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Prague, the Czech Republic

May 1995

Prepared for

United States Agency for International Development
Bureau for Europe and the New Independent States
Office of Environment, Energy, and Urban Development
Environment and Natural Resources Division
(AID/ENI/EEUD/ENR)

by

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Foreword

This is the proceedings of the Environment Retreat, of the United States Agency for International Development, Bureau for Europe and the New Independent States (ENI), held in Prague, the Czech Republic, from January 23-26, 1995. The ENI retreat was sponsored and hosted by ENI's Office of Environment, Energy, and Urban Development; Environment and Natural Resources Division. The retreat was attended by approximately 60 representatives from USAID offices in Washington and the field, contractors working in the region, the United States Environmental Protection Agency, host-country counterparts, and non-governmental organizations. The purposes of the retreat were: (1) to provide a forum for those working in Europe on USAID environmental activities to discuss lessons learned for the benefit of those working on environmental activities in the NIS region, and (2) to promote a dialogue among the participants on management issues and other topics relevant to the effective and efficient operation and execution of USAID's environment program in the ENI region.

This report was produced at a cost of approximately $7,000. It is intended to provide a record of information that was presented and the discussions that took place at the retreat. It was prepared by the Winrock International Environmental Alliance, a Global Bureau contractor, at the request of ENI, and is based on the retreat rapporteur's notes and tape recordings of the sessions. By publishing the proceedings, the Global and ENI Bureaus hope to encourage the ongoing process of communication among individuals working on USAID's environment program in the ENI, in order to maximize program and project impact from information sharing and communication of lessons learned. This report serves both as a record of the retreat, and as a reference tool for those working in the region. We will assess its effectiveness by soliciting the views of recipients, and will enclose an evaluation form with each mailing for that purpose.

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June 1, 1995

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AGENDA

The ENI Environment Retreat

January 23-26, 1995 - Prague, Czech Republic

Monday, January 23

09:00 Welcome (Ron Greenberg)
Organization and Workshop Materials (Sinikka DeHanas/EPAT)

09:15 Introductions and Participant Expectations (Ron Greenberg, Mike Rock/EPAT)

I. OVERVIEW

09:45 Overview of the Agency Strategy (Bill Sugrue)
Questions and Answers

10:30 **BREAK**

10:45 Overview of the ENI Bureau (Jim Bever)

11:15 Overview of Environment and Natural Resources Program and Donor Coordination (Ron Greenberg, Lee Pasarew/EPA)

12:00 **LUNCH**

II. THE FIVE BUILDING BLOCKS

1. POLICY	2. INSTITUTION BUILDING

01:15 Policy and Institutional Reform: Introduction to Policy, Institutional, and Legal Issues (Jim Tarrant)

01:45 Policy and Institutional Reform: Panel Discussion (Thomas Owen/HIID, Jim Tarrant, Samuel Hale/EPT, Lee Pasarew/EPA, Eliza Klose/ISAR, Glen Anderson/HIID)

02:30 BREAK

02:45 Open Discussion on Policy Issues

03:15 Natural Resources Management and Biodiversity (Jim Tarrant, Lori Freer, Sandy

Hale/EPT)

04:15 Overview of the First Day. Assignments for the Second Day.

04:45 **END OF DAY**

EVENING: 6:00 - 7:00 Social

Tuesday, January 24

08:30 Daily Overview (Ron Greenberg)

3. FINANCE

08:45 Investments and Financing: Overview. EAP Framework and Investment Strategy (Paul Parks, Sandy Hale/EPT)

Investments and Financing: Options and Lessons in the Investment Experience to Date - the Municipal Example (Fred Van Antwerp, Bill Sommers/LEM)

09:45 Investments and Financing: Panel Discussion (Sandy Hale/EPT, Paul Parks. Panelists: Bill Sommers/LEM, Glen Anderson/HIID, Kevin Rushing)

10:30 **BREAK**

4. RISK ASSESSMENT	5. THE LEAST COST APPROACH

10:45 Project Selection and the Setting of Priorities: Overview. Criteria for Project Selection
Themes: Policy, Institution Building, Finance, Risk Assessment, Least Cost (Ron Greenberg)

III. APPLICATION OF LESSONS LEARNED

11:15 Application of Lessons Learned: Introduction to Five Illustrative Cases in CEE and Lessons Learned from Them
Cases:
WEC (Tony Marcil/WEC)
Zlatna (John Borrazzo)
Krakow (Len Rogers)
Silesia (Anna Phillips/EPA, Helena Cizkova/Czech Ministry)

Danube (Craig Hafner/EHP)

12:45 Instructions to Workgroups

01:00 **LUNCH**

02:00 Application of Lessons Learned (continued): Concurrent Workgroup Sessions
Workgroups:
Novokuznetsk
Donetsk
CAR
EAP
NRM

03:30 **BREAK**

03:45 Presentations on Workgroup Findings

04:30 Discussion and Conclusions on the Workgroup Exercise

05:15 Overview of the First Two Days: Lessons Learned (Mike Rock)

5:30 **END OF DAY**

Wednesday, January 25
(Internal Discussion Open to AID and Those Invited.)

08:30 Daily Overview (Jim Bever, Alexi Panehal)

IV. IMPACT INDICATORS

08:45 Impact Indicators: Overview of Indicators in Use by the ENI Bureau. Principles of Choosing and Using Indicators. (Alexi Panehal, Pat Vondal/ EPAT)

09:15 Impact Indicators: Case Studies on Data Collection (Alexi Panehal, Pat Vondal/EP-AT)

09:45 Impact Indicators: Use of Uniform Environmental Indicators for the Region (Alexi Panehal, Pat Vondal/EPAT)

10:15 **BREAK**

10:30 Impact Indicators: Discussion

V. MANAGEMENT ASPECTS

11:30 Overview on Communications and Responsibilities between Washington and Field (Jim Bednar)

12:00 **LUNCH**

01:15 Message from Barbara Turner/DAA

01:30 Management Aspects: Program and Project Design
Program Development (Richard Hough)
Budget (Ron Greenberg)
Delivery Orders (Carl Mitchell)
PIO/T (Carl Mitchell)
Workplan (Alexi Panehal)
Implementation (Kevin Rushing)

02:45 **BREAK**

03:00 Management Aspects: Monitoring and Reporting - Panel Discussion (Jim Tarrant, Andrzej Pecikiewicz, Paula Feeney)

03:45 Management Aspects Continued
Technical Management (Jan Pisko)
Financial Management (Lori Freer, Jim Bever)
Program and Donor Coordination - Regional (Ron Greenberg)
Program and Donor Coordination - Country Level (Richard Hough)

04:45 Open Discussion on Management Issues (Jim Bever, Mike Rock/EPAT)

VI. SUMMARY OF ISSUES AND RECOMMENDATIONS

05:15 Summary of Outstanding Issues and Next Steps (Jim Bever, Mike Rock/EPAT)

05:30 End of Day. End of General Sessions.

Thursday, January 26

Private Discussions with Some of the Missions

1/22/95 agenda.j22

PARTICIPANT LIST

The ENI Environment Retreat
January 23-26, 1995

	Name	Organization
1	Schulze, Loren	USAID/Bratislava
2	Brunovsky, Mart	USAID/Bratislava
3	Haynes, Stephen	USAID/Tirana
4	Tiffany, Terry	USAID/Moscow
5	Rushing, Kevin	USAID/Moscow
6	Sartonov, Alison	USAID/Moscow
7	Marcil, Anthony	WEC
8	Dubowitz, Howard	ENI/HR/HP
9	Studzinski, Nicholas	USAID/Warsaw
10	Pecikiewicz, Andrej	USAID/Warsaw
11	Jakubowlez, Maryla	USAID/Warsaw
12	Posner, Bob	USAID/Prague
13	Pisko, Jan	USAID/Prague
14	Bednar, Jim	USAID/Prague
15	Owen, Tom	HIID/Slovakia
16	Anderson, Glen	HIID/Poland
17	Babylon, John	USAID/Sofia
18	Yoveva, Antoananta	USAID/Sofia
19	Borrazzo, John	G/PHN/W
20	Bever, Jim	ENI/EEUD/W
21	Greenberg, Ron	ENI/EEUD/ENR/W
22	Panehal, Alexi	ENI/EEUD/ENR/W
23	Freer, Lori	ENI/EEUD/ENR/W
24	Tarrant, Jim	ENI/EEUD/ENR/W
25	Kalinoski, Mike	ENI/EEUD/ENR/W
26	Parks, Paul	ENI/EEUD/ENR/W
27	Mitchell, Carl	ENI/EEUD/ENR/W

