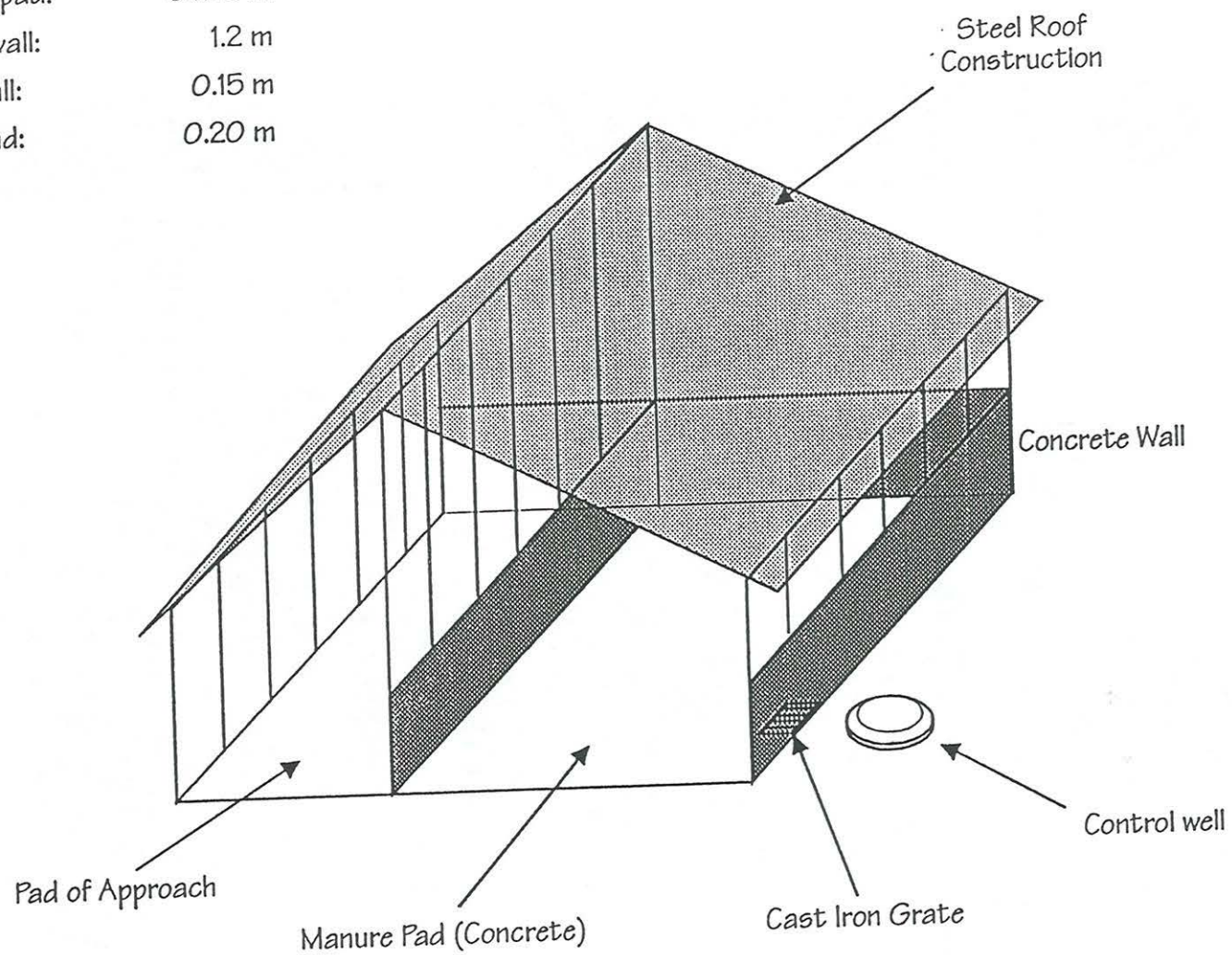


Figure 6. General Design of Manure Storage Facility

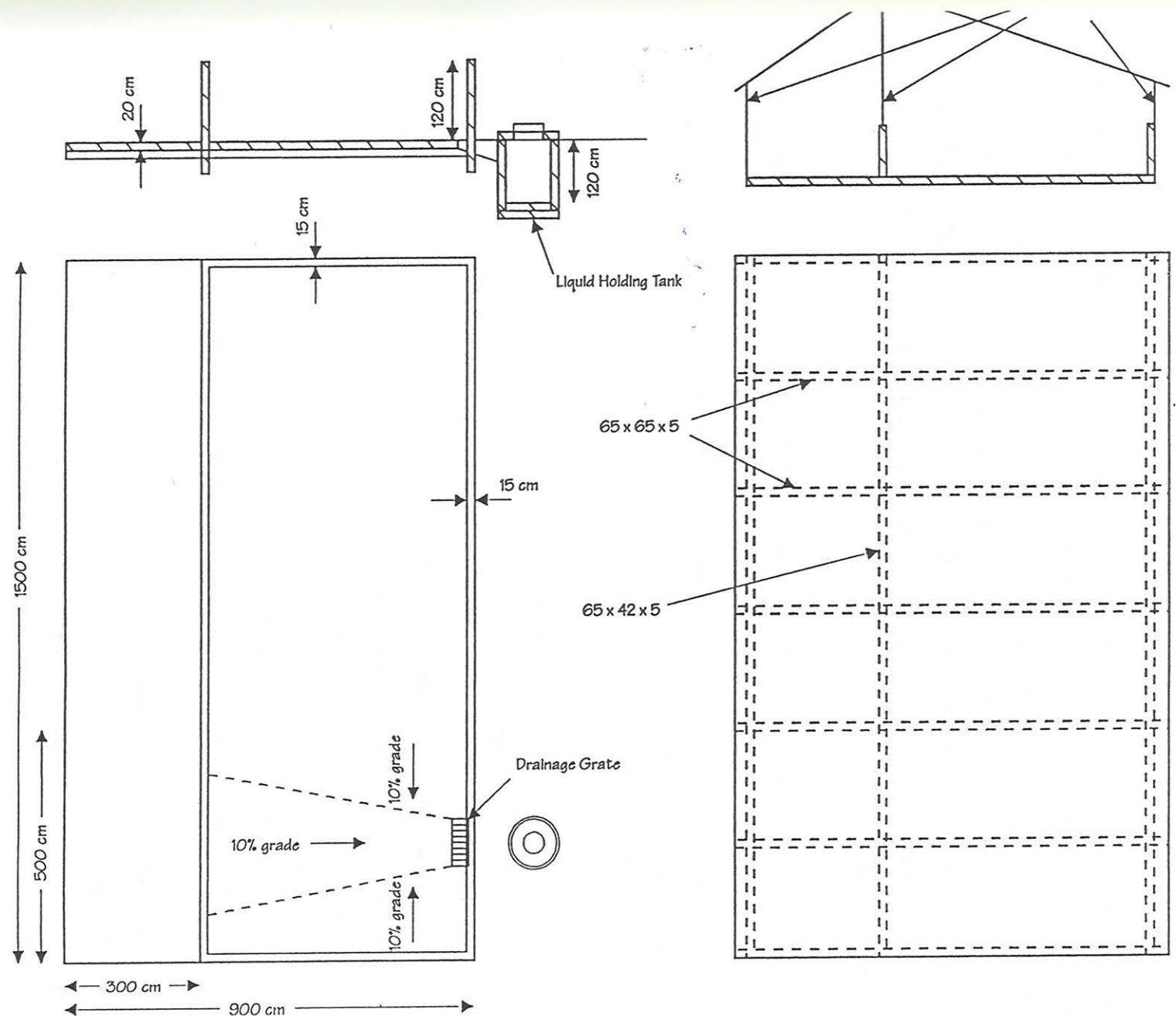


Figure 7. Floorplan of Manure Storage Facility

manure for fertilizing field crops and pastures.

Costs for demonstration projects are being shared with the farms on which they are being demonstrated. Generally, the materials are supplied by the project and the labor and other costs for construction are provided by the cooperating farm. Farmers have responded favorably to the opportunity to cost-share in exchange for the inconvenience that the farmers will experience during the field days and other dissemination activities and as an inducement to be a first-time experimenter with the technology or management method. The value of the cost-share for such a facility in the Ostralenka/Lomza region is \$1,000 (US). It is believed that at current relative fertilizer and output prices, that the manure storage facility can pay for itself in about three years on an average to larger size eastern Poland farm.

Monitoring: The monitoring activity for the project has begun. In fact, by choice of targeted area for the project, well water monitoring data are already available at IMUZ. The general monitoring plan will involve both farms and watersheds. At the farm level the monitoring will be conducted for:

- Drinking water wells
- Groundwater on the farmstead
- Soil water
- Surface water (canals, outlets, streams)
- Livestock waste testing
- Soil testing

And, at the watershed level, the monitoring will be for:

- Weather (temperature and precipitation)
- Nutrient content of precipitation
- Flow mass balance
- Water sampling at inlets and outlets

Indicators on which the monitoring will focus are related both to environmental and health risk, and will include:

- Nutrients and micronutrients
- Pesticides
- Biological Oxygen Demand (BOD)
- Bacteria

Selected well water monitoring data for the Szczecin and Ostralenka/Lomza areas are provided in Figures 8 and 9. Nitrate concentrations in both areas are shown to be at or below the European standard, 11.3 mg/L, in only about 40 percent of the wells. And, very high concentrations, about 50

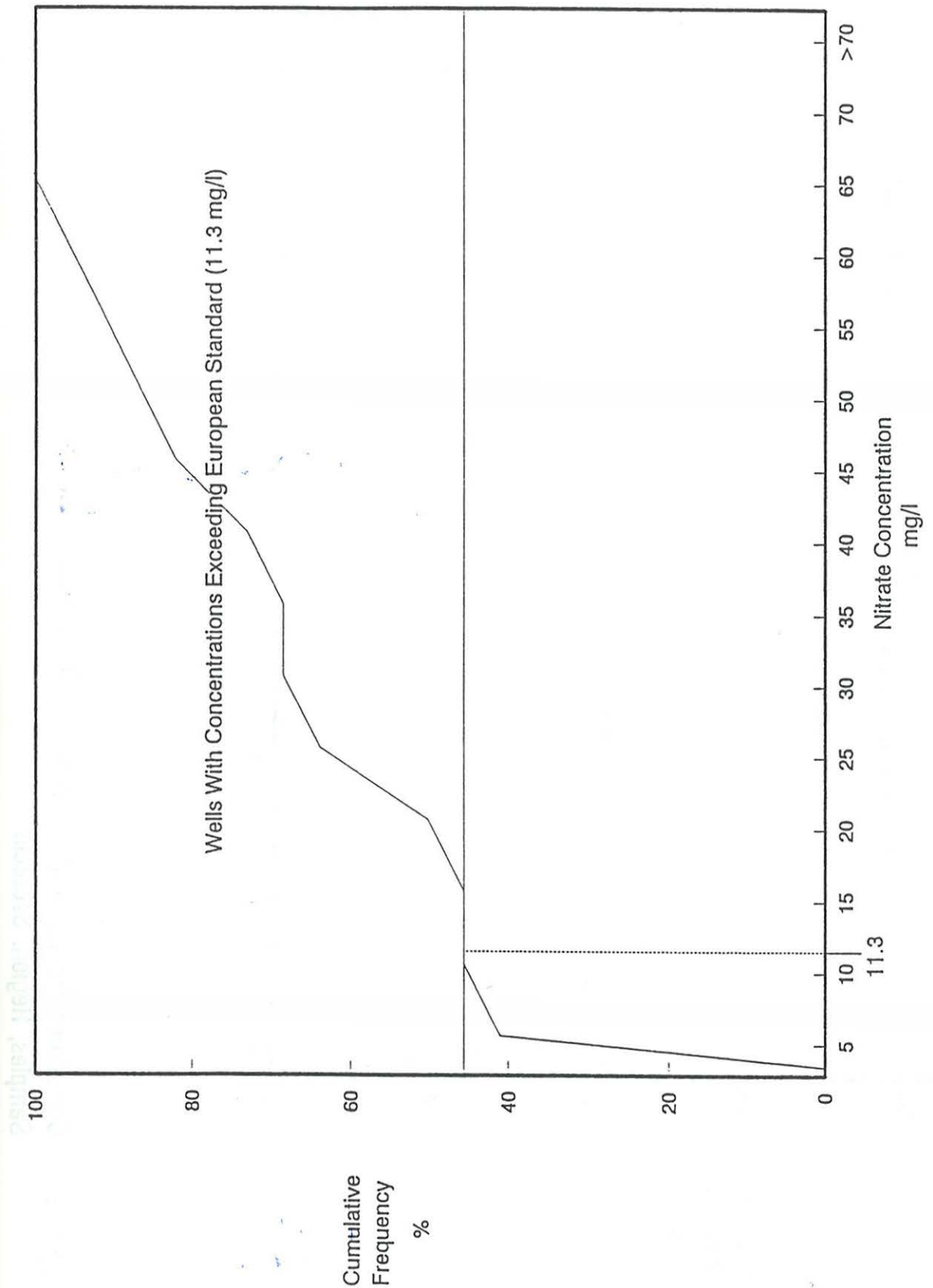


Figure 8. Cumulative Frequency Distribution of Nitrate Levels in Well Water Samples, Region: Ostralenka