28	Valenzuela, Jackie	ENI/EEUD/ENR/W
29	Osborn, James	USAID/Kiev
30	Daane, Janelle	USAID/Kiev
31	Gordienko, Nata	USAID/Kiev
32	Perry, Gerson	State Dept./Budapest
33	Hough, Richard	USAID/Bucharest
34	Cloutier, John	USAID/Vilnius
35	deGraffenreid, Adrian	USAID/Tallinn
36	Marcken, B.D.	USAID/Riga
37	Hale, Samuel	CH2M-Hill
38	van Kempen, Ties	CH2M-Hill
39	Dreyer, Paul	CH2M-Hill
40	Feeney, Paula	USAID/Almaty
41	Markandya, Anil	HIID/Moscow
42	Klose, Eliza	ISAR
43	Pasarew, Lee	EPA
44	Phillips, Anna	EPA
45	Thompson, Dan	EPA
46	Matyas, Radomir	CEMC
47	Sommers, Bill	LEM
48	Goodkind, Robyn	EPAT
49	Rock, Mike	EPAT
50	DeHanas, Sinikka	EPAT
51	Vondal, Pat	EPAT
52	Rogers, Len	ENI/EEUD/EI
53	Hamilton, George	ISC
54	Hafner, Craig	EHP
55	Cizkova, Helena	Czech Ministry
56	Sugrue, William	G/ENV

Preface

The ENI Environment Retreat was organized by the ENI Bureau, with assistance from Sinikka DeHanas of the Environmental and Natural Resources Policy and Training Project, Winrock International Environmental Alliance (EPAT/WIEA); and ARDA, a Prague-based firm. The retreat was facilitated by James Bever, Deputy Director, ENI/EEUD; Ronald Greenberg, Division Chief, ENI/EEUD/ENR; Michael Rock, EPAT/WIEA; and Patricia Vondal, EPAT/WIEA - Prism project.

Papers presented at the retreat, as well as other supporting documentation, are bound in a notebook too large to include with this report. The notebook, "The ENI Environment Retreat," is available through Alexi Panehal or Ronald Greenberg, ENI/EEUD/ENR.

This report is intended to be a record of the proceedings, based on the retreat rapporteur's notes and tape recordings of the sessions. Text on substantive topics has not been supplemented with research or additional knowledge. The transcript has been edited only for the purpose of improving clarity. The paper greatly benefited from comments by Douglas Clark, Sinikka de Hanas, Alexi Panehal, Michael Rock, and Patricia Vondal. The author also wishes to express appreciation for the technical assistance provided by ARDA in recording the proceedings.

List of Acronyms

BSP	Biodiversity Support Program
CAR	Central Asian Republics
CEE	Central and Eastern Europe
CRA	Comparative risk assessment
EAP	Environmental action program
EHP Project	Environmental Health Project
ENI Bureau	Eastern Europe and the NIS Bureau
ENI/EEUD	ENI/Office of Environment, Energy, and Urban Development
ENI/EEUD/ENR	ENI/EEUD/Environment and Natural Resources Division
ENRIC	Environmental and Natural Resources Information Center
EPA	United States Environmental Protection Agency
EPAT Project	Environmental and Natural Resources Policy and Training Project
EPT Project	Environmental Policy and Training Project
FY	Fiscal year
G/ENV	Global Bureau Center for the Environment
GAO	Government Accounting Office
GEF	Global environment facility
HIID	Harvard Institute for International Development
ICDP	Integrated conservation development project
IFI	International financial institution
ISAR	Institute for Soviet American Relations
ISC	Institute for Sustainable Communities
IWMP	Industrial waste minimization program
LEM Project	Local Environmental Management Project
MOE	Ministry of Environment
NGO	Non-governmental organization
NIS	New Independent States
OMB	Office of Management and Budget
PRISM Project	Program Performance Information for Strategic Management Project
PVO	Private voluntary organization
RA	Risk assessment
SO2	Sulfur dioxide
USAID	United States Agency for International Development
USAID/W	USAID/Washington
USG	United States Government
WASH Project	Water and Sanitation for Health Project
WEC	World Environment Center
WRI	World Resources Institute
WWTP	Wastewater treatment plant

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Executive Summary

In 1994 the United States Agency for International Development (USAID) created the Bureau for Europe and the New Independent States (the ENI Bureau), merging two bureaus that had managed those regions independently. Since that merger, the new ENI Bureau's Office of Environment, Energy, and Urban Development; Environment and Natural Resources Division (ENI/EEUD/ENR) has made it a high priority to apply lessons learned from USAID environmental projects in the Central and Eastern European region to less experienced projects in the NIS region, where USAID's presence is only a few years old.

The ENI Environment Retreat, sponsored by ENI/EEUD/ENR, was designed to provide a forum for sharing with the NIS lessons learned from environmental activities in Europe. Its secondary purpose was to offer USAID officers and contractors working in the environment for the ENI region, in both Washington and the field, an opportunity to discuss management issues critical to the efficient and effective operation of this new unit.

Days One and Two of the retreat focused on the strategies of USAID, the ENI Bureau, and the Global Bureau Center for the Environment (G/ENV); the five building blocks for ENI/EEUD/ENR's environmental action program; and lessons learned from projects in the Central and Eastern European countries. Day Three included sessions on impact indicators and USAID management issues. This report covers Days One and Two as well as the discussion on impact indicators from Day Three.

Day One

Retreat participants heard presentations in the morning from USAID officers representing G/ENV, ENI/EEUD, and ENI/EEUD/ENR. The afternoon sessions included presentations on policy and institutional reform, as well as biodiversity and natural resources management.

Ron Greenberg, Division Chief, ENI/EEUD/ENR, acting as host and chief facilitator, opened the retreat with a welcome and introduction. He explained that the retreat was motivated by the need for those in attendance to listen to each other, and particularly for the ENI Bureau officers in Washington to listen to USAID contractors and mission staff working in the field. By facilitating dialogue through the retreat process, the Bureau hoped to set the stage for moving forward.

Bill Sugrue, Acting Director, G/ENV, speaking on behalf of David Hales, deputy assistant administrator of G/ENV, addressed three topics: (1) the strategic context for G/ENV environmental program, (2) performance measurement and its relevance to the ENI Bureau, and (3) G/ENV's role in achieving USAID's environmental objectives.

Sugrue set the stage for the retreat's sessions by reminding participants that, at the highest levels, USAID and the United States Government have made sustainable development a stated priority. USAID will continue to fund its commitment as a world leader in biodiversity conservation, global climate change, urban/industrial pollution, energy efficiency, and

renewable energy. In the context of Central and Eastern Europe and the NIS, USAID is committed to incorporating the principle of sustainable development into its post-Cold War assistance program for that region, in order to better address the critical issues of poverty, hunger, malnutrition, unemployment, and environmental degradation. In fiscal year 1994, the ENI region received one-third of USAID's environment budget.

Sugrue also briefly discussed performance measurement, a process for measuring program and project objectives. USAID's management review process combined with new political pressures are forcing USAID managers to be more accountable. In the context of USAID's environment strategy, the new management approach requires project staff to ask three key questions: (1) what have we achieved; (2) what is the environmental impact; and (3) is the impact sustainable? Performance measurement was discussed in more detail on Day Three in a session on impact indicators.

Finally, Sugrue discussed the organizational structure and environmental objectives of the Global Bureau Center for the Environment. He explained that David Hales, who arrived in October 1994, is working hard to develop the Center and wanted Sugrue to convey to participants that the process is dynamic and interactive, relying on the input and feedback of field-based colleagues. The Center's five strategic objectives involve biodiversity, climate change, natural resources management, urbanization and industrial pollution, and energy use.

Jim Bever, Deputy Director, ENI/EEUD, presented an overview of the ENI Bureau and the EEUD office, including staff composition and budget, as well as accomplishments and challenges. He noted the broad-reaching effects of ENI/EEUD's work, with 18 to 19 countries receiving assistance and 30 to 40 teams working in the area on any given day. Through such efforts, USAID has gained a seat at the table in recipient countries with cabinet officers, embassies, ambassadors, policymakers, and ministries, and in the U.S. at the White House and the National Security Council.

Building on the theme of accountability introduced by Sugrue, Bever emphasized the need for USAID to better communicate its accomplishments, particularly in this new political climate. In addition to strong performance measurement systems, Bever suggested taking advantage of the new degree of cooperation among ENI countries to encourage assistance from Europe to the NIS, and promoting cross-sectoral cooperation among sectors such as environment, energy, and urban development.

Greenberg led a discussion on ENI/EEUD/ENR's environment strategy and the operational ENI Environment Action Program (EAP). He explained that a draft environment strategy had been prepared and that ENI/EEUD/ENR hoped to identify volunteers from the field at the retreat who would work with Bureau staff following the retreat to finalize the new strategy.

The ENI's existing EAP, which focuses on reducing human health threats and promoting natural resource conservation, organizes priority actions into three categories: policy reform, institutional reform, and investments.