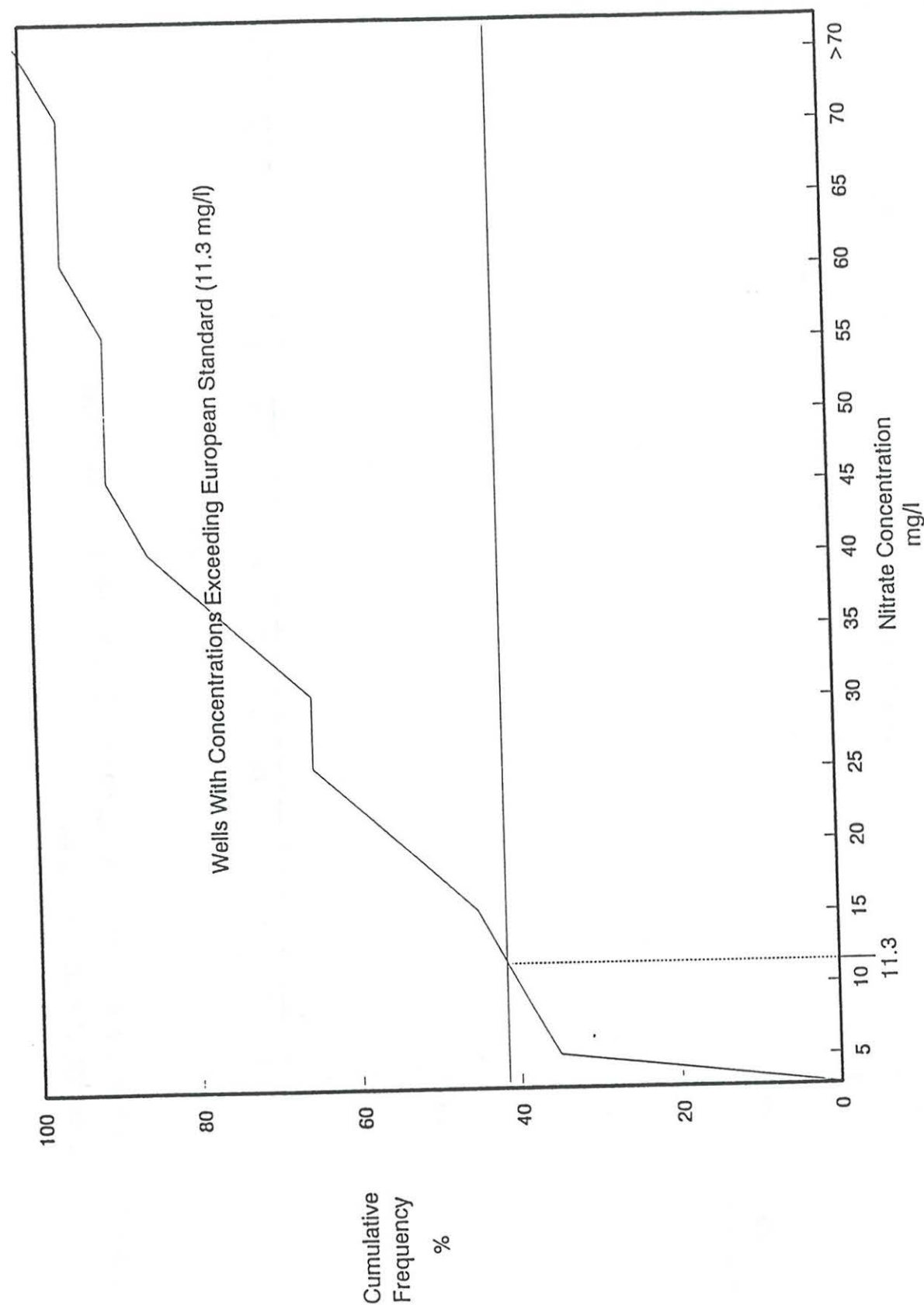


Figure 9. Cumulative Frequency Distribution of Nitrate Levels in Well Water Samples, Region: Szczecin

mg/l, were observed in approximately 20 percent of the wells in the Ostralenka/Lomza region and 10 percent of the wells in the Szczecin region. In short, the well monitoring data suggest significant nutrient contamination problems in both areas.

Survey: The survey was administered in the winter months in both demonstration project areas. Generally, the survey was administered for all the households/farms in the demonstration watersheds and a 10 percent sample of the households/farms in the gminas containing the watersheds. The latter was to obtain "control" data to be used in evaluating the demonstrations, and to provide perspective for the results obtained from the analysis of the households in the demonstration watersheds.

Results presented are from a preliminary analysis of the survey data, for the demonstration watersheds in the Ostralenka/Lomza area. The survey contained seven sections or parts: agricultural practices and cropping patterns; farm income and agricultural prices; agricultural inputs management (fertilizer, pesticides, livestock waste, oils); farm management practices; on-farm water source management; perceptions and attitudes toward environmental protection; and expectations about government policy. The results presented are from a full sample of the completed surveys for the three watersheds in the Ostralenka/Lomza region, approximately 70 farmers. A random sample of roughly half of these surveys was analyzed for generating these preliminary results.

The preliminary results indicate that the watersheds in the Ostralenka/Lomza area are relatively typical of the region. Averaging across the farms, the crops grown are: pasture 30%, hay 37%, rye 15%, wheat 1%, oats 6%, potatoes 4%, triticale 6%. In other watersheds, sugar beets and barley are grown along with the crops identified from the sample surveys of the three demonstration watersheds. Seventy percent of the farms are 0 to 20 hectares, with the largest farms in the 41 to 45 hectare category. Major livestock commodities produced are poultry (layers), dairy, and swine. Average fertilizer purchases made by farmers in the area are: nitrogen 465 kg; phosphorus 281 kg, potash 700 kg, lime 2800 kg. One hundred percent of the farms reported herbicide use on triticale, rye, oats, barley, sugar beets, and wheat. Insecticides were used only for potatoes, and on 100 percent of the farms growing potatoes.

Farm wells were frequently located in the immediate vicinity of the fertilizer, pesticide, petrol, and other toxic substance storage areas. Also, wells were frequently in the barnyard. Twenty-six percent of the wells had casings at least 30 centimeters above the ground, 4 percent of the wells had casing isolated from the bottom by clay and other material, 7 percent of the wells were in areas that were isolated from the farmstead. One hundred percent of the wells were covered; 38 percent by wood, 60 percent metal, and 2 percent by concrete. The average age of the well was 12.7 years with the oldest at 50 years. Seventy-eight percent of the wells were built by the farmers.

Eighty-five percent of the farms have concrete holding tanks for household waste with an average

volume of 6.6 cubic meters. Wastewater from the holding tanks is applied to the fields by 83 percent of the farms. Fecal matter is applied to fields by 92 percent of the farms. This material is disposed of outside the farm or in ditches for the other 8 percent of the farms. Livestock manure is incorporated by 93 percent of the farms. This incorporation is typically completed one time, and within one week. The farms produce an average of 122 tons of manure per year. The manure from each farm was applied to an average of about 4.7 acres of land. Livestock on the farms produce an average of 7.3 cubic meters of liquid manure per month. Forty-seven percent of the farms emptied liquid manure holding tanks monthly, while 50 percent emptied these tanks once every three months.

The survey results are summarized and in a number of tables. The purpose in providing these summary results has been to briefly describe the situation on the farms in the Ostralenka/Lomza region. Detailed reports from the survey will be available in late spring of 1993. For the remainder of the presentation of the survey results, emphasis will be given to aspects of the survey that are more special to the demonstration project. These relate to perceptions and attitudes toward environment, expectations about government policy, etc. For this purpose, summary information for selected questions from the survey instrument is provided. In particular, the questions and percentage responses are reported.

First consider the question "Please tell, to what degree the agriculture in your region solves the following problems." Answers to this question indicate that the agriculture is perceived as being fair at maintaining high water quality, conserving the soil, and maintaining the productivity of land. On the other hand, the farmers feel that profitability is low, that farming offers a relatively low standard of rural living, and that there are questions about the suitability of farming as an occupation for the next generation. For more detailed information, including a balanced response to a question about whether farming is providing healthful and safe food see Table 2.

Table 3 contains summary information on a set of questions that are more related to the environmental issues to which the demonstrations are addressed. The question to which the participants responded is "please tell me in your opinion, what things named here are problems for the farmers in your area?" Interestingly, improper manure storage, surface water pollution, and ground water pollution were indicated as nonproblem areas by a high percentage of the farmers in the demonstration watersheds. Other responses indicate that a number of the farmers find it useful to obtain additional agricultural production technology information as a basis for improving productivity and income.

Table 4 is on environmental concerns. For Table 4, the farmers were asked to respond to the following question, "Please tell me if you 'agree' with the statement, 'disagree' or are 'undecided' about the following issues." Seventy percent of the farmers were not worried about the purity of the family drinking water source. Answers to other questions in Table 4 suggest significant value to educational

Table 2. Survey Summary: Problems connected with agriculture in your regions.
Survey Question: "Please tell me, to what degree the agriculture in your region solves the following problems."

	Poor	Fair	Good
Maintains productivity of the land	4%	74%	22%
Conserves soil from erosion	4%	67%	29%
Maintains high water quality	7%	74%	19%
Provides habitat for wildlife	22%	67%	11%
Produces reliable supplies of food to consumers	30%	37%	33%
Provides reasonable profit to farmers	89%	11%	0%
Provides healthful and safe food	26%	30%	44%
Offers desirable family life and rural living	81%	19%	0%
Leaves a better condition for next generation	70%	26%	4%

Table 3. Survey Summary: Problems connected with agriculture in your regions.

Survey Question: "Please tell me your opinion, what things named here are problems for the farmers in your area?"

	Poor	Fair	Good
Improper storage and disposal of livestock manure	67%	33%	0%
Surface water pollution	74%	22%	4%
Groundwater pollution	85%	11%	4%
Farmers rejecting new ideas and practices that might benefit them	63%	33%	4%
Too many new and untested farming ideas and practices being promoted to farmers	74%	26%	0%
Limited resources (money) and credit buy needed machinery and new buildings	4%	22%	74%
Limited resources (money) and credit to buy needed seeds, fertilizer, and pesticides	4%	18%	78%
Limited genetics for better livestock	7%	22%	71%
Limited skills to increase production and crop yield	26%	56%	18%
Limited skills to make wise business decisions	37%	56%	7%

Table 4. Survey Summary: Environmental concerns.

Survey Question: "Please tell me if you 'agree' with this statement, 'disagree' or are 'undecided' about how you feel?"

	Agree	Undecided	Disagree
I worry about the purity of my family's drinking water.	19%	11%	70%
I am confident that agricultural pesticides, if used as directed, are not a threat to the environment	30%	55%	15%
Agricultural chemicals are the best alternative we have to control weeds, insects, and plant diseases	59%	33%	8%
Modern farming relies too heavily upon insecticides and herbicides	4%	48%	48%
There is too much attention about the harmful effects of pesticides	15%	52%	33%
There is too little attention about the benefits of pesticides	18%	63%	19%
The soil blocks most pesticides movement to your drinking water	44%	44%	12%
In this area, animal manure is not a significant factor affecting water quality	41%	26%	33%
When mixing and applying pesticides, a slightly richer mix or application than the manufacturer recommends is often beneficial	44%	15%	41%
With proper management of livestock manure there is little need for commercial fertilizer on my farm	85%	7%	8%
I am optimistic about the future of farming in Poland, today	0%	19%	81%

programs on application rates and time of application for pesticides. In general, these and other questions suggest dispersed attitudes or information about environment and other aspects of agriculture. Also, there are clear misperceptions about agriculture and the environment that could be easily countered with appropriately designed educational programs.

The final result from the survey provided for discussion involves information on farmer decision making processes. This question was "Of the information sources you mentioned, which are the most influential?" The results show clearly that an important source of information for farmers is their nearby neighbors. This has broad implications for the project. It indicates that the demonstration approach emphasizing farmer to farmer communication is consistent with the most prevalent way that farmers in this region of Poland obtain information about new technologies and farming methods.

6. Concluding Remarks

The PAWQPP is now established and focusing in the first year on farm-level demonstrations. Results obtained indicate that the demonstration approach may be valuable in affording an avenue to new information that capitalizes on the traditional ways in which farmers in Poland learn. These demonstrations will occur in the spring of 1993. Related educational and other programs will be introduced and evaluated relative to their effectiveness. The preliminary survey results have indicated that there are significant areas in which the perceptions of farmers are in disagreement with factual information on agricultural chemical use, manure management, and other technologies and farming methods that have important impacts for water quality.

The monitoring conducted for the wells in the two demonstration areas indicates that nitrate contamination is an important problem. Many of the wells from which drinking water is being used have nitrate levels far in excess of European standards. Casual observation of these wells, both relative to their location and the observed condition of the water, suggest that there are significant BOD and bacteria problems. These latter factors will be more systematically evaluated as the monitoring program is implemented in the demonstration watersheds. Still, there is sufficient information to suggest that there is a water quality problem, and that it is likely due to agricultural technology and watershed management.