Five Building Blocks of the ENI Environmental Action Program

The presentation on building block one, **policy and institutional reform**, was led by James Tarrant, ENI/EEUD/ENR. with panel participation by representatives from CH2M-Hill, HIID, ISAR, and EPA.

From the panel discussion, several lessons learned from institutional and policy reform efforts in Central and Eastern Europe emerged. In short, they include:

1) Economic restructuring does not necessarily fix the most serious environmental problems because environmental considerations often are not incorporated into sectoral policy or project design, programs often are not designed for a mixed economy, and coordination between sectors often is lacking (e.g., energy and environment).

2) Institutional strengthening programs are not necessarily most effective when they rely on modular training, but rather should be tailored to the unique needs of each country. Also, it is necessary to establish long-term relationships with trainees.

3) Donor-assisted institutional strengthening programs require institutional counterparts to provide support and a critical mass of potential trainees. Trust between the donor and the institution, as well as internally in the institution, is critical.

4) The pace of institutional reform is slower than U.S. donors often expect. Perseverance and patience is requisite, along with a prudent distribution of resources among target institutions.

5) Given time and budgetary restrictions, as well as limited institutional capacity, there is a need to better integrate policy, institutional strengthening, and investment programs more explicitly. Connections and interdependent relationships can be formed, for example, between policy and institutional instruments, investment reform, implementation, monitoring, and identification of win-win investments. Where implementors have to coordinate on their own, it will be more difficult to show impact.

The presentation on building block two, **natural resource management and biodiversity**, was delivered by a panel consisting of James Tarrant and Lori Freer from ENI/EEUD/ENR, and Sandy Hale from CH2M-Hill.

This panel discussed lessons learned from implementation of the Biodiversity Support Program, the Bulgaria National Biological Diversity Conservation Strategy, and the Russia Far East Biodiversity Project. Key points by the speakers highlighted the importance of local participation and ownership (including NGO involvement); coordination among government agencies, ministries, and donors; and policy and institutional reform.

Day Two

Building block three, **investment and financing**, featured a panel presentation by Paul Parks,

ENI/EEUD/ENR, Sandy Hale, Fred van Antwerp, USAIL Prague, and Bill Sommers, LEM.

The panel discussed investment strategy in the context of ENI's environmental action program. Most environmental financing in the ENI must come from domestic rather than international sources, as funding is limited. Much of the domestic financing, moreover, will be private, raising the question of whether USAID should be tracking private capital flows in order to target investment opportunities.

Economies must have a framework in place in order to absorb financial assistance and efficiently target it to the countries' highest priorities and least cost options. Constraints to domestic financing include high default rates due to high interest rates and short repayment periods, unstable political and economic environments, weak standards and enforcement, and international donors who must have sovereign guarantees from host countries. In attempting to identify the best investments, USAID has developed criterion for EAP projects which examine factors such as the degree of impact, least cost solutions, solid host-country sponsorship, and economic viability.

Building block three, **risk assessment**, featured a presentation by Dan Thompson from EPA.

In short, risk assessment is the process of characterizing and quantifying potential adverse human health effects and ecological effects of environmental contamination. When designing EAPs, risk assessment offers decisionmakers a tool for evaluating the importance of potential projects. In the ENI, where environmental health is the first consideration in making investment decisions for environmental projects, risk assessment is a fundamental first step in implementing selection criteria. The EPA has managed risk assessment activities for USAID's environment program in the ENI in the Czech Republic, Poland, Slovakia, and Bulgaria.

The final and fourth building block, **least cost approach**, was discussed only briefly due to time constraints. A key issue that emerged during this discussion is the fundamental question of whether resources should be focused on developing individual projects at the micro level, such as targeting emissions from a specific plant, or whether a more systemic level should be targeted for a more integrated approach. Often projects are designed and implemented without considering the cost-effectiveness of proposed solutions at the micro level. Least cost planning is not being employed often enough.

Application of Lessons Learned: Five Illustrative Cases

A panel of project managers working on USAID activities in CEE presented lessons learned from their experiences.

Some of the key lessons learned presented by this group include:

- Designers and implementors should clearly define their strategies; set reasonable goals; implement flexible work plans; and carefully measure, refine, and re-set goals.

• Project managers should use the tools at their disposal wisely, such as training, risk assessment, waste minimization, and cost-benefit analyses.

• Project managers should recognize the value and necessity of engaging local counterparts, strengthening local institutions, and maintaining a flow of information with host-country counterparts.

• Strong and realistic policies, workable standards, and enforcement mechanisms are necessary for sustaining project outputs.

• Coordination with other donors should be a priority.

Workgroup Sessions Analyzing Existing CEE and NIS Projects in the Context of Lessons Learned and Building Blocks

Retreat participants divided into random working groups to conduct this exercise, and then presented analyses. Some of the key points from the groups include:

· policy and financing appear to be the most uncontrollable variables;
· diversity of strengths among host-country counterparts and the donor community should be optimized;
· the twinning potential with counterparts is great;
· responding to short-term needs can be as important as planning for long-term outputs;
· cross-sectoral issues should be addressed, capitalizing on other USAID resources;
· training efforts should be tailored to the appropriate level;
· thinking through project components for their relevancy and effectiveness should be a fluid process throughout project design and implementation; and
· activities should be analyzed through different stages to assess the applicability of the building blocks.

Day Three

The session on impact indicators was presented by James Bever, ENI/EEUD; Alexi Panehal, ENI/EEUD/ENR; and Patricia Vondal, EPAT/WIEA - PRISM.

Jim Bever introduced the concept of impact indicators, emphasizing the new demands for accountability of USAID activities, particularly in the ENI. Impact indicators must be developed and monitored so that they clearly demonstrate through the life of projects specific achievements or failures. It is important, however, not to hold ourselves to unrealistic standards, recognizing that it is impossible to demonstrate all of a project's successes with a few indicators. It's far more important to demonstrate the spirit of our accomplishments.

Alexi Panehal's presentation focused on the requirements of the ENI Bureau for impact indicators, funding implications, and the programmatic value of indicators. She explained the distinction between inputs, outputs, and impacts; the difference between quantitative and qualitative project indicators; and briefly discussed the process of gathering information for

impact indicators.

Patricia Vondal's presentation focused on clarifying the request from the ENI Bureau program office for impact indicators from the field; the basic principles of impact indicators; illustrations of indicators from two CEE projects; and other issues related to impact indicators, such as multiple audiences, causality, time constraints and delays, and costs.

BACKGROUND

Prior to 1994, the countries of Central and Eastern Europe (CEE) and the New Independent States (NIS) were divided into two USAID/W bureaus, the CEE Bureau and the NIS Task Force (created in 1992). In 1994, USAID combined the two central offices into one bureau, the Bureau for Europe and the NIS (the ENI Bureau), which now includes all of the countries in Central and Eastern Europe and the NIS where USAID is represented. They are: Poland, Slovakia, the Czech Republic, Hungary, Bulgaria, Romania, Albania, Estonia, Latvia, Lithuania, Belarus, Ukraine, Moldova, Armenia, Georgia, Russia, and the Central Asian Republic countries.

Since the merger of the CEE Bureau and the NIS Task Force, a priority for the ENI Bureau Office of Environment, Energy, and Urban Development; Environment and Natural Resources Division (AID/ENI/EEUD/ENR) has been to apply lessons learned from USAID's environment program and projects in the CEE countries to its program and projects in the NIS countries. To this end, the ENI/EEUD/ENR organized the ENI Environment Retreat in order to bring together representatives from the ENI Bureau, the CEE missions, and the NIS missions. Contractors, implementors, and grantees working with USAID on environmental projects in the region also attended, including representatives from CH2M-Hill, Harvard Institute for International Development (HIID), the World Environment Center (WEC), the United States Environmental Protection Agency (EPA), the Local Environmental Management (LEM) project in Poland and Hungary, the Institute for Sustainable Communities (ISC), the Environmental Health Project (EHP) in Romania, the State Department in Budapest, and the Czech Ministry of Environment.

The first two days of the retreat included all participants and focused on the strategies of USAID, the Global Bureau Center for the Environment (G/ENV), ENI/EEUD, and ENI/EEUD/ENR; the five building blocks of ENI/EEUD/ENR's environmental action program; and lessons learned from projects in the CEE countries. The third day focused on internal USAID management issues and was limited to participants from USAID, with the exception of the presentation on impact indicators, which also was attended by some implementors, grantees, and partners.

This report covers Days One and Two, as well as the discussion from Day Three on impact indicators.

DAY ONE

1.0 WELCOME AND INTRODUCTION

Ronald Greenberg, Division Chief, ENI/EEUD/ENR

This retreat was motivated by the need for those in attendance to listen to each other, and particularly for the ENI Bureau to listen to USAID contractors and mission staff working in the field. By identifying and addressing problem areas, we hope to facilitate dialogue and set the stage for moving forward.