The other achievements of the project to date refer mainly to organization. A serious attempt has been made to involve all of the government and nongovernment organizations in Poland that are interested in participating. Coordination between the MOAF and the Ministry of Environment, Natural Resources, and Forestry has been achieved. And, the Ministry of Agriculture has regarded the project as sufficiently important that matching funds have been made available. Organizationally, the necessary local level connections and commitments have been made, as well. Officials of the gminas and voivodships have been contacted and informed of the project, and they support it. ODR directors

are aware of the project and willing to participate. And, local agricultural schools are interested in incorporating the results of the demonstrations to build stronger environmental training for young agricultural specialists.

The implications of the project for the Baltic Sea are suggested by the importance of agriculture to nutrient contamination, and the possibility for significantly influencing attitudes and behaviors as a result of initiatives like as the PAWQPP. A significant factor in this connection is the cost of the intervention. Other nutrient contamination of the Baltic Sea is likely industrial and from municipal waste disposal systems. Modifying these individual and municipal systems would require significant capital investment. And, even if the government of Poland decided to undertake such modifications, a significant period of time would be required to achieve the modifications, even if the necessary capital were available. In contrast, relatively modestly costly initiatives focusing on improved technologies and management methods, effective dissemination and education, and the formulation of a policy culture for agriculture that is more sensitive to the environment may provide an opportunity for relatively early success in reducing nutrient contamination. The fact that these demonstration and education initiatives may be complementary to increased incomes in agriculture, may also mean that the transformation of the agricultural economy can be assisted in the process of improving environmental quality.

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Agricultural Runoff Management Study in Estonia, Latvia and Lithuania - Preliminary findings

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Background

This study is financed by the Swedish Ministry of Environment and administrated by the Nordic Investment Bank. The study is executed by an *executive group* of six specialists from the Swedish Institute of Agricultural Engineering and the Swedish University of Agricultural Sciences. In all three republics a *deputy executive group* is working in co-operation with the Swedish group. To support the study, a *scientific advisory board* has also been created in Sweden, including eight experts for different subjects in the study.

We started the project in the middle of November, 1992, with Estonia and Latvia. Lithuania joined the project in March, 1993. The complete study will be reported in June, 1993.

From the environmental point of view, agricultural production could be seen as flows of chemical compounds. These flows are both natural and necessary for agricultural production, but there must be a balance, as closely as possible, between imports and exports to the system. Otherwise there will be impacts on the environment and this impact could be very heavy. For the farmer, who is the contractor in handling these flows, it is important to use the nutrients as effectively as possible, because the less he is able to utilize the nutrients, the higher the losses will be.

The agricultural sectors in all three republics have a substantial impact on the environment. Leakage, surface runoff and atmospheric emissions of nitrogen compounds contribute to the general eutrophication of the Baltic Sea. Water quality in rivers, lakes and wells is perturbed owing to discharge of nitrogen and phosphorus. Pesticide residuals might also influence the water system.

The three republics lie within the Baltic Sea catchment area, pollutants and their transformation products reaching the water-bodies will end up in the Baltic Sea. In the area, four "HOT SPOTS" concerning agricultural run-off are listed in the Helsinki commission's list of environmental hot spots in the Baltic Sea catchment area. These are No. 30, Gulf of Finland catchment area, No. 36, Gulf of Riga catchment, No. 40, Gulf of Riga catchment and No. 60, Numunas River Basin.

The main objectives of the study are:

- Analysis of pollution loads and environmental impacts from agriculture.
- Preparation of a programme to reduce agricultural runoff and ammonia emissions.

Actual situation

Today the agricultural branch in the three republics is undergoing a tremendous change from being a great exporter and importer to the former USSR, to just producing agricultural products for their own population, possibly complemented by some exports.

There is also a land reform in progress to privatize the collective farms. This reform gives the old landowners or their heirs the possibility to claim land according to landownership and boundaries as they were registered before World War II. Land and collectivized property will be returned or compensated to previous owners. This process is not easy to carry out due to several factors, such as lack of knowledge and the possibilities to invest in production means. These dramatic changes in the agricultural branch were not especially indicated in the prefeasibility studies.

During the USSR period, fertilizers and pesticides were heavily used. In 1987, the use of mineral fertilizers, based on purchased amounts, reached its maximum at 120 kg nitrogen/ha, a very high application rate compared with official average yields. In comparison, the purchase of N from mineral fertilizers in Sweden was 80 kg/ha in 1991.

The purchase of mineral fertilizers in agriculture from 1935 to 1991 is demonstrated for nitrogen, N, and phosphorus, P, fertilizers in Figure 1. The figure especially shows the dramatic decrease in purchase of N from 1989.

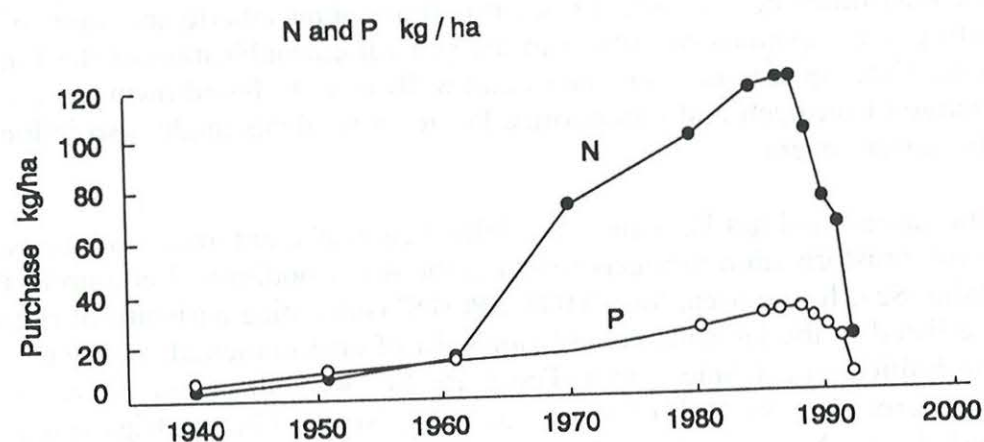


Figure 1. Use of N and P, based on purchased amounts, for agricultural production in Estonia 1935 to 1991.

The purchase of pesticides in agriculture from 1950 to 1991 is demonstrated in Figure 2. The decrease shows the same dramatic pattern as the N and P purchases shown in Figure 1.

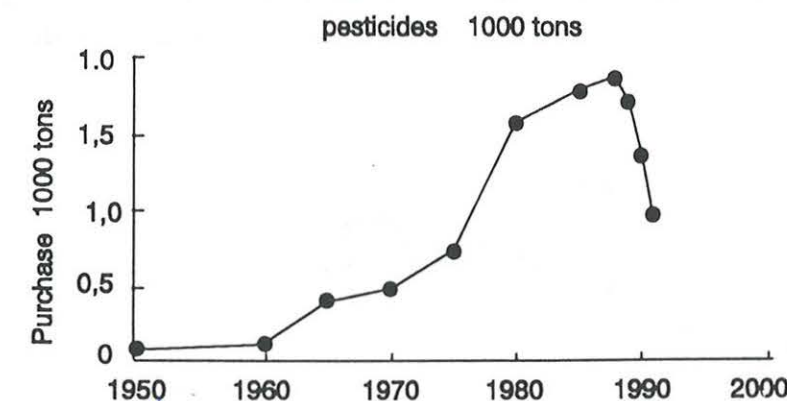


Figure 2. Use of pesticides, based on purchased amounts, for agricultural production, 1950 to 1991.

Like other Baltic people, the Estonian people have experienced dramatically increased costs of living. The cost of living index, a modification of the consumer price index, was 11.7 between March 1991 and March 1992.

The increase of prices for food and dwelling exceeds the increase in wages by several times, with declining consumption as a result. Since the export of agricultural products to the eastern market is almost closed, agricultural production has been reduced to adapt to the domestic market.

Adaptation to self-sufficiency levels will affect crop-rotation systems, lower the amount of agricultural land used in production and lower the amount of farmers and workers in the agricultural sector.

Estonian agricultural production is estimated to reach its lowest point in 1994-95 at 35 % of production in 1988/89. Animal production will be reduced while the relative importance of crop growing will increase. In 1938, grain covered 68 % of the sown area. By 1960 the share of grain was reduced to 36 %. Later the importance of grain was realized and its area began to increase slowly. However, the relative importance of grass production kept increasing and during recent years it covered approximately half of the sown area. Winter-green fields cover two-thirds of the sown area.

The production structure of livestock is influenced by the structure of feed resources. Rations of imported concentrated feed in animal husbandry were increased to 35 % of the total use of feed. During the period from 1938 to 1989, milk production increased 24 %, meat production 370 % and egg production 370 %. Since 1990, production levels in animal husbandry have decreased, as shown in Figures 3 and 4.

Some of the largest animal production plants are today empty and others continue their production with a reduced number of animals. Especially egg and pork production is estimated to decrease substantially, although Estonian consumers are in favour of pork compared to beef.

The production volumes of milk and meat from 1920-1991 are shown in Figures 3 and 4. These figures show dramatic drops in production after 1989.

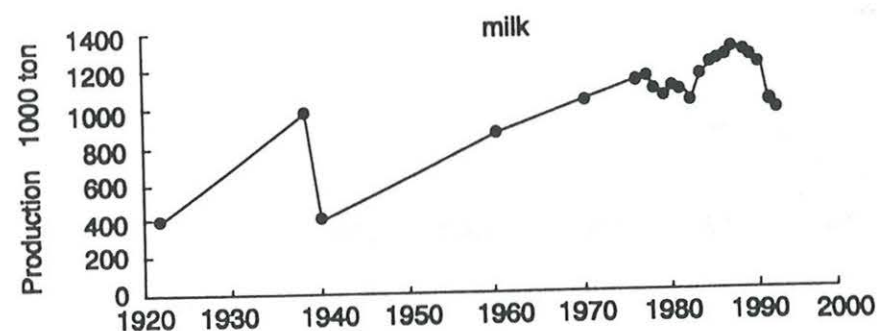


Figure 3. Production of milk in Estonia 1920 to 1991.

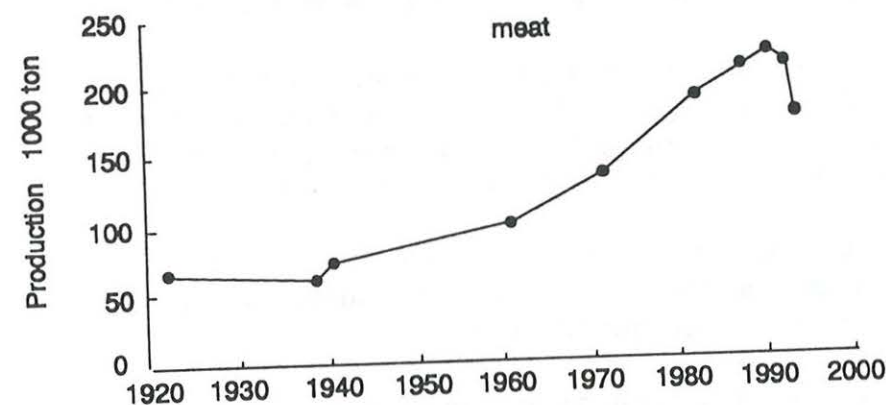


Figure 4. Production of meat in Estonia 1920 to 1991.

Proposed working model

Due to uncertain knowledge about the future of agriculture in the three republics, we have chosen the scenario technique to study how different measures taken will influence environmental impacts.

Implementation of scenarios

In the scenario work, we use three models to predict the environmental impact, namely two NP-flow models, one on national level and one on farm level, and a technical-economic model. The NP-flow model on national level has been developed within the project. The interaction between the scenario models is presented in Figure 5.

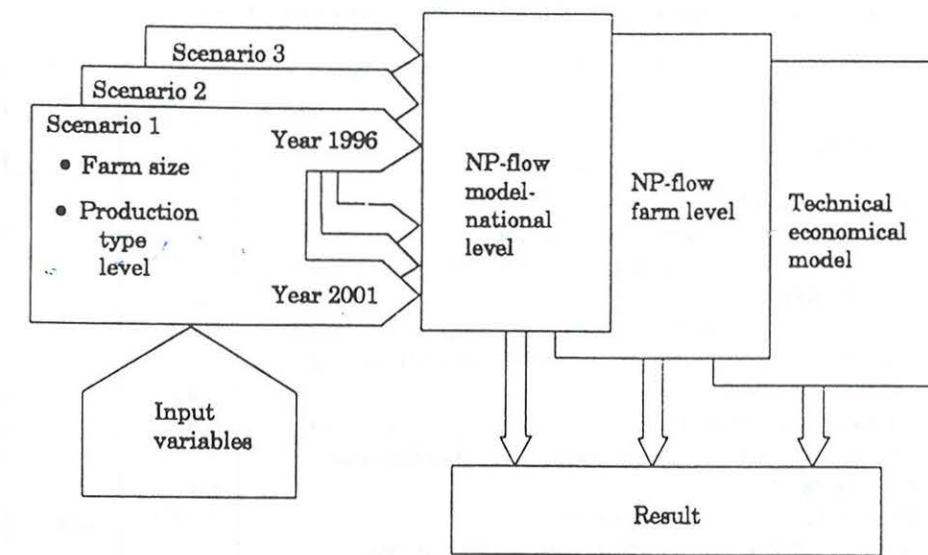


Figure 5. Scenario model.

These three scenarios are used:

1. Prevailing situation. Land reform has started but establishment of private farms has slowed down.
2. Land reform partly implemented. Some large farms are still in production, but with less area.
3. Land reform is almost implemented. Just a small number of large farms with less area are still in production.

Assumed measures to reduce losses of nutrients

An extensive programme is necessary to reduce nitrogen and phosphorus from reaching water bodies and the atmosphere. The farmer is the central person to reduce losses of nutrients by introducing and maintaining good agricultural practice. He should be guided in his efforts by:

- Legislation and regulations
- Education and extension service

- Demonstration projects
- Research and scientific work
- Financing systems

Table 1 presents the proposed time schedule for implementation of the programme to reduce losses of nutrients.

Table 1. Proposed implementation schedule of legislation, advisory service and economic assistance for good agricultural practice and environment.

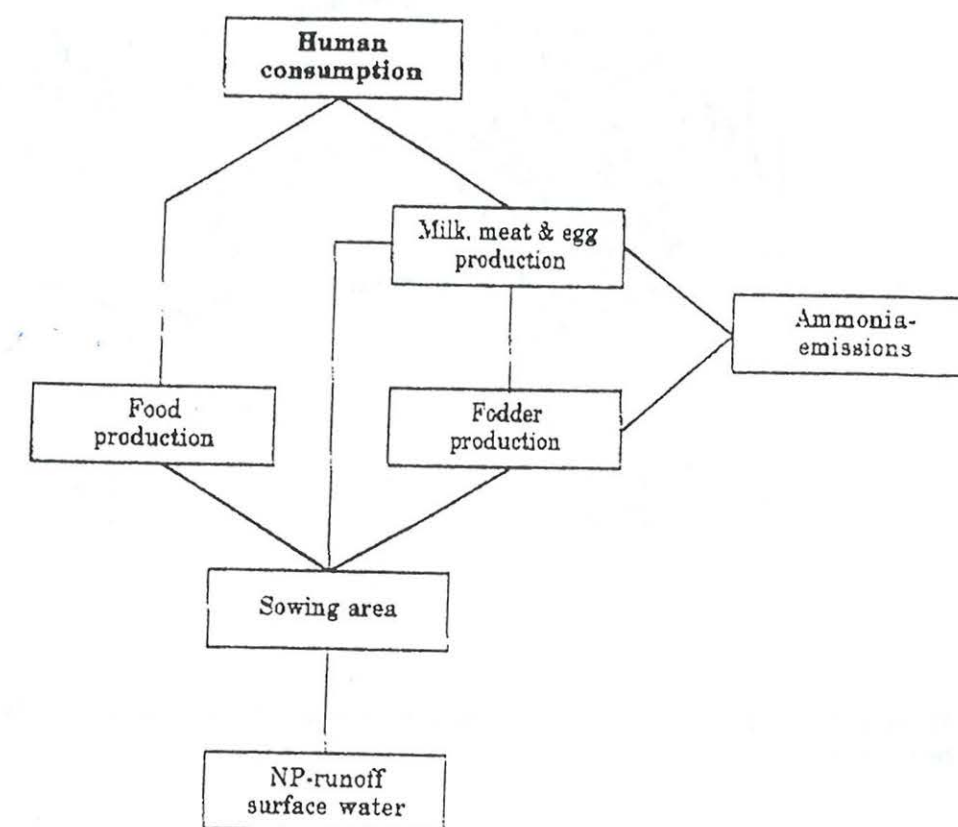
Type of Measures	Implementation	
	1996	2001
Legislation framework		
Maximum animal density per hectare	fully	
Spreading of fertilizers and manure, spreading time and application rate/ha	partly	fully
Storing of manure, storage capacity and construction	fully	
Balance in applications of manure and fertilizers and fertilizing plans	fully	
Minimum amount of winter grown land, green cover	fully	
Special requirement on spreaders for manure and mineral fertilizer	partly	partly
Ammonia emissions reduction	partly	fully
Special permission together with environmental protection programme is needed for production units over 100 animal units	fully	
Education and extension service		
Advisory service and guidelines	fully	
Dissemination of good agricultural practice	fully	
Demonstration project	partly	fully
Research and scientific work		
Special monitoring net for estimating agricultural diffuse pollution	fully	
Financing systems		
Economic assistance	partly	fully

NP-flow model - national level

This NP model deals with agricultural production, NH_3 -emissions to air and nutrient run-off to surface waters on a national level. Figure 6 demonstrates the nitrogen flows in agricultural production and Figure 7 gives a description of the NP-flow model on the national level.

The basic assumption for this model work is that Estonia should have a self-sufficient production of food and fodder on a net basis. The latter means that exports and imports of, e.g. grain products, balance each other. By self-sufficiency, we mean that human consumption should be reasonably high and never be below the necessary amount from a nutritional point of

view. The consumption patterns will vary with the economic situation in Estonia, and the levels of self-sufficiency will therefore vary with scenario. Milk, beef, pork, poultry meat and egg consumption is defined by the production levels in the scenarios, while human consumption of vegetables is estimated from consumption rates in Estonia in 1988/89 and 1991.



Animal production

Human consumption
Production levels
Number of animals

Ammonia emissions

Manure type & amount
Ventilation losses
Manure storing technique
Manure spreading technique
Ammonia emissions

Vegetable production

Human consumption
Animal consumption
Production levels
Amount of grain, grass etc.

N&P-runoff

Crop type
Soil type
Erosion sensibility
Water discharge
Fertilization type & levels
Manure spreading technique
Manure storing technique
Manure deposits
N&P-runoff

Sowing area

Amount of grain, grass etc.
Production levels
Needed area

Figure 6. Description of the NP-flow model.

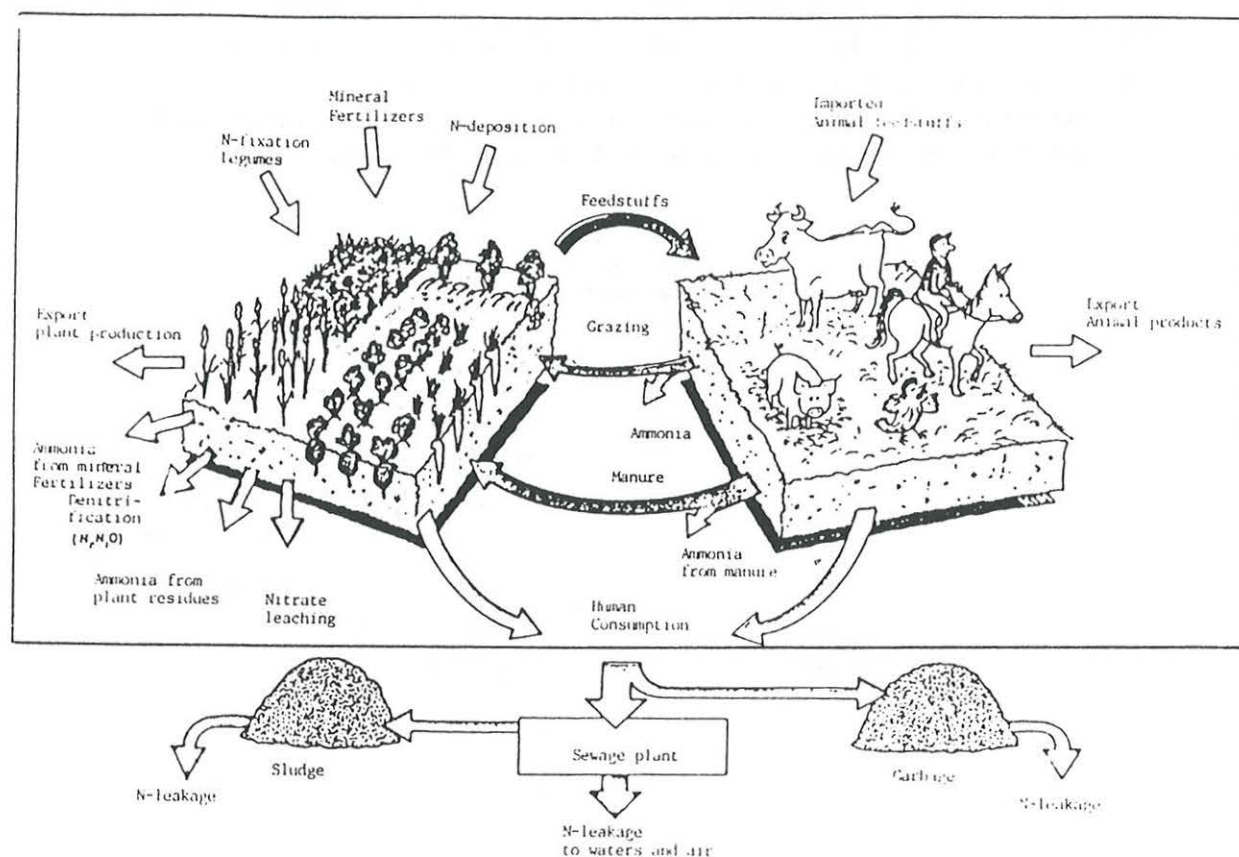


Figure 7. Model to demonstrate the nitrogen flows in agriculture. Similar models can be made for P and K.

NP-flow model - farm level

For agricultural production and its impact on environment it is necessary to know the flows and amounts of nutrients provided by fertilizers, purchases of feed and livestock, seed, biological fixation of legumes and atmospheric deposition. It is essential to know the mechanisms regulating these flows.

In order to compare suggested nutrient utilization efficiency the farmer must have good knowledge of the nutrient flows on each field. It is more convenient, however, to calculate this on the whole farm. The principal nutrient flows of N in agricultural production systems on a farm are demonstrated in Figure 8. These flows are either entering, leaving or circulating within the system. Losses of nitrogen, generally a negative impact on the environment, mostly as ammonia and nitrate to waters, are assessed as to handling systems and distribution in the year of animal manure fertilizers.

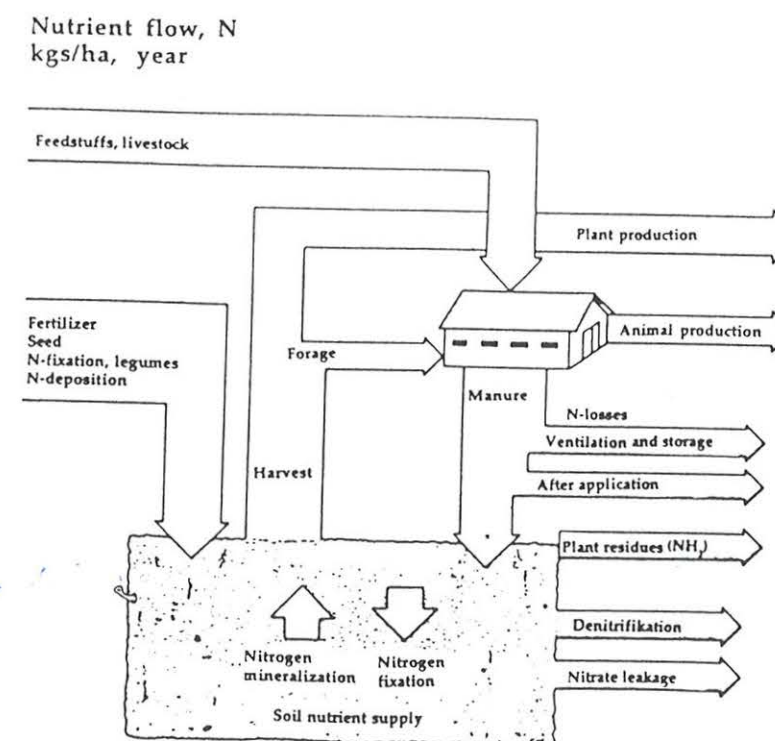


Figure 8. Nitrogen flows on farm level. Similar flows can be estimated for P and K.

Technical economic model

The farmer can substantially influence the environmental impacts from manure and mineral fertilizers by choosing a good handling technique and utilizing this in the most favourable way. The fewer the losses the better the utilization of nutrients will be, which will create possibilities for higher yields. The result of the modelling work shows the relative competitiveness of different handling systems for manure in economic terms, which makes it possible to suggest and choose the most favourable handling system for each specific farm.

Results

As the study is not completed, I have chosen just to present the total run-off of nitrogen and phosphorus according to scenarios during the period 1988/89 to 2001, Figure 9. The result shows that it is probable that target for reducing nitrogen run-off by 50 %, declared by the HELCOM-convention, could almost be achieved.