The retreat is divided into five broad topics, or sessions:

1. Overview - a summary of the strategies and policies of USAID globally, the ENI Bureau, EEUD office, and the ENI/EEUD Natural Resources division.

2. Five Building Blocks - a discussion of the principal components of ENI/EEUD/ENR's environmental action program: policy reform; institutional reform; finance; risk assessment; and least cost planning.

3. Application of Lessons Learned - a presentation of five illustrative cases from the CEE region followed by working group sessions that will apply building blocks and lessons learned to ongoing projects.

4. Impact Indicators - a discussion on the importance of developing and implementing indicators that adequately track program and project impacts, focusing on the recently distributed request from the ENI Bureau program office to the missions for indicators.

5. Management Aspects - a session reserved for USAID participants that will facilitate dialogue between the ENI Bureau and missions on issues related to improving the management of programs and projects.

2.0 OVERVIEW: TRENDS IN THE AGENCY AND THE BUREAU

William Sugrue, Acting Director, Global Center for Environment (G/ENR)
James Bever, Deputy Director, ENI/EEUD

2.1 Overview of the Agency Strategy for Sustainable Development (Sugrue)

Bill Sugrue spoke on behalf of David Hales, Director and Assistant Administrator, Global Bureau Center for the Environment, who was unable to attend. Three topics Hales wanted to address:

1) Strategic context for overall environmental program.
2) Performance measurement and its relevance to the ENI Bureau in particular.

3) Global Bureau's role in achieving USAID's environment objectives.

2.1.1 Strategy for Environment Program (Sugrue, cont.)

At the broadest level, the Clinton administration is concerned about the environment. Quoting President Clinton:

> *"Whether rapid deforestation, depleted and poisoned ground water resources, or soils that will no longer bear crops, the problem is the same...we are failing to meet pressing human needs and at the same time we are destroying the very resources on which we depend to meet those needs."*

At the level of USAID, the agency is in the process of restructuring itself in order to better address issues related to sustainable development. Development is sustainable when it permanently enhances the capacity of society to improve its quality of life. In its 1994 document *Strategies for Sustainable Development*, USAID identifies five building blocks that comprise its approach to sustainable development: environmental protection, democracy, population and health, economic growth, and humanitarian assistance. In the programming of USAID resources, these five components of sustainable development must be integrated. For purposes of this retreat, however, the focus will be on environmental protection.

Central and Eastern Europe and the NIS, probably more than any other region in the world, is experiencing profound changes. With the end of the Cold War, we are better equipped to face the challenges of this region, which evolve from a variety of sources, including poverty, hunger and malnutrition, unemployment, and environmental degradation. In this context, USAID has two environmental strategic goals: 1) Reducing long-term threats to the global environment, particularly biodiversity and climate change; and 2) Promoting sustainable economic growth locally, nationally, and regionally by addressing practices that impede development.

USAID will continue as a world leader in biodiversity conservation (in FY 94, USAID spent $66 million dollars in this area), global climate change, urban/industrial pollution, energy efficiency, and renewable energy. USAID's environmental budget accounted for 11% of its overall FY 94 budget for agency bilateral development assistance, worth approximately $680 million. Over the past several years, USAID environmental programs have focused on forestry, agroforestry, sustainable agriculture, and water resources, augmented more recently with coastal resource management, biodiversity conservation, and urban/industrial pollution - an area where the CEE and NIS countries have been particularly active in providing technical leadership.

ENI constituted one-third of USAID's FY 94 environment budget, making ENI a key player in helping USAID meet its environmental goals. **Figure 2.1** illustrates budgetary allocations by region of USAID resources for the environment.

What's Different About Managing for Results?

Old Focus	Managing for Results
Inputs	Outcomes
Process	Results
Activities	Strategic Objectives
Retrospective Data Analysis	Ongoing Monitoring
Compliance	Performance
Management Control	Management Improvement
Reporting Data	Using Data

Figure 2.2

2.1.2 Performance Measurement (Sugrue, cont.)

This will be a brief introduction to performance measurement, which will be followed by a more detailed discussion on Day Three of the retreat. Performance measurement is a process that organizations practice which provides an objective measurement of its success in meeting stated objectives. Aside from being good business practice, Congress and the administration, through several acts, require US agencies to adopt effective performance measurement systems for assessing the value of their programs. In 1994, the USAID administrator, Brian Atwood, volunteered USAID for a national performance review led by Vice President Gore; in conjunction with that effort USAID has initiated an ongoing re-engineering exercise aimed at demonstrating results.

Project managers have always understood the importance of showing results, and now the agency is incorporating the same principle, focusing more on achievements than inputs. **Figure 2.2** illustrates the basic differences between the agency's old approach to project management and the new way of managing for results.

As USAID manages for results, strategic planning will be essential. It involves clearly defining our environmental objectives at each level of USAID, identifying the necessary steps for achieving those objectives, and documenting accomplishments. Assessing results will help assure accountability, improve program management, and enhance our understanding of sustainable development. Lessons learned from past and ongoing activities will form the basis for results-oriented management, allowing managers to make more rational programming and budgetary decisions.

An effective performance measurement system includes five general steps: define objectives, develop indicators, collect base-line data; analyze performance; and use the information for managing results and making decisions, including the re-definition of objectives if necessary. The USAID PRISM project uses these five steps; the MRS system, being developed by ENI, is similar, and will be closely reviewed by USAID for agency-wide use.

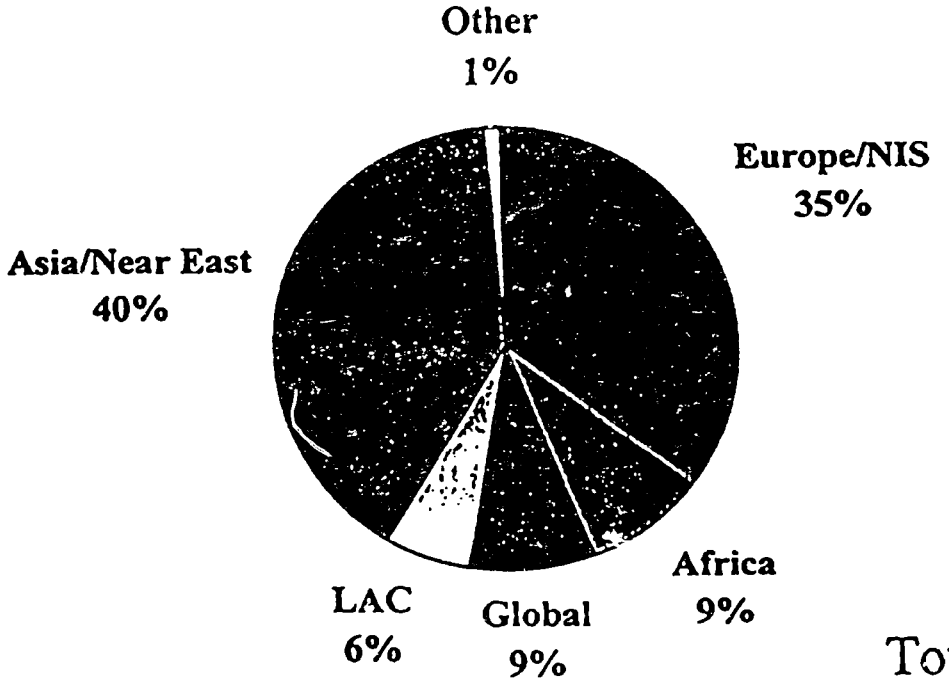
In the context of USAID's environment strategy, the new management approach forces us to ask three key questions:

1) What have we achieved? e.g., not only counting how many people have been trained, but whether they're working, being productive and effective, and generating the intended output of the program or project.

2) What is the environmental impact? e.g., not just that a protected area has been created, but whether there's been an increase in the conservation of biodiversity.

3) Is this sustainable, or, to what extent will the impacts last?

USAID Environmental and Energy Obligations by Bureau, FY94



Total = $678.6 million

Figure 2.1

2.1.3 Global Bureau (Sugrue, cont.)

Figure 2.3 is an organizational chart for the USAID Global Bureau. The bureau's chief functions are to provide:

- Technical assistance and support for field missions and USAID/W offices.
- Management of global programs.
- Scientific and technical leadership.
- Access to the USAID data bases, housed in such projects as ENRIC (broad data base of USAID activities) and PRISM (performance information data base).
- Donor coordination with other agencies.
- International representation on global issues.
- Career management for USAID's technical cadre.

The Center for Environment consists of staff from the Environment/Natural Resources office, the Energy office, and the Urban Programs office. The center's five strategic objectives revolve around biodiversity, climate change, natural resources management, urbanization/industrial pollution, and energy use. David Hales, who arrived in October, 1994, is in the process of developing the center and would emphasize that it is still evolving in many ways and has not reached its full potential.