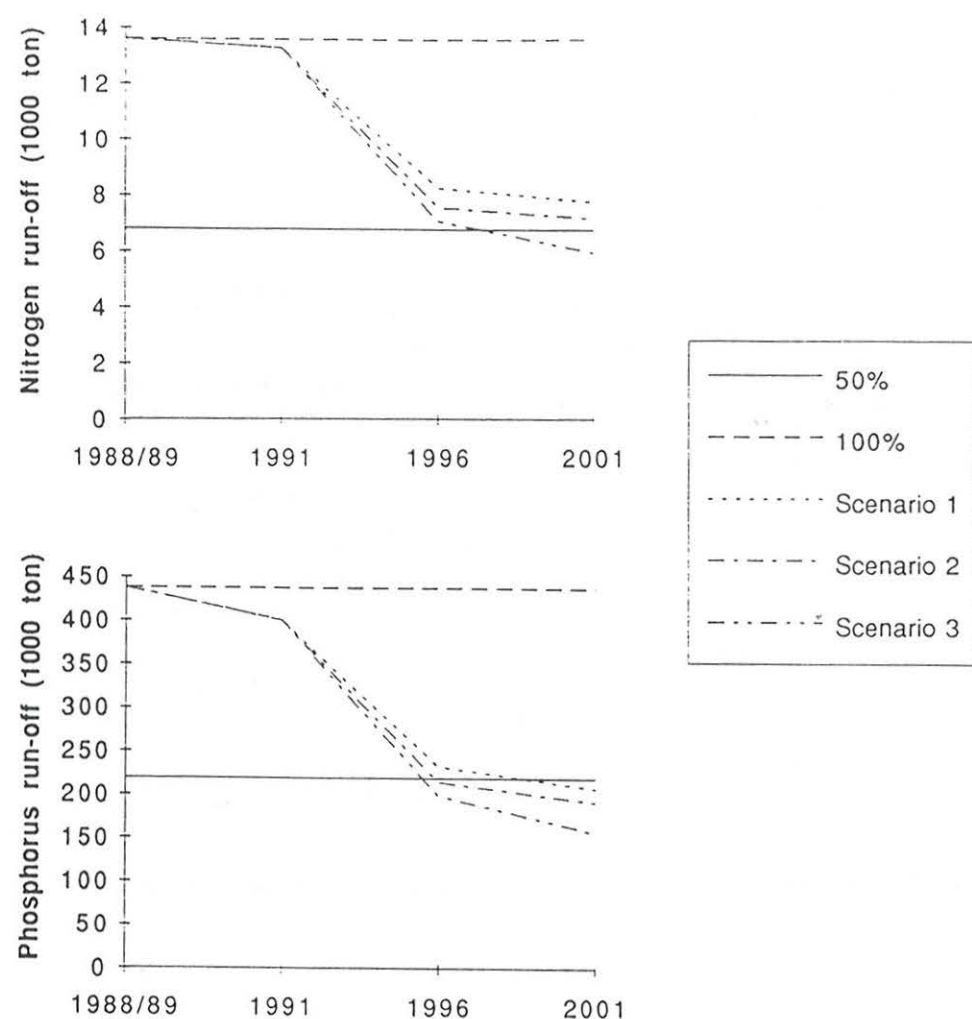


Figure 9. 9a Total nitrogen runoff. 9b Total phosphorus runoff. Runoff according to the scenarios in 1000 tons. The 100 % corresponds to the entire run-off in 1988/89, and the 50 % to half the total in the same year.

Summary

"Know-how" about nutrient flows on farm and field level is of utmost importance in improving the farmers' environmental awareness and optimization of the use of production means. To decrease impact from agricultural activities on rivers, lakes and the Baltic Sea, and groundwater bodies as well as ammonia emissions to the atmosphere, improvements must therefore be undertaken in many fields. Development in agriculture will also strongly influence the cultural landscape and thereby the biological diversity.

Finally, I will emphasize some problems which have to be solved to obtain a sound sustainable agricultural production. Some of these are involved in our study, but not all of them. These can be presented on two levels.

On farm level:

- Financing system
- Farmers' income
- Legislative framework
- Education - Extension service
- Buildings, including manure storage facilities
- Machinery for handling and application of:
 - mineral fertilizers
 - manure
 - pesticides
- Production means
 - mineral fertilizers
 - pesticides
 - crop breeding
 - animal breeding

On governmental level:

- Financing system
- Legislative framework
- Tariffs and trade on agricultural products
- Statistics
- Education - Extension service
- Research
- Foreign aid, agricultural products
- Large farms
- Rural development
- Destruction of old, dangerous, unused, pesticides which are now kept in storage.

High Level Conference on Resource
Mobilization
Gdansk, 24-25 March 1993.

Joint Denmark-Lithuania Agricultural Management Study

Presentation by Dr. Mogens Fosgerau, COWIconsult

Introduction

I am going to present the study 'Environmental Evaluation of Agrochemical Use in Lithuania', which is currently being undertaken in collaboration between COWIconsult, the Lithuanian Environmental Protection Department and the Lithuanian Ministry of Agriculture. The project is assisted by various Lithuanian research institutions and is funded by the Danish Environmental Protection Agency. The term 'agrochemicals' is here understood in a broad sense to mean pesticides as well as natural and mineral fertilizers.

As part of the study, a case study of the Minija river basin is being conducted in cooperation between the Danish Water Quality Institute and the University of Klaipeda. The case study will result in proposals for an environmental monitoring system as well as development and implementation of a model enabling more accurate pollution load estimates for Lithuania. The case study is still in the data collection phase.

Study objectives

The main study, which will finish this summer, aims at three things.

- To assess the impacts of agrochemical use on the environment. The assessment is based on a review of existing information.
- Secondly, to transfer relevant knowledge of Danish and other Western European experience with controlling the environmental impacts of agriculture and to provide guidelines for environmentally sound use of agrochemicals.

And, finally,

- To elaborate a catalogue of policy measures for controlling the environmental impact of agrochemical use.

Today, I shall give some of the preliminary results of the main study with relevance to this conference. At this stage, we are assessing the information gathered in the first part of the project. This information is concerned with the magnitude of the environmental problems as well as with the economic and institutional framework in which the problems can be dealt with. I shall state the main conclusions so far.

Preliminary conclusions

- In the short term, there are possibilities for increasing farm productivity while at the same time reducing the environmental impact of agriculture. This can be achieved by investing in agricultural equipment and by supporting the extension service. In this way, it is avoided to inhibit the ongoing restructuring process.
- In the longer term, there are possibilities for influencing the dynamic development of the sector towards an environmentally and economically sustainable situation. A variety of specific on-farm investments can be made to reduce the pollution load.

I shall outline the main arguments.

The restructuring process Lithuanian agriculture is undergoing a large scale restructuring and privatisation process in these years. Previously, the structure was dominated by large state and collective farms. They have now been split up and reorganised in the form of agricultural partnerships. Their mean acreage is at the moment less than 500 hectares and will decrease. Land has been restored to former owners, and there are now 70,000 small individual holdings of land. Still, there is half a million applications for restoration of land ownership, which have not yet been dealt with.

The past development in structure is shown in the following table.

Table 1 - Farm structure

		1990	1991	1992	Summer 1992	January 1993
Large farms	Number	119	121	1219	3000 +	4060
		6	2			
(former state and collective farms)	Mean acreage	200			approx 700	approx 450
		0				
Individual holdings	Number	120	289	5904	42,000	70,000
		0	2			
	Mean acreage (ha)			16	9	9

At the moment, roughly half the state owned land has been given to individual ownership.

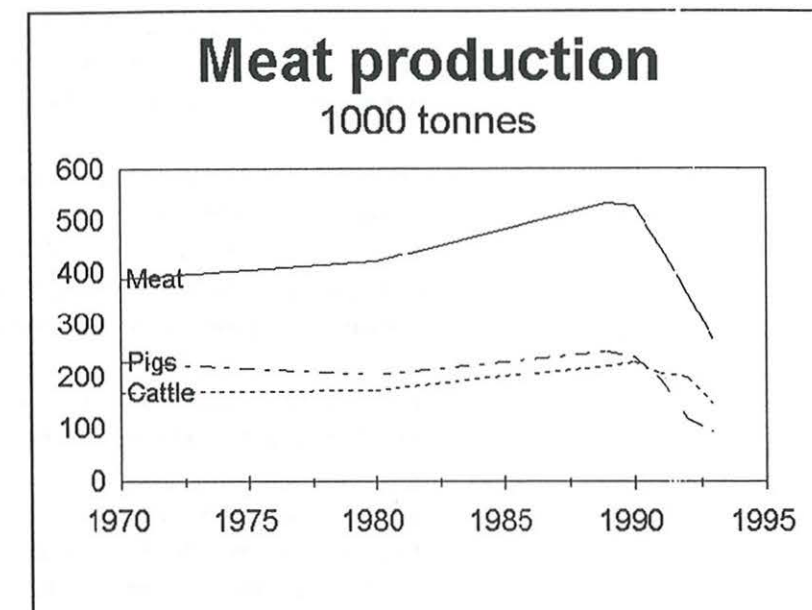
What the emerging farm structure will be is impossible to say at this moment. There will be a concentration of ownership of the individual holdings and there will probably be some secession from the agricultural partnerships. The most likely outcome of this process is a farm structure composed of a group of large scale agricultural partnerships, a group of large private farms and a group of peasant smallholders.

After the distribution of land has been completed, a process of concentration of ownership can be anticipated. Investments that fail to take into account that the farm structure will change may turn out to be wasted. Investments in machinery and extension are not tied to specific farms and will not be wasted as result of a change in structure.

Present and future production and pollution levels

Before 1991, the level of nitrogen application was roughly 110-120 kilograms per hectare or around 85 percent of the Danish level. Since then, the use of natural and mineral fertilizers has diminished by half and there has been a drop in production levels.

This is illustrated by the graph below overhead which shows the total meat production from 1970 till now.



Maintaining present application levels will eventually lead to a reduction in run-off and leaching of about 50%.

Previously, Lithuania had a large export to the former Soviet Union. The present production levels roughly correspond to domestic demand. Thus, if exports do not increase significantly from the current level, then Lithuania will probably achieve a 50% reduction of overall agricultural pollution load.

As the productivity is quite low by Western European standards, it will be possible to increase the production significantly without increasing the use of inputs and hence without increasing the pollution load.

Technology

The change in farm structure implies a need for investment in agricultural machinery. There is not enough machinery in existence in Lithuania today for the many new farms and the existing machinery does not allow efficient use of fertilizers. This implies, among other things, higher diffuse loads.

Problem areas

I shall outline the main environmental problem areas.

Around 70% of the total Lithuanian nutrient load of the Baltic Sea is transported to the Curonian

lagoon which is severely affected. It was estimated in 1991 that more than 75% of the nitrogen load originates from agricultural sources.

There are big local problems of microbial drinking water contamination. Many of these problems have to do with the siting of wells and dung-yards. Generally, there are high nitrogen levels in the secondary ground water reservoirs.

Presently, the main source of pollution is the inadequate handling of animal manure and slurry.

There are some special problems in connection with the animal production complexes; however, it may be premature to act on these problems before the prospects for the future viability of the complexes can be assessed.

Some old pesticides with problematic properties are still in use (persistent, mobile or toxic). Legislation and a registration system is underway, supported by the project.

Preliminary conclusion

On this background, the study has reached a number of preliminary conclusions. The ongoing change in structure will in itself demand massive investments. Here I shall concentrate on the specific environmental aspects.

Given the scale of the restructuring process, the present production levels and the presently available technology, a conclusion of the study is that, for the short term, support for extension and equipment for manure handling is the least costly way of achieving a reduction in the environmental impact of Lithuanian agriculture. In addition to reducing the environmental impact, this kind of support would have the effect of increasing farm productivity without inhibiting the restructuring process. Machine pools are now emerging and a new extension service is being set up. This could provide focus points for support.

There are a number of very practical measures that can be taken which at very little cost can improve the handling of manure and slurry on the farms. The extension service could give advice concerning these measures.

In the longer term, when the change in farm structure slows down, a second phase of investments could begin which could be tied to the specific farms. A variety of investments could be made, ie. in storage facilities for manure and slurry and improvements of automatic manure handling systems.

Generally, the support could take advantage of the fact that Lithuanian agriculture is at a low point and will undergo large changes. It could be possible to utilise the situation to influence the development of the sector, in land use, farm structure and production patterns, towards an environmentally sustainable situation.

Management of Coastal Lagoons and Wetlands

Statement by Bertil Hägerhäll, WWF International
Baltic Programme Co-ordinator

Mr. Chairman,

Contrary to often held opinions, wetlands are not wastelands. Swamps, marshes, bogs, fens, coastal lagoons, estuaries and tidal flats are among the most fecund and productive ecosystems on Earth. They provide critical habitats for thousands of species of plants and animals, yield food, fiber and building materials, play important roles in regulating water cycles, filter pollution and guard shorelines from the degradations of the sea.

Wetlands of these various types cover somewhere between 6-10 per cent of the Earth's surface and are found in nearly every country and climate from tundra to tropics.

Scientists studying wetlands have been amazed at their biological productivity. A sub-tropical salt-marsh can be twice as productive as a tropical rainforest. A reed marsh may produce four to five times as much plant matter, per area, as the most fertile grasslands. Some wetlands are capable of producing up to eight times as much as an average wheat field.

Coastal wetlands - lagoons, estuaries, marshes and tidal flats - are vital spawning and nursery areas for fish and shellfish. Two thirds of the fish caught world wide are hatched in these areas. In the mid-1970s the yield of fish and shellfish dependant on wetlands was valued at several billion dollars.

Despite these obvious and important functions there has been and still is in many quarters a great lack of understanding about the importance of wetlands including coastal lagoons, as ecosystems and their value to human society. Wetlands are in retreat nearly everywhere they are found. Between a quarter and a half of the world's wetlands have already disappeared. In the coastal regions including some parts of the Baltic the percentage is much higher, in some areas as much as 90 per cent, which makes wetlands among the most threatened biotopes in the Baltic region.

It was with this picture in mind that WWF conducted a study called Wetlands - Vital Ecosystems for Nature and Societies in the Baltic Sea Region as a contribution to the work of the HELCOM ad hoc High Level Task Force. The report contained a number of recommendations aimed at conserving the remaining wetlands in the Baltic drainage area and their ecological functions as important biotopes for a rich diversity of flora and fauna as well as filters for nutrients and other substances that otherwise would reach the Baltic and cause further problems.

We were of course very happy and encouraged when the Task Force decided to include quite a few of the conclusions and recommendations from our report in the Joint Comprehensive Action Programme which as we know was approved by the Environment Ministers a year ago. To our knowledge this was actually the first time that a major regional and international action programme included this kind of an ecological approach in order to use one of nature's own systems to tackle some of the urgent environmental problems facing the region as a whole.

As most of you are also aware we have worked very actively since the Ministerial Conference in April 1992 to start the implementation of the component of the Action Programme dealing with the development of comprehensive management plans for some of the major coastal lagoons and wetlands in the southern and south-eastern parts of the Baltic.

We have proposed that the development of these plans should be done through a series of integrated coastal zone planning and management projects.

Integrated Coastal Zone Planning and Management is one concept that to an increasing extent is applied to provide for an integrated policy and decision-making process, including all involved sectors, to promote compatibility and a balance of uses.

Thus, the expression "Integrated Coastal Zone Planning and Management" is being used more and more nationally as well as internationally by governments and organizations concerned with coastal and marine issues. Today, legislation for Coastal Zone Planning and Management has been introduced, or is being considered by many maritime nations.

Interest in the subject has also been growing internationally during recent years. Integrated Coastal Zone Planning and Management has been discussed in a number of international documents and included in the action plans adopted at a number of major global conferences.

At the Global level:

- The revised and updated World Conservation Strategy - Caring for the Earth, a Strategy for Sustainability launched by WWF, IUCN and UNEP in 1991 emphasizes that action is needed to apply an integrated approach to coastal and ocean management.

- The IV World Congress on National Parks and Protected Areas (1992) noted that "the achievements of ecological sustainability and maintenance of biodiversity in the coastal environment will depend on integrated planning and management regimes."

• In "Agenda 21" the action programme adopted by the United Nations Conference on Environment and Development, Coastal States commit themselves to integrated management and sustainable development of coastal areas and the marine environment under their jurisdiction. An international conference on coastal zone management is to be organized as part of the Agenda 21 programme.

At the European level:

• A resolution by the Council of the European Communities (1992) calls for a Community Strategy for integrated coastal zone management:

• The European Community 5th Environment Programme (1992) called "Towards Sustainability" includes the preparation of a community strategy on this issue in the work programme of the Commission.

The driving force for Coastal Zone Management in many countries has been the prospect of climate change and associated sea-level rise. Coastal nations are aware of the potential problems and many consider that the strategic and wide-ranging scope of Coastal Zone Management can provide the framework in which to plan ahead.

In some countries and regions, the Baltic being one example, the incentive to establish Integrated Coastal Zone Management Programmes is, however, tied to more immediate problems like environmental degradation or simply running out of space to accommodate coastal activities without significant knock-on effects on other users.

What is Integrated Coastal Zone Management (ICZM)?

The ideas behind Integrated Coastal Zone Management have been described extensively in the literature. The basic principles are to promote environ-mentally sound and sensitive use of the coastal environment and to intro-duce an element of strategic planning for coasts. Integrated policies and plans for coastal land and the adjacent sea area are also an important part of ICZM, as it is a concept which seeks to link the planning and management of the major uses affecting the coastal zone. The basis for any such plan should, however, be the conservation of the ecological values and functions (biodiversity, habitats, and ecological processes) of the marine as well as the terrestrial parts of the coastal zone.

The administrative arrangements which are needed to put ICZM into practice have also been extensively discussed. Literature is available on recurring issues such as defining the coastal zone, coordination between different government departments and between local, regional and central authorities, and topics that should be covered by ICZM plans.

The implementation of ICZM programmes will require action at a number of levels. Local plans to describe the detailed actions needed, regional strategies to reflect the different priorities for different areas, Government to set the objectives of the programme and guide the process at the national level, and international agreements to help to achieve the objectives.

These general principles are of course also relevant to the areas identified in the Baltic Action Programme. Some additional and in some cases complicated issues that will have to be dealt with are also listed in the Background document for this Conference. These include the need for extensive local consultation, resource use and ownership, and possible land use control.

A particular feature for the plans to be developed in the Baltic region is that they in four of the five areas identified in the Programme will cover areas that are shared between two countries. This requires co-operative action and programmes to a degree hitherto unknown in the Baltic.

HELCOM-PITF and ICZM

In order to structure the work on management plans within the PITF work programme and in order to get the implementation of this, in our view very urgent, component of the Joint Action Programme underway WWF has suggested that PITF should set up a special working group to oversee and co-ordinate this work. This was endorsed by HELCOM 14 in early February.

WE also welcome the opportunity to act as co-ordinating organization for this work.

As a further preparatory step to get the work underway WWF, the day before yesterday, organized a small seminar here in Gdansk on the theme Integrated Coastal Zone Planning and Management. About 25 experts from all the areas listed as priority areas in the Action Programme participated together with experts in *inter alia* eco-engineering.

The presentations made and the ensuing lively and constructive discussion clearly demonstrated that there is a profound interest from all areas to participate in a joint effort to develop concrete plans, which when imple-mented will result in an ecologically sustainable future for some of the most valuable areas in the Baltic region. The conclusions and recommendations for joint future work and co-operation adopted by the participants is a further illustration of this wish. There seems to be a genuine wish to pool resources, exchange information and experiences in order to develop truly integrated management plans which will protect or restore the ecological functions and values of the coastal areas concerned, and, at the same time, ensure that any and all economic activities within an area is also sustainable in the long term.

However, as you can see in table 10 in the Background document we have also started some field projects in the priority areas or in similar areas like the Putsk bay here in Poland which we believe could function as pilot projects for the development of these kind of plans, should e.g. the funding of the major plans prove difficult or even impossible at least for the time being.

Funding

With regard to the funding of this component of the Action Programme we fully share the view put forward in the background document that the development of ICZM plans will, to a very large extent, require the use of grants and special sources of financing. Most of the benefits from the plans are to society as a whole and hence it is difficult to envisage the raising of funds on a commercial basis. However, resources made available through grants or special funds should be matched by local resources.

This makes the development of the management plans particularly suitable for untraditional forms of financing e.g. the use of Dept-for-Environment- Swaps.

In addition, and as you will also see in table 10, WWF has already committed, at least to our standard, substantial resources to the implementation these projects. Of course, we hope that this will be taken into full account by those governments and institutions we have or will approach in the near future to discuss possible matching funds.

The development and implementation of integrated coastal zone planning and management plans will comprise a large number of mostly small scale projects that will protect, restore and enhance the environment's own capacity to handle a substantial share of the pollution load, particularly of nutrients. These projects represent a much needed ecological approach to the present problems. We believe the projects to be cost-effective in the best sense of the word. They combine the benefits of local resource utilization with a smaller demand for foreign currency, and they allow for a fruitful transfer of knowhow both ways across the Baltic. Thus, we believe that they, not least because of their function as positive bridge builders across the Baltic, should be given a very high priority in the implementation of the first phase of the Action Plan.

CONCLUSIONS AND RECOMMENDATIONS of the WWF Workshop on Integrated Coastal Zone Management for Coastal Lagoons and Wetlands in the Baltic Sea Region, Gdansk, 22 March 1993

We, the workshop participants from all countries concerned, and from all areas identified in the Baltic Sea Joint Comprehensive Environmental Action Programme:

- aware of the crucial importance of the coastal zone for the ecological balance of the Baltic Sea, agree that conservation and sustainable use of the coastal lagoons and wetlands will be essential for the successful implementation of the Joint Comprehensive Environmental Action Programme and, hence, for the restoration and maintenance of the Baltic Sea region as a whole;
- recommend that the development of management plans as envisaged in the Action Programme should be done through the application of the integrated coastal zone management (ICZM) concept. The basis for any ICZM plan must be the conservation of the ecological values and functions – biodiversity, habitats and ecological processes – of the marine as well as the terrestrial parts of the coastal zone;
- appreciate the work already in progress in some of the areas, which should be integrated in the further development of the plans;
- welcome the establishment by HELCOM 14 of a working group under the Programme Implementation Task Force (PITF) to co-ordinate the development of management plans;
- recommend that such plans should, as far as possible, be developed and implemented at the regional and/or local level, involve all interests concerned, including wide public participation;
- urge the Governments of all the States around the Baltic Sea, as well as the financial institutions, to allocate resources – financial as well as others – to enable the timely development and implementation of the management plans as envisaged in the JCEAP;
- assure that we, experts and NGOs, are prepared to share the responsibility with the PITF working group for the elaboration of these management plans.

Public Awareness and Environmental Education

PA&EE

Presentation by Coalition Clean Baltic

Mr. Gunnar Norén
Gdańsk, Poland 24 March, 1993

On behalf of CCB, a network of 22 environmental NGOs from all of the Baltic Countries, I would like to present our views on activities regarding the sixth component of the Joint Comprehensive Programme. This was discussed during a Seminar in Gdańsk on March 21, 1993.

INTRODUCTION

There is no argument that public awareness and education are vital components to any environmental initiatives. It is also undeniable that educational efforts are perhaps the most cost-efficient and productive form of environmental protection. In drafting the Joint Comprehensive Programme, all signatories agreed that the Public Awareness and Environmental Education component is of **equal importance** in the successful implementation of the Programme as each of the other five.

Education and awareness, however, often do not reap short-term benefits, nor are they designed for that purpose. The following recommendations and proposals are designed to promote and increase support for **long-term** environmental initiatives in the Baltic Sea Region. Without a guarantee of public support and approval, future projects can have only minimum impacts. An increase in public awareness and environmental education is the only way to insure the effectiveness and success of future initiatives designed to protect the Baltic Sea Region.

With that in mind, the members of the Coalition Clean Baltic wish to again remind the participants of this Resource Mobilization Conference of the sixth component of the Baltic Sea Joint Comprehensive Environmental Action Programme.

LEAD RESPONSIBILITY FOR PA&EE

In the Conference Background Paper, there is a proposal that a HELCOM PITF Working Committee, under the leadership of Coalition Clean Baltic, take the leading responsibility for establishing and implementing these PA&EE programmes.

Coalition Clean Baltic is honored to take this leadership role. It must be recognized, however, that as a NGO, we can never take responsibility for the actions of governments, nor can we guarantee that our suggestions will be accepted.

Coalition Clean Baltic already has substantial experience in this area and has been involved with many activities at this "grass roots" level. Popular books on the Baltic Sea Region have been translated and published in Estonian, Lithuanian, Latvian, and Polish languages. CCB sponsors courses on the Baltic Sea Region environment and gatherings such as the Study-Circle Leaders in Poland, seminars in Green Consumerism to assist East European countries in this difficult economic transition period, and courses for local government representatives and NGOs on alternative waste-water treatments.

However, Coalition Clean Baltic is now prepared to take an official leadership role in this respect under the HELCOM Programme Implementation Task Force on Public Awareness and Environmental Education if:

1) There will be allocated financial resources, from governments or other institutions, to start these activities. Also, for the continuation of the Programme, budget allocations should be made on more than a one-year basis. A five-year basis, similar to the first phase of the Joint Comprehensive Programme, would be ideal. For initial implementation, salaries and overhead must be provided to employ at least two full-time employees, one in the West and one in the Eastern portion of the Baltic Sea Region.

2) Initial financing is required for the first projects in the Eastern portion of the Baltic Sea Region.

3) For the success of our initiatives we must have commitments for support from all governments in the Baltic Sea Region to work with PA&EE activities and provide support through finances and other resources.

If these conditions are met, we are prepared to take responsibility. Our first step would be to prepare a work-plan for PA&EE under HELCOM-PITF and present it to the working group for consideration and approval.