2.1.4 Comments/Questions (C/Q) and Answers (A)

Greenberg -- Food for thought from the presentation: While USAID's strength is in building capacity, its goal must now focus on measuring the actual results of improving the environment, and the information gained from those measurements will flow directly into programming and budgetary decisions.

C/Q: What is the status of the Global Bureau assisting in the recruitment and assignment of project officers?
A: The Bureau is not yet recruiting and assigning project officers although this is a responsibility that the re-engineering exercise instructs the Global Bureau to undertake. It is too early to know how that responsibility will be implemented.

Follow-up C/Q: Is this a priority for the Global Bureau?
A: Can't speak for Hales, but believe that good working relationships and programmatic partnerships are a priority.

C/Q: Please provide clarification on the division of roles among U.S. federal agencies on global climate change.
A: With respect to USAID's relationship to other U.S. donors, such as EPA, NGOs, and the

USAID

Bureau for Global Programs, Field Support, and Research

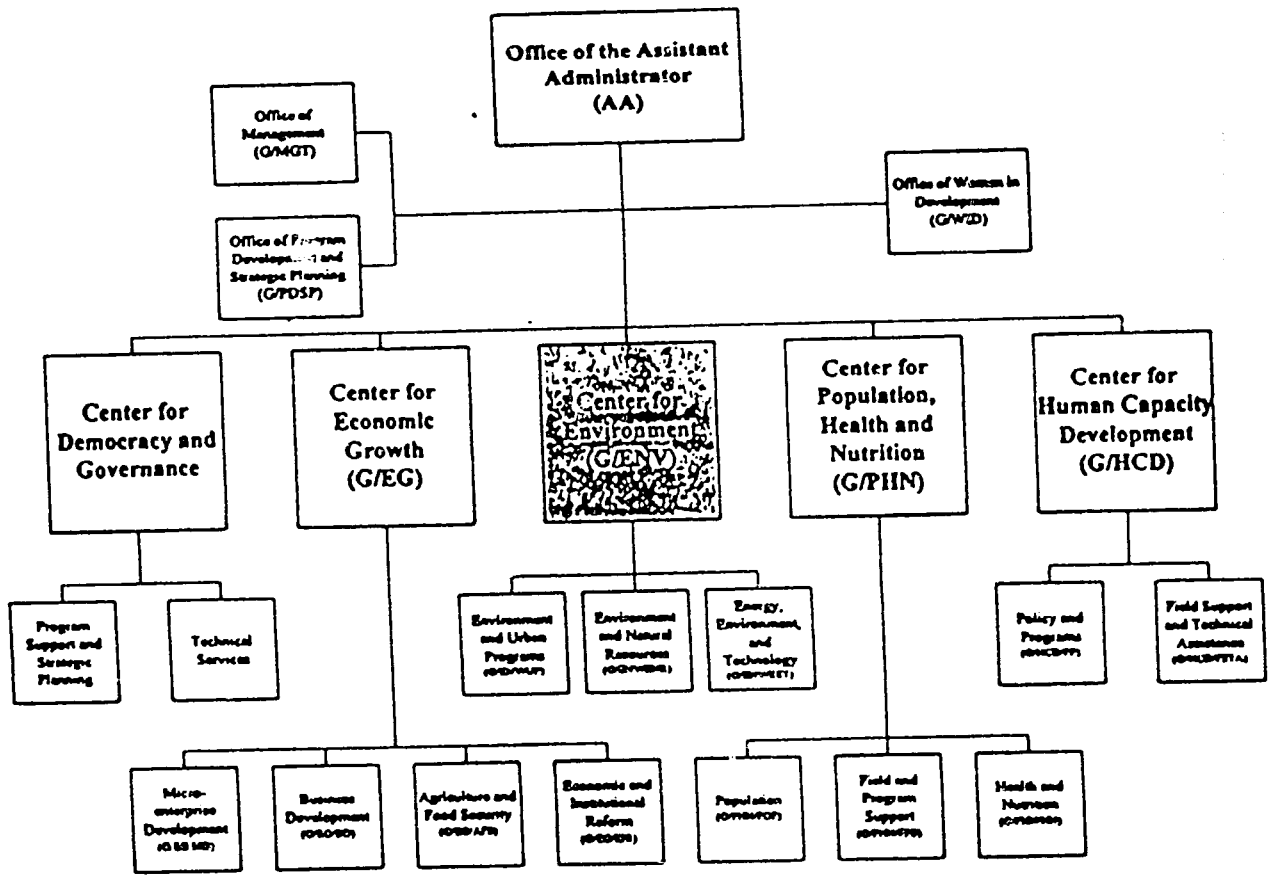


Figure 2.3

Department of Energy, it is not yet known how the Global Bureau's leadership role will affect these partnerships. While technical leadership within the U.S. government lies with the Global Bureau, it does not intend to dominate every issue and will look toward other donors for leadership of some issues.

C/Q: What are the practical implications of the Global Bureau's stated objective to strengthen its relationship with missions?
A: The roles and responsibilities of the Global Bureau and USAID missions must be sorted out through a cooperative dialogue that Hales is attempting to facilitate. All of these issues are still being examined.

2.2 Overview of the ENI Bureau (Bever)

This retreat is important in that it marks the first gathering of Europe and NIS mission representatives working in the environment, together with the newly created ENI Bureau.

The ENI Bureau today has approximately 800 staff, 350 in Washington and 450 in the field, with a FY 95 budget of approximately $1.3 billion, half of last year's budget. The ENI Bureau as a whole has obligated a total of $4 billion to date across all sectors.

Within the ENI Bureau, 50 positions in Washington and 30 overseas are dedicated to the ENI/EEUD. The ENI/EEUD/ENR has approximately 20 positions in Washington, 15 of which are filled, reflecting the difficulty USAID has had recruiting foreign service professionals for certain positions. ENI/EEUD/ENR's FY 95 budget is approximately $55 million.

The good news for ENI/EEUD is its broad-reaching effect, with projects in 18-19 countries that have received $200 million in assistance to date. Thirty to forty teams from the ENI/EEUD/ENR are working in the region on any given day, helping to generate an impressive network committed to environmental improvement at regional and national levels. Through their efforts, combined with the efforts of the ENI/W and field staffs, USAID has gained a seat at the table in the field with cabinet officers, embassies, ambassadors, local policymakers, ministries, and in Washington at the White House and at the National Security Council. This access to worldwide decisionmakers is invaluable and did not exist four years ago. Another outcome of these efforts is the impressive donor network that has recently evolved. Other donors now look to USAID as risk takers and technical leaders who are courageous and creative enough to identify problems and propose solutions.

A consequence of these developments is that we have begun to see breakthroughs in our attempts to assist local governments who have the courage to implement reform -- the Czech Republic and Poland provide good examples of such influence.

Despite these accomplishments, serious challenges confront us; namely, a new Congress exercising greater scrutiny and USAID's own re-engineering exercise that strives to create a better agency and not a recycled agency. While our colleagues on Capitol Hill believe that

the U.S. will continue to play an important role in foreign assistance, it's not clear at this time how that assistance will be implemented.

One undisputed fact is that budgets will be cut, particularly the budget for Russia, although we cannot know now what form the cuts will take. In light of reduced resources, our task is to focus on those activities in the environmental portfolio that present the best opportunities for success.

One direction Congress might take is to focus more resources in the area of trade and investment, a shift that could effect environmental programs because economic development, if not carefully planned, will not necessarily be environmentally sustainable development.

Another challenge that demands our attention is the increased level of scrutiny from a wide range of sources, including Congress, the Inspector General, the Accounting Office, the Office of Management and Budget (OMB), the press, and the public. We must strategize on ways to communicate our successes; one important strategy is the development of strong performance measurement systems, as discussed by Bill Sugrue and expounded on later in this retreat. We should also take advantage of the new degree of cooperation among countries in the ENI region and encourage the provision of assistance from Europe to the NIS countries. Similarly, we should promote cross-sectoral cooperation, capitalizing on the overlapping objectives of environment and other USAID sectors, such as energy and urban development.

An important mechanism for solidifying some of these strategies will be the Environmental Action Program (EAP) meeting of CEE and NIS countries, scheduled for October 1995 in Sofia, Bulgaria, a follow-up to the 1993 Lucerne meeting in Switzerland. The purpose of the Sofia meeting will be to review progress in the implementation of the EAP for Central and Eastern Europe, as well as NIS, countries.

2.2.1 Comments/Questions (C/Q), and Answers (A)

C/Q: Increased scrutiny from Congress and the public is not new. The environment sector can learn from the actions taken by other sectors that have come under scrutiny, such as energy, health, and agriculture, to justify their program to Congress and the American public. The key to presenting accomplishments effectively is to understand what questions are being asked by those seeking accountability and point to those accomplishments which directly respond.

C/Q: Dine's office weekly report is the only communication from the ENI Bureau that shares information with the field. It would be helpful to receive concrete suggestions from the ENI Bureau to assist missions in the cross-fertilization process of communicating with the Bureau and with other missions.
A: The ENI Bureau is constantly considering ideas for better communication with the field, and welcomes input on improving communication.

2.3 Overview of ENI/EEUD/ENR Program & Donor Coordination

Ron Greenberg
Lee Pasarew, EPA

Introduction (Greenberg)

Two topics guide this discussion:

1) What ENI/EEUD/ENR is doing on developing a consolidated ENI environmental strategy, because if the strategy isn't right our successes will be a slew of uncoordinated and disconnected activities.

2) An overview of the environment program which has been operational for ENI, particularly to focus on the need for integration of Washington's program with the strategic objectives at the mission level. Since the merger of the CEE and NIS countries, we have been struggling for common a vision.

2.3.1 The ENI Environment Strategy (Greenberg, cont.)

In response to USAID's re-engineering exercise and the USAID administrator's guidance, the ENI/EEUD/ENR has been asked to produce an environment strategy for the region. The effort to develop a new environment strategy for the ENI is a product of the need to marry the CEE strategy with preliminary versions of the NIS strategy, and create one coherent document without spending a great deal of time. This retreat provides a structure for several of the key elements of an environment strategy, and by the end of the retreat we hope to have volunteers from the field to provide intellectual input to help us revise the draft environment strategy that was produced in a hurry last November. This draft, which exists in outline form, is attached as **Appendix A**.

The new ENI strategy that emerges will take into account the overall agency strategy and guidelines, the EAP for CEE and NIS, the Gore-Chernomydrdin strategic objectives, the previous strategy for CEE, country strategies, the Aral Sea initiative, the Global Environment Facility (GEF) program commitments, the Danube River Action Plan, and the Baltic Sea convention.

2.3.2 Key Building Blocks for Environmental Action Program for the ENI Region (Greenberg)

The existing EAP for the ENI region addresses two key issues: 1) reducing threats to human health; and 2) promoting the conservation of natural resources management. In order to improve environmental conditions, we have organized priority actions into three categories: 1) policy changes; 2) institutional reform; and 3) investments. **Appendix B** presents two tables: Table 1 is a summary of the major actions which the World Bank, the U.S., the European Union, other donors, and the CEE and NIS environment professions have identified for action. Table 2 provides detailed information from Table 1.

2.3.2.1 Policy Reform

The major environmental improvements in the ENI region at this time are a result of

recession and collapse of the industrial sector. These improvements are unsustainable without major policy reform that restructures the energy and industrial sectors. Many of the necessary reforms fall outside of the environment program, but we need to keep promoting them. They are: privatization; removal of subsidies for energy, raw materials, and processing; industrial restructuring, closing, and modernization; and restructuring of the financial sector. Policies that we can help affect are:

- Eliminate barriers to private investment, including environmental liability as part of privatization.
- Modernization of environmental standards which are economically rational.
- Promote pollution prevention before pollution control.
- Support integrated environmental management.
- Introduce economic incentives.
- Develop pollution charges based on economic rationale.
- Phase in compliance to European Union standards.
- Eliminate subsidies and support the reform of prices for natural resources.
- Promote public participation and disclosure.
- Reform financing for environmental investments in pollution abatement and natural resources management and conservation.

2.3.2.2 Institutional Reform (Pasarew)

The change in the CEE and NIS countries from command economies to more free market economies has changed institutions, forcing us to adapt strategies and programs to fluctuating and uncertain economic and political conditions. Our key objective should be to promote major policy reforms through institutional changes. This objective has not been achieved although there has been significant strengthening of institutional capacity and some policy changes. The challenge is to identify where they merge.

Since Lucerne, USAID has been attempting to strengthen institutions in the CEE and NIS countries at the national level, but progress has been slow, in part because the West does not have abundant examples to offer as models. Massive reform is still needed to increase the functional capacity of central ministries, to strengthen policymaking and enforcement at the local and regional levels, and to integrate institutions across sectors. With such coordination, environment clearly will be a weak link in policy reforms.

Improvements are also needed in the area of environmental monitoring and information systems, particularly in collecting relevant data to support policy decisions. The assumption that more data and fancier equipment is always better is false; the more effective and efficient approach is to work from the perspective that starts with the decision that needs to be made, back to the data that is needed to help make the decision.

In the area of project design, improvements can be made using risk assessment and a process that is more open to public participation by accessing NGO and other community-based linkages. EPA is also working to strengthen the capacity of NGOs to enter the decisionmaking arena on environmental issues. In training, EPA and other donors are trying

to break through the barriers that developed from a system which placed people with technical skills in ineffective or weak institutions. Support in this area includes training for a variety of management skills.

In preparing for the Sofia conference, we are encouraging CEE and NIS countries to develop EAPs; all countries have agreed to the process, but there are no national EAPs yet. Another goal is for environmental ministries in each country to take ownership in and leadership of environmental policy reform. In order for host countries to meet their objectives, we need to continue to promote these initiatives.

2.3.2.3 Investments (Greenberg)

Policy and institutional reforms are pre-conditions to sustainable investments. Nevertheless, without investments, the public demand for environmental improvement cannot be met, leading to dissatisfaction with political leadership in the region. In addition, western credibility to assist CEE and NIS countries with investment advice is being challenged, absent a concomitant increase in real capital.

The majority of investments have come from and will continue to come from domestic sources. With the exception of industrial investments, Western and IFI investments are likely to account for no more than 5 to 10 percent of all environmental financing in the CEE and NIS countries. It is therefore critical that the West demonstrate its political commitment to economic growth with tangible results. To this end, the U.S. and other western donors and IFIs have developed the following guidelines for investment priorities:

Donors and ENI countries should finance:

1) The operation, maintenance, and repair of existing public environmental investments;
2) "Win-win" investments, i.e., those that produce economic and environmental benefits; and
3) Investments that reduce threats to human health in the following priority areas:
   - Lead exposure from gasoline and smelters.
   - Air particulates and SO2.
   - Contamination of drinking water.

2.3.3 Comments/Questions (C/Q) and Answers

C/Q: In local governments, these issues are a high priority, in both the U.S. and in host-country counter-parts. There is a transference of experience and information from U.S. municipalities to Eastern European municipalities.

C/Q: We should not diminish the importance of wastewater. In this case, it's a public service, so financing is not manageable through market mechanisms. The systems for providing services are broken; thus, management is in a different category.

C/Q: There is a distinction between economic benefits and environmental benefits from the perspective of most Eastern European countries, whose immediate priority is the health of

their economies. The sources of funds are not fungible; rather, funds and revenues are earmarked -- we have no control over that. We should focus on incremental investment: much infrastructure has been started; we should find openings and invest slowly.

3.0 THE FIVE BUILDING BLOCKS

3.1 Building Block 1: Policy and Institutional Reform

James Tarrant, ENI/EEUD/ENR
Glen Anderson, HIID, Poland
Sandy Hale, CH2M-Hill
Eliza Klose, ISAR
Tom Owens, HIID, Slovakia
Anna Phillips, EPA

3.1.1 Introduction/Lessons Learned (Tarrant)

Figure 3.1 shows a rough schematic of the CEE environmental project portfolio and interactions with counterparts. It demonstrates work at the national and local level and interrelationships around three program areas: national policy reform, environmental investment support, and national institutional strengthening.

Figure 3.2, a schematic of the environmental policy making and implementation process, is a model of the linkages between policy institutions and investments. From a goal (e.g, improved public health), policy objectives can be identified, and policy instruments chosen as the vehicles for achieving the goal. Implementors at the national level (ministries, agencies, legislators, etc.) will use the instruments to affect policy change across sectors such as finance, economics, and energy, which are then directly carried out through a complex interrelationship among local and regional governments, state enterprises, and private sector enterprises. Ideally, then, feedback is generated by NGOs and other institutions that receive input from the public. This feedback, which tests the initial hypothesis, eventually travels back to the implementors for consideration and potential modification of policy.

Lessons learned from institutional reform efforts in the CEE and NIS include:
1) Economic restructuring does not necessarily fix the most serious environmental problems, because environmental considerations often are not incorporated into sectoral policy or project design, programs often are not designed for a mixed economy, and coordination between sectors often is lacking (e.g., energy and environment).

2) Institutional strengthening programs cannot necessarily be generalized through utilization of modular training. ENI's regional approach to institutional strengthening has had a limited impact because it was not tailored to the unique conditions of each country. Moreover, the failure to establish long-term relationships with trainees contributes to the ineffectiveness of institutional strengthening programs.

Figure 3.1

CEE ENVIRONMENTAL PROJECT PORTFOLIO AND INTERACTION WITH COUNTERPARTS

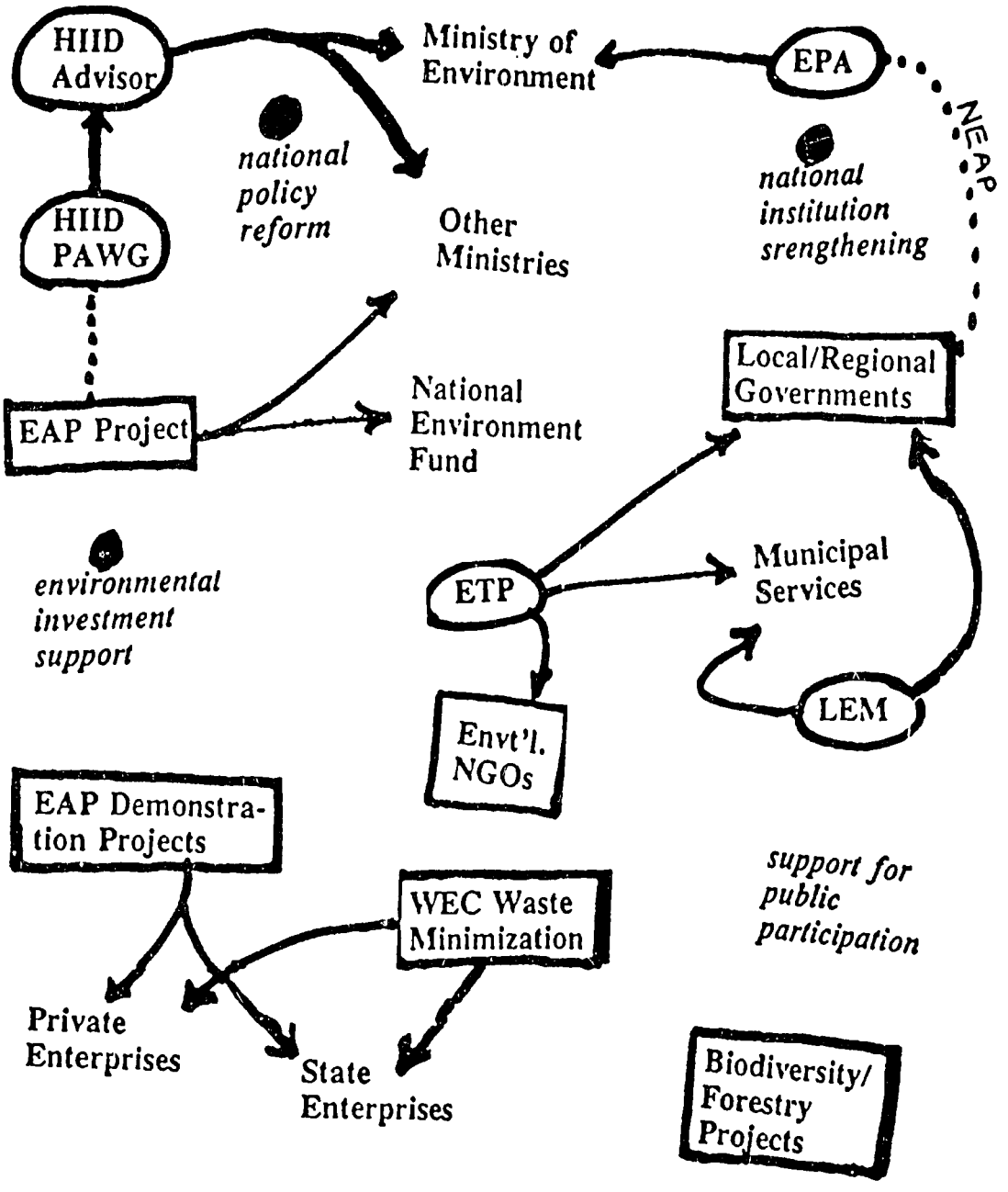
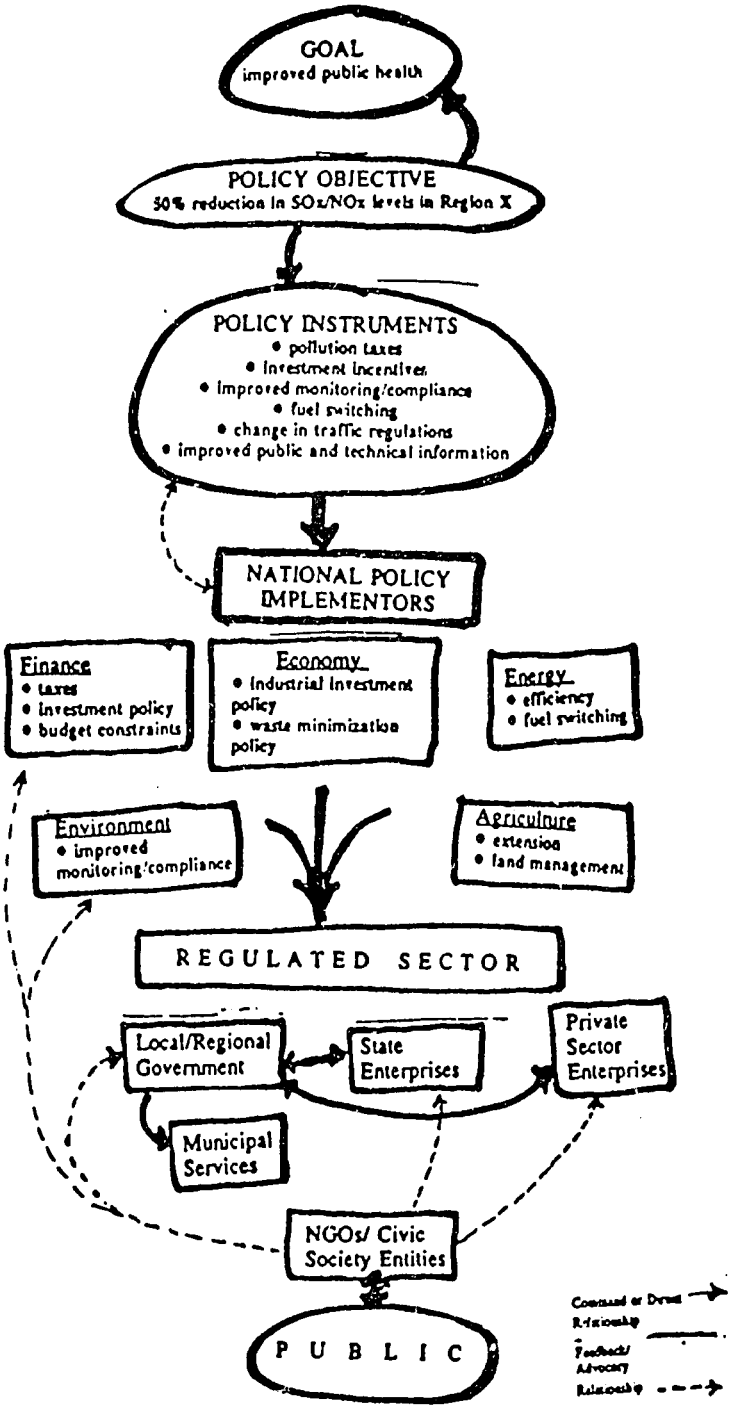


Figure 3.2

SCHEMATIC OF ENVIRONMENTAL POLICY MAKING AND IMPLEMENTATION PROCESS



3) Donor-assisted institutional strengthening programs require institutional counterparts with stability and a critical mass of potential trainees, in addition to adequate support from the institution, in order to have a significant impact. Trust between the donor and the institution, as well as internally in the institution, has been lacking.

4) The pace of institutional reform is slower than U.S. donors often expect. Perseverance and patience is requisite, along with a prudent distribution of resources among target institutions. In other words, a balance should be sought between maintaining a commitment to institutional change and the need to work at a variety of different levels (NGOs, government, industry, etc.).

5) Given time and budgetary restrictions as well as limited institutional capacity, there is a need to better integrate policy, institutional strengthening, and investment programs more explicitly. Connections and interdependent relationships can be formed, for example, between policy and institutional instruments, investment reform, implementation, monitoring, and identification of win-win investments. Where implementors have to coordinate on their own, it will be more difficult to show impact.

3.1.2 Panel Discussion

3.1.2.1 Lesson learned: integration. One could ask, why bother with an environmental assistance program? The problem is not the environment, per se, but how humans treat the environment. Therefore, ENI/EEUD/ENR's projects work toward the objective of sustainable development by employing a more holistic and integrated approach than other USAID offices or U.S.G. agencies. As a corollary, the impact of U.S.G.'s environment program will be less than it could be to the extent that environmental considerations are not integrated into the rest of its programs. We should ask ourselves, on a practical level, what the best ways are of ensuring that environmentally sound policies and procedures are disseminated and diffused throughout the U.S.G. environment program.

We should examine the advantages and disadvantages of more integration of environmental policy, institutional and investment assistance, as well as integration among U.S.G. agencies. Options for consideration include: integration of all U.S.G. activities on the basis of geographic regions; integration of environment into non-environment projects in the form of demonstration projects, by issue (liability, taxation), or by sequence (preparatory or follow-on activities); organization of environmental assistance as a series of demonstration projects with policy, institutional, and investment components.

3.1.2.2 Lesson learned: claiming successes. Working on policy projects, we confront the problem of demonstrating and taking credit for our accomplishments. Our projects often don't show immediate results but are designed more for long-term sustainable changes in formal and informal policies. When the outcomes emerge, we're no longer there to either measure them or take credit for them -- a problem that will be discussed during the presentation on impact indicators later in this retreat. Even when we clearly are successful we

often hesitate to take credit because we're not sure that we can claim ownership of the success for fear of antagonizing host country clients who will want to take credit.

3.1.2.3 Lesson learned: environmental taxes. It's difficult to present as a success story because credit is often belied by political sensitivities. For example, in Poland the government threatened to eliminate some of the highest fees in the world. While we were successful in persuading Poland that it would be counterproductive to eliminate the fees, taking credit for not eliminating high fees is difficult to portray as a policy success.

3.1.3.4 Other lessons learned:

• Introducing environmental elements into sectoral policy. We've done a poor job documenting the benefits of incremental approaches, and need to spend more resources on documentation.

• Centralized vs. de-centralized environmental management. Much host-country progress occurs in regions outside the capital, as in Russia and Poland, where people at the community level are most affected and effective. We need to improve documentation of such de-centralized successes.

• Replication: capitalizing on successful projects. Mechanisms need to be strengthened for transferring successes from one part of a country to another or to another country.

• Limitations of effectiveness. Many variables affect successful implementation of environmental programs and projects:

- ineffective or uncommitted counterparts.
- lack of capital to finance environmental improvements.
- no enforcement of reducing demand for investment.
- policy problems (e.g., weak or excessive standards).

The challenge is to focus on making incremental improvements without sacrificing positive effects in pursuit of the best reform. Focus on mechanisms that will work in the country; respect and learn about the institutions.

3.1.3 Summary of Panel Commentary

3.1.3.1 Counterpart/Policy Issues

- Weak ministries of environment are reflected in the environment programs of USAID country assistance strategies.

- Constantly revolving governments force us to find power bases, learn who holds signature power, who directs those with signature power, and identify new emerging power base. A policy advisor must tend to all of these potential power bases but cannot take credit for policy changes or they will lose credibility.

- Another perspective is that weak counterparts tend to interfere with our work less,

making our short-term tasks easier to accomplish, but undermining the long-term sustainability of the effort.

3.1.3.2 Economic Restructuring Issues

· The most important factor in promoting sustainable development is economic restructuring. Economic restructuring alone could reduce environmental health risks by 50%.

· Important targets include privatization/western investment. Clear standards and compliance schedules are needed. Inherent problem is long gestation period and demonstration of results. Attempt should be made to incorporate the Ministry of Industry in the process

· Contrary view on panel that the restructuring process is laborious, forcing us to find a way to deal with existing industries in the short-term while planning for long-term industrial growth.

3.1.3.3 NGO Issues

· NGOs in the NIS are committed and organized, which makes our job of incorporating them into the process easier.

· NGOs as institutions are effective at disseminating information and providing training but are not necessarily successful at policy reform. One reason could be the "white hat-black hat" dilemma endemic to NGOs; many Russian NGOs, for instance, perceive the government as the "enemy". This makes our job tougher because we have to balance these interests. One approach is to promote strictly non-advocacy NGOs.

3.2 Building Block 2: Natural Resource Management and Biodiversity

Jim Tarrant, ENI/EEUD/ENR
Lori Freer, ENI/EEUD/ENR
Sandy Hale, CH2M-Hill

3.2.1 Introduction/Biodiversity Support Program (BSP) (Tarrant)

We have a portfolio that is admittedly not the highest priority for the ENI Bureau, but one that is important not only to USAID but to many of the regions throughout the CEE and NIS.

Points for Discussion

1. Examples of habitat and biodiversity projects include BSP and Greencom, which highlight the issue raised by Bill Sugrue of coordination among USAID bureaus and missions, as well as coordination with other agencies.
2. "Green" issues often provoke a "so what?" response because the benefits are not readily apparent. For instance, if exploitation of a habitat is prevented and residents as a

consequence do not get flooded from their homes, they do not recognize that they might have been flooded from their homes if exploitation had occurred. Benefits from such projects are often difficult to quantify, making it harder to market them.
3. The importance of donor activities working with the right people. You cannot underestimate the contribution of NGOs and regional governments, for example.
4. Even when we work hard to build good relationships with other agencies, often traditional interagency conflicts can slow progress.
5. Therefore, the need to work at the grassroots level to build management plans is essential. In Communist systems, for instance, developing land use policy is traditionally a local task. If we don't include local use rights, we'll face problems.
6. An operational lesson learned from Bulgaria, Russia, and elsewhere is the strong necessity to develop linkages among policy, institutional development, and field activities. Without land tenure policies, for example, forestry protection policies cannot be implemented.
7. We recognize, therefore, that it is necessary to set up frameworks at the grassroots level within the national framework. To the extent that we focus on local and regional levels at the exclusion of the national level, we face potential political problems at the national level.

3.2.2 Bulgaria National Biological Diversity Conservation Strategy (Freer)

While we hope to see successes in the next few months, lessons learned to date include elements of public participation, local ownership, coordination among ministries and donors, policy reform, institutional strengthening, and investment.

1. Local ownership has taken longer to establish than originally anticipated. The NGO community, accustomed to being confrontational and splintered, has been hard to manage. Most of the NGOs target specific issues or objectives, such as the conservation of a species, and are not equipped or trained to address macro-level issues related to natural resource management.

2. Three-quarters of the project's resources has gone directly to people at the ground level, such as local consultants and coordinators.

3. Coordination of ministries: the project has experienced resistance from certain ministries whose participation is critical. Although many methods have been used to promote consensus, we have not been successful getting them fully on board. As a $6 million project, perhaps a more consolidated approach in the beginning would have been more prudent; i.e, we tried to work with an agency that did not have enforcement power.

4. Policy/institutional strengthening/investment: the project has been much more successful in this area. The project has successfully assisted in the development of a biodiversity strategy, as well as a Bulgaria policy agency. Equipment has been procured, and a visitor center established. Key to these successes has been the delegation of responsibility and leadership to the Bulgarians.

3.2.3 Russia Far East Biodiversity Project (Hale)

The area of Russia covered by this project is vast, mostly forested, and for all practical purposes is considered a separate country even though it is ethnically diverse. The region is a major exporter of forestry, fishery, and mining products -- and is characterized by rampant environmental exploitation.

The project, worth more than $15 million, perfectly illustrates the conflict between economic development and resource exploitation. Realizing at the outset that a strategy highlighting conservation alone would not work, project implementors attempted to define their overriding objective as the promotion of sustainable development. Creating and sustaining economic incentives would be key; finding the intersect, however, has been challenging, since many of the project's economic components don't seem related to biodiversity.

Substantial resources and confidence have been placed with ground-level actors, particularly NGOs and PVOs. As seen in other examples today, the problems of advocacy and mistrust have limited the effectiveness of NGOs, re-emphasizing the need for a strong project team on the ground.

END OF DAY ONE.

DAY TWO

3.3 Building Block 3: Investments and Financing

Paul Parks, ENI/EEUD/ENR
Sandy Hale, CH2M-Hill
Fred van Antwerp, USAID/Prague
Bill Sommers, LEM

3.3.1 EAP Framework and Investment Strategy (Parks)

The goal of the EAP for Central and Eastern Europe is to combine policy and economics in order to advance projects. Donors have talked about environmental problems for years but have relatively little to show for it in terms of real investment.

The EAP team is focused on investment because we don't have much money. Most environmental financing must come from domestic, not international, sources. To have an impact, economies must have a framework in place that can absorb the assistance. Limited available capital must be focused on:

1. The highest priorities (for most countries, that means the highest risks to human health, typically airborne toxic pollutants in the CEE, and in the NIS airborne toxic pollutants as well as contaminated drinking water).

2. Least-cost options to address those priorities (at its simplest, rank-order options in terms of cost per unit of health risk reduction and adopt options in order of priority starting with lowest-cost-per-unit options first).

What are the financial constraints to lending? CEE countries have more than a 50% chance of defaulting on loans; NIS countries, approximately 75%. Typically, borrowers are asked to pay six times what they would in the U.S. because of high interest rates and short loan repayment periods. If we increase credit markets and extend terms, loans could be more feasible for these countries.

Dynamic political and economic circumstances in the region, as well as changing donor priorities, make investment assistance difficult. Given such constraints, the EAP investment strategy focuses on establishing an international donor committee that tries earnestly to work with donor countries; still, 80 to 85% of investment funding is expected to come from domestic sources of financing