PRIORITY TASKS FOR PA&EE

During the CCB Seminar, a preliminary list of 18 priority tasks designed **primarily for governmental organizations** to consider and implement was made. Coalition Clean Baltic believes that NGOs serve a vital role in encouraging and supporting these initiatives at the local and regional level, but also recognizes governmental influence and responsibility.

1. Information should be prepared and published for communities and local administrations regarding the implementation of the Joint Comprehensive Program and the goal of a 50% reduction by 1995 of nutrients and toxic substances that enter the Baltic Sea. This information must be available in local languages and address local concerns. It should be sensitive to local impacts, effects, and solutions.

2. Educational authorities from all Baltic Sea Region Countries must be encouraged to produce, in cooperation with NGOs, an effective environmental education program or curriculum. Among other things, this interdisciplinary program should include material regarding the ecology and nature management of the Baltic Sea Region, as well as local and international impacts, threats, and solutions. Programs should be designed for all age groups, from kindergarden school to the university level.
3. Education and information must be prepared and presented to the public, government officials, and the business community regarding an increase and enforcement of "User Fees" and similar environmental taxing programs.
4. Education and training courses must also be developed for individuals working within government institutions in East European countries. Special attention must be made to the sale and disposal of factories, industries, land and forests. Liability and responsibility of past, present, and future environmental degradation and remediation must be addressed.
5. Through education, publicity, and good practice, it must be stressed and shown that environmental initiatives need not conflict with economic development. In fact, it is expected that they will compliment sustainable economic development as industry moves away from environmentally harmful practices and toward more environmentally friendly activities.
6. A popular version of the Joint Comprehensive Program (the background document to JCP from April 1992), roughly 25-30 pages should be prepared and published by HELCOM to inform interested individuals on HELCOM activities.
7. A list of all HELCOM TC recommendations for different sectors should be compiled and made available for distribution by HELCOM. At present access to these materials is difficult for East European countries, especially. Electronic Mailing systems is an effective tool for facilitating this process.
8. Public participation in the process of preparing management plans in coastal areas is necessary. These plans must be produced separately for each Baltic Sea Region Country and must stress the need for an immediate Plan of Action for coastal communities. These plans and their development must be made available to the public and open to discussion.
9. Environmental education initiatives must also be stressed for the agricultural community. Practical and feasible education must be provided to farmers. These efforts must accompany viable alternatives and economic incentives. Since there are already groups involved in these activities, cooperation, support and assistance of current efforts must be encouraged.
10. Educational initiatives for local authorities should be undertaken to support and encourage ecological engineering, alternative agriculture and the use of renewable energy sources.

11. Information should be prepared and published regarding "best available technology" (BAT), and "best environmental practice" (BEP). This information must be provided to the public, and the business community by the governments that pledged to support and encourage such measures. This concept must be stressed not as a theory of good intention, rather an unavoidable responsibility of everyone living or working within the Baltic Sea Region.
12. Seminars, projects, and campaigns must be brought to the attention of the mass media. Information regarding Baltic Sea Region ecology, pollution and polluters, solutions and individuals and communities involved in protecting the Region must be available to the public on a regular and increased basis.
13. People working in the mass media must be trained to be effective messengers of all HELCOM processes including committees and task forces.
14. Inter-disciplinary training courses at the university level must be increased, improved and developed to aid "community ecologists" to become employed in community administration and environmental protection organizations, thus using their education as effectively as possible.
15. Local preparation and publication of local "green consumer guides" and related programs should be encouraged to increase awareness and education, as well as to provide household and day-to-day solutions. The seemingly minor activities, when enacted over the entire Baltic Sea Region, will have extraordinary impacts, physically and psychologically.
16. Direct and effective access to all information on environmentally related issues should be ensured through the establishment of "Eco - Counseling" and related national and local public assistance programs.
17. Environment friendly tourism must be developed and encouraged as an activity in the Baltic Sea Region, as well as a valuable educational tool. Proper use of eco-tourism can result in reduced human impact on valuable areas for nature conservation, increased public awareness and education for tourists and locals, and increased revenue from tourism.
18. Attempts to prepare (or translate) and publish popular environmental materials should be encouraged. Children's environmental picture books, introductory ecological books, reviews of current state of the Baltic environment, magazines, newsletters, and scientific reports should be supported.

CONCLUSION

Government organizations, NGOs, schools, mass media, parks, and the community must cooperate to implement the above recommendations. For environmental education and public awareness to be truly effective, it must be interdisciplinary, cooperative, and mutually benefitting to all involved.

However, not only is cooperation necessary, coordination between organizations is likewise necessary. The proposals above and the recognition by HELCOM of the importance of NGOs in the PA&EE components of the Joint Comprehensive Programme is a start. These coordinated efforts can indeed result in more successful environmental initiatives, but the importance of that process can not be stressed enough.

Coalition Clean Baltic has an effective and productive relationship with WWF in coordinating and cooperating on PA&EE activities in the Baltic Sea Region. Our member organizations look forward to expanding those efforts to not only other NGOs, but more importantly, to governments and international organizations such as HELCOM.

The Baltic Sea Region is as diverse and complicated as the environmental threats to the area seem to indicate. We must begin to educate ourselves and become aware of these problems and differences so that we may effectively and confidently propose and create viable alternatives and solutions.

Thank you for your attention. Please don't forget that more than 70 million people around the Baltic are waiting for your positive reaction to these proposals and practical steps to meet their expectations.

Summary of Session Two: Financing the Action Programme

Dr. Tomasz Żylicz, Moderator

There was a consensus that a major part of the programme has to be financed from resources mobilized domestically. However, international financing may be initially of importance in some countries. There are several ways for countries to enhance the availability of money to implement the Programme.

- First and foremost, water supply and sewage treatment systems should aim at operating on a self-financed basis with user fees increased to adequate levels.
- Not only will this provide funds to recover operation and maintenance costs, but it will also determine the positive cash flow of the entire abatement projects (including their construction phase).
- This, in turn, will make such projects more attractive for private investors thus triggering an important source of project financing.

Nevertheless, it has been recognized that user fees alone cannot solve the problem, because as a rule they will be available only after the completion of a project. Hence the necessity to identify other, immediate sources of money.

- The money does and will continue to come in the form of equity provided by investors, both domestic and foreign, and both private and municipal.
- Also, the money does and will come in the form of a bank credit.
- However, for various reasons, some projects - especially those to be undertaken in the economically depressed municipalities - cannot be expected to attract the sufficient equity and credit financing; in such cases, their investment cost could be subsidized e.g. from environmental funds (typically originating from pollution fees and fines) which already exist in some countries and can be replicated elsewhere.
- Finally, to be carried out, some projects may require an international transfer of resources.

In addition, credit financing of imported inputs to abatement projects was discussed. Export

guarantees were identified as a useful instrument. It was suggested that this could be matched by a system of mutual insurance to be instituted by groups of importers to share the risk and consequently lower the price of the credit. Striking the balance between imported high technologies and less expensive (but presumably less effective too) domestic ones is another issue critical for improving economic efficiency of the Baltic Sea abatement projects (far from satisfactory now).

Three concrete proposals regarding the region-wide resource mobilization were made by the Coalition Clean Baltic (a network of 22 environmental NGOs working in the Baltic Sea Region):

- 1) The use of debt-for-environment swaps for financing projects of international importance;
- 2) Reducing military budgets by 2% and transferring the money thus saved to a Baltic-wide environmental fund;
- 3) Committing 1% of the Baltic countries' GNPs to the implementation of the Programme.

It was noted that Poland already operates a carefully designed debt-for-environment swap facility (EcoFund) which, in 1992, channelled 25% of its resources to the Baltic Sea protection projects. This share could increase if creditors from the Baltic region joined the swap mechanism.

A brief summary of all comments made during the discussion period in Session 2 follows:

Mr. Gunnar Norén, Chairman, Coalition Clean Baltic, commented on his organization's three practical proposals; Debt for Environment swaps, reduced military budgets, fixed percentage of GNP, as mentioned above.

Dr. Bronisław Kamiński, Proeko Ltd, former Polish Minister of Environment (1989-1990), stressed the need for cost-effective measures. He noted that the Programme implementation costs are not determined yet and that they will vary greatly depending on how successful the preparatory stage is (to avoid unnecessary investments). More specifically he quoted occasionally poor expert advice from Western Banks leading to excessive investment costs. He proposed the establishment of a Baltic system of credit insurance, involving

municipalities, to help bring current costs down. He also raised the issue of what are indeed international vs. domestic responsibilities and priorities.

Mr. Peter Laurson, NEFCO, acknowledged the importance of domestic funding. He raised the question to the Banks regarding their experience in "financing packages" that combine various sources of money.

Dr. John Rey, Deputy President of the National Fund, also emphasized the importance of domestic funding. He briefed the audience on the structure of the National Fund as a stable element of Poland's environmental strategy (the fund circulates a portion, almost 40%, of the money collected through pollution charges and non-compliance fees).

Mr. Ian Hume, World Bank, agreed with Laurson that domestic resource mobilization is the key to the success of the Programme.

Dr. Maciej Nowicki, Chairman of EcoFund, commented that the abatement of pollution in the Baltic Sea is one of the four primary areas of activity for EcoFund. In fact, towards the end of 1992, EcoFund supported the establishment of a waste water treatment plant in Gdańsk (chemical port) with approximately \$1.5m USD. This sum made up 25% of all money available for 1992.

Regarding the decision of Baltic countries which are members of Paris Club, to convert 10% of Polish debt for environmental protection, EcoFund expressed their willingness to devote the majority of this money to Baltic Sea protection measures.

Dr. Nowicki also briefed the audience on EcoFunds activities, history, and future plans.

Mr. Göte Svenson added at the end of the session that (i) the international priority is to restore the Sea, (ii) the implementation of the Programme will be domestic, (iii) the issue of hot-spots needs to be de-emphasized as the eutrophication is caused by a large number of factors and sources.

Summary of Session Three: Financing Control of Point Source Pollution

Moderator: Mr Andrzej Czyż

The following speakers took part at the session:

Prepared speeches: Mr Klas Ringskog, Nordic Investment Bank; Mr Georges Toregas, European Bank for Reconstruction and Development; Mr Werner Fassing - KfW, Germany; Mr Patrick Walsh, European Investment Bank; Mr Walter Stottman, World Bank; Mr Olli Ojala and Mr Timo Mäkelä from Finland. Mr Ojala and Mr Mäkelä had also their own extra speeches. Moreover the following persons from the audience spoke up at the session: Mr J. Steckiewicz, Environment Protection Bank, Poland and Mr K. Derecki, Regional Board of Water Economy, Katowice, Poland.

Representatives of the main international and domestic financial institutions operating within the Baltic Sea region in the field of supporting the environment protection investments, succesively spoke up at the 3rd session of Gdańsk Conference. As their achievements, they have presented their past activities. They also spoke up about their plans concerning the investments aimed to limit the pollution discharged into the fresh waters from point sources of pollution i.e. cities, settlements and industry centers. For example, on behalf of the Regional Water Management Board, a paper was presented regarding the Board's investments in the Odra and Wisła River Basins.

It has been mentioned, that the progress of implementing these investments at the countries of south-east Baltic coast could be better, if these countries would be able to compete in a more professional way the documentation concerning the financing of such investments. Particularly this problem concerns the phase of feasibility studies. It has been stated, that the accurate analysis of particular projects concerning the Baltic Sea Environmental Action Programme shows that significant progress might be achieved at much lower costs. The problems that interfere with supporting environment protection investments in the countries leading to the market economy system, including Poland, are the difficulties in obtaining the governmental guarantees for these kind of investments.

Summary of Session Four: Control of Non-Point Sources

Piotr Krzyżanowski, Moderator

This fourth Session began with an overview of several Joint Agricultural Programs involving Eastern Baltic Countries and Western counterparts.

These programs are designed primarily to facilitate the transfer of skills, technology and experiences regarding positive agricultural practices. Furthermore, these projects take place at the local level; involving local governments, agricultural colleges, "agricultural extension services," and the farmers themselves.

Policy issues are also a subsequent goal of these 'grassroots' approaches. By raising public awareness and education regarding agricultural practices (specifically among the farming community), these programs hope to increase governmental assistance and intervention in Baltic Region agricultural issues.

This fourth Session also heard from two NGOs. It was underlined that HELCOM is pleased to have NGOs, WWF and Coalition Clean Baltic, cooperating with the Task Force. The two NGOs are addressing Coastal Lagoons and Wetlands and Public Awareness and Education, respectively.

A comprehensive proposal regarding Integrated Coastal Zone Management for Coastal Lagoons and Wetlands in the Baltic Sea was presented by WWF. WWF noted the importance of protecting these valuable areas and support indicated by HELCOM PITF and other speakers. WWF also indicated that they would accept a leadership role in coordinating a task force regarding ICZM.

Financial concerns were raised by WWF regarding ICZM. The proposed management plan would contain a great deal of small scale, locally based projects. These Applied Research projects would require local and domestic funding, and according to WWF, are the most effective way to use scarce resources.

Coalition Clean Baltic, a network of 22 environmental NGOs from all of the Baltic Region countries, stressed the need for increased activity and financial allocations to Public Awareness and Environmental Education (PA&EE). CCB reminded the participants of the six components of the Joint Comprehensive Environmental Action Programme, PA&EE comprising the sixth. This is significant in determining how important PA&EE is for long-term results in environmental improvements. The Coalition did, however, list three demands that must be met before they accept a lead role in a HELCOM Task Force aimed at Public Awareness and Education. CCB then provided the Conference with a list of Priority Tasks for PA&EE in the Baltic Sea Region.

The following is a very brief summary of comments that were made during the discussion period for Session 4.

S.K. Wiąkowski discussed non point pollution from agriculture in the Vistula River Basin. He addressed monitoring systems and additional research, model solutions and model villages, and ecological education on non point pollution. In addition, he addressed the radical transformation of law and administrative structure in the Region. This in the form of new and increased laws, like Poland's new water law, will provide a sound foundation for future environmental protection in the Baltic Sea Region.

Jan Hałas addressed the Conference with a paper extending support and encouragement on behalf of the Solidarność organization in Gdańsk.

Prof. Kazimierz Rykowski, Deputy Director of the Forest Research Institute presented The Role of Forests in the Protection of Natural Environment of the Baltic Sea Watershed. This in regards to the Baltic Forestry Action Plan.

Jørgen Ringaard provided the Conference with a written statement regarding the Union of Baltic Cities' experiences in institutional strengthening and human resource development at the city level. This information was based on the Union's Projects throughout the Baltic Sea Region.

Presentation from Regional Water Management Board

Kazimierz Derecki M.Sc.

Mr. President, Ladies and Gentlemen,

On behalf of seven Regional Water Management Boards in Poland, institutions responsible for water management, I would like to present the Hot Spots selected by consulting firms and prepared by RWMB Gdańsk. The realization of the mentioned program enables us to reduce pollution of the Baltic Sea, as almost all Hot Spots concern the industrial and municipal wastewaters, discharged to the Odra and Vistula.

There are 38 Hot Spots in Poland, among them 20 are called priority Hot Spots, and 18 other Hot Spots. Hot Spots are located in two main basins, Odra Basin and Wisła Basin.

In the Odra River Basin, We have the following investments;

7 new municipal treatment plants in Katowice West -Panewnicki, Wrocław, Łódź, Głogów, Lubin, Zielona Góra and two STP in Szczecin

1 modern sewage treatment in Szczecin

1 sewage treatment facility for waste water from ships

5 fully modernized technologies in factories Chemical Works in Kędzierzyn, Brzeg Dolny and Bolesławiec, as well as cockery in Radlin and Copper Mining and Metallurgy Complex Legnica in Głogów.

In the Wisła River Basin we have the following investments;

3 new municipal treatment plants in Katowice East -Podlesie, Warszawa-Czajka and Kraków-Nowa Huta, Gdańsk East, Bydgoszcz, Świecie, Malbork

1 modern sewage treatment plant in Kraków-Płaszów.

Full descriptions of the a/m Hot Spots can be found elsewhere in this packet of information.

Statement by Solidarność

Jan Hałas

The Regional Board of NSZZ "S" in Gdańsk as well as its Environmental Protection Team most cordially welcomes the participants of the Conference on Environmental Protection of the Baltic Sea and expresses its satisfaction that such an important meeting is held in our town - the birth place of "Solidarność." Gdańsk is substantially interested in the problem of a clean and sound Baltic Sea, belonging at the same time to one of the most ecologically threatened area of our coast.

The economic situation of this country, including our region, renders difficult efficient activities aimed at reducing the pollution of Gdańsk Bay and the Sea caused by industrial and municipal wastes produced locally or imported by the Vistula River from all over the country. Both Poland and Gdańsk need active support on the part of friends and neighbors - interested in the problems of the Baltic Sea.

We expect that the Gdańsk Conference, besides its other important achievements, will result in efficient and real technology and economic assistance for our region.

Non Point Pollution from Agriculture in the Vistula River Basin

S.K. Wiackoski

Poland, as a member of the Helsinki Convention, should limit all the possible sources of water pollution. Our goal is to reduce up to 50% of nitrogen, phosphorus, and pesticides to the Baltic Sea, so a precise activity plan needs to be developed. This leads to tremendous investment efforts, especially in the construction of sewage and water treatment facilities. In the period between 1983 to 1990, 1600 water waste treatment plants have been built. We must still construct 1900 large municipal and industrial and 8000 rural water waste treatment plants, as well as about 85,000 sewage ducting systems. The realization of this goal is determined by Poland's current economical situation. However, we expect to overcome our difficulties through the cooperation with developed countries and their financial assistance.

We can have some positive results in decreasing of phosphorus discharge, by putting pressure on the detergent manufacturers and use of substitutes for sodium tripolyphosphates, as, for example, zeolit 4 A.

In this situation limiting the non point pollution is a very essential element in the water protection program.

In the 1992 United Nation Conference on the Global Climate Changes in Rio de Janero, in Agenda 21 chapter 17, the non point sources of the sea pollution were estimated at 70%. Then the key problem of Baltic degradation is not only point, but non point pollution sources as well. This important issue was investigated in Poland since 1972 by the Institute of Meteorology and Water Management in Gdańsk.

Since 1992 there is a project concerning the control of non point pollution in the Vistula River Basin financed by the National Fund for Environmental Protection and Water Management and WHO/UNEP. The project is conducted in the following three parts:

1) Monitoring system supplemented by the additional research under the direction of professor Marek Roman.

2) Reduction of non point pollution sources through model solutions in model villages under the direction of Waldemar Michna.

3) Ecological education under the direction of professor Stanisław Wiackowski. This ecological education is directed on the non point pollution and ecological agriculture with participation from main institutions and several professors specializing in this field.

This research, practical and teaching activities, will create a very important support for the ecological communities which developed very fast in many parts of Poland.

Our recent politics in agriculture which is criticized very strongly, creates a unique opportunity for long lasting reduction of inputs of non point pollution into the waters of the entire country.

Agrochemical products are important sources of the water pollution. In the last year during our painful processes of change, the threat of non-point pollution is much decreased.

Fertilizer consumption in Poland is relatively low and decreasing. A consumption of 164 kg of nitrogens, phosphorus and potassium per hectar in 1990 dropped down to 70 kg per hectar in 1991.

Poland actually is not overusing the pesticides in plant protection programs. According to the data studies (GUS) we use currently 0,30 kg/ha of active substances. For many European countries the average usage is 5-6 kg/ha, but some countries are exceeding it, for example Japan is up to 14kg/ha or Holland to 10-20 kg/ha which is 30 or 60 times more than in Poland.

We understand that we should increase the amount of active substances in pest control but no more than up to 2 kg/ha. If we would apply the integrated control, we should be able to do a clever limitation of chemical compounds wherever possible and at the same time use them more effectively. The fertilizers could be applied straight to the leaf system which will effect the better plant nutrition but without the water eutrophication.

The number of animals deceased and at the same time the amount of animal manure creates less impact on the environment. The problems exist only in the huge livestock production farms with thounsads of animals, where is a lack of arable land needed the animal fertilizers. Therefore they must find other ways to utilize it.

The process of radical transformation of the law and administration strucure is on the way. The new water law which is currently being prepared will provide a foundation for further developments in the future protection of Poland's waters.

I hope that we are all aware of the Baltic Sea degradation and of the urgent need for coordinated actions to stop and reverse this threat. It is in the interest of Poland, all the Baltic countries as well as in the interest of the entire Europe.

The Environmental Protection Bank S.A. for the Baltic

Tomasz Zasoń, Director of the Capital and Loans Bureau

Supporting activities relating to the maritime economy is the statutory objective of the Environmental Protection Bank S.A. In Poland, a country situated within the catchment area of two rivers which have their estuaries on the Baltic, almost every environmental investment is aimed at protecting the Sea. The establishment of our network of Bank branches is evidence which substantiates our devotion to the issue of a clean Baltic. They have been allocated in such a way as to include in our operations regions in need of major financial investment. The main objective of establishing the branch offices, located along the coast in Gdańsk, Koszalin, Szczecin, as well as those positioned alongside our rivers: the Vistula - in Kraków, Warszawa, Bydgoszcz, Włocławek, Gdańsk and the Odra - in Wrocław (an affiliated office is in Gorzów Wielkopolski) and Szczecin is to serve the Baltic.

Bearing in mind that foreign banks are heavily involved in the process of cleaning the Baltic, we also are engaged in discussions concerning cooperation in this area with the World Bank and the European Bank for Reconstruction and Development. However, one has to remember that we have been operating for just two years and, despite our efforts, we still have not obtained a full currency licence. This fact restricts our abilities. The Environmental Protection Bank S.A., represented by its own International and Currency Department is also actively present on foreign markets, conducting transactions.

It is important to us that foreign banks, interested in the issue of environmental protection know about the existence of a bank in Poland which is specifically oriented toward the environment, and which, I hope, in the near future will be able to participate in the international system of funding activities which support the endangered natural environment.

Statement Regarding Protection of Baltic Region

Branisław Kamiński

After the Conference in Ronneby, new opportunities for Baltic Sea protection emerged. These opportunities occurred due to the engagement and support of the international Banks and the openness of the Southern and Eastern Baltic, Post-communistic countries.

So why are the effects so small? The answer is as follows: There is a need to establish a strategy for Baltic Sea protection and built-up efficient instruments for realization of the strategy. The first task of this strategy should be efficiency connected to the appropriate hierarchy of activity. We are talking about optimization of spending 80 Billion ECU over a period of twenty years.

The hierarchy of activity should be joined with financial sources. Because we did not establish the Baltic Fund, we should leave the idea of Hot Spots and start the idea of Hot Areas, the areas of the Post-communistic countries.

At the same time, the strategy of action in Hot Areas should be based upon country purity levels according to rules and regulations appropriate for the sources of pollution. There are at least two important conditions of efficiency of activity in the Hot Areas. The first one is use of the very simple reserves through implementation of market management and financing of water sewage treatment facilities at the local level.

The second one is full the use and development of local potential, intellectual, technical and financial strengths. This potential will be of crucial importance to the protection of the Baltic Sea and should be better organized and prepared for investment opportunities.

The basic barrier of investment activity is a lack of financial resources. National commercial

loans are too expensive and the loans from international banks are difficult to access due to the demands for guarantees. These banks also are not interested in financing domestic support systems, where resources may be more accessible and locally available.

To improve the situation I propose the following steps:

- establishment of Baltic Fund for insuring loans;
- establishing of regional and local funds for counties or investment groups;
- different forms of privatization of water sewage systems, especially communal systems.

Coming back to the need to create a long term strategy for Baltic Sea protection, I would like once more to underline the rule of modern instruments for realization of the strategy in the Hot Areas of the Southern Baltic. In this aspect, the transfer of the knowledge of market methods of marketing and financing should be encouraged over the transfer of international investment sources by the Banks. An encouraging example of such knowledge transfer for environmental protection is a loan from the World Bank that Poland obtained in 1991. The experience from this example should be spread out and developed.

The Role of Forests in the Protection of Natural Environment of the Baltic Sea Watershed

Prof. Dr. Kazimierz Rykowski, Deputy Director of the Institute

The Baltic Sea natural environment is one of the most polluted in the European scale. The wastes in it are composed of air pollution, industrial sewage in the sea and adjacent rivers of the Baltic Basin, as well as pollution originating from mismanagement or misuse of surrounding watersheds in the Baltic hydrographic region.

The protection of Baltic waters and normalization of hydrological processes and of biological life needs to be an integrated process. Appropriate land use structures must be used throughout the region for the protection of the Sea. The forests and forestry are very important in this respect.

The forests are a main component of the natural environment in the geo-climatic zone of the Baltic Sea Region. They fulfill a vital role in the maintenance of ecological balance throughout the Region. Hydrological functions of the forests include water retention, regulation of surface and ground watersheds, filtering, and natural recycling of air, soil, and water. The forests provide a barrier to airborne pollution, control erosion, regulate topoclimatic conditions, and continue natural biological processes.

Forests indeed play a major role in the protection of the Baltic Sea Region. In order to fully examine the Sea and its environment, the surrounding forests must also be addressed.

The basic aims of this project are to explain ecological processes, search for practical solutions to environmental problems, perform experimental economic activities. These will assist in enabling us to:

- 1) Enlarge and use the theoretical knowledge and practice from the hydrological aspect of forests;
- 2) Manage the forests, considering tree groups, and specific regional focuses.
- 3) Perform effective biological development of the Baltic Coast, increasing environmental

purity and stability through the use of the forests.

4) Shape the field-forest boundary in watersheds.

5) Strengthen hydrological balance between forests and rest of region.

6) Construct a biological formation for shore and interface regions.

This entire document details the Baltic Forestry Action Plan. The document is entitled The Role of Forests in the Protection of Natural Environment of the Baltic Sea Watershed. The document is available from the Forest Research Institute in Warsaw, Poland (00-973). (tel, +48 22 32 01 to 09) The entire document could not be reprinted in this document, and was summarized briefly.

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* out of print
** in print

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ISSN 0357-2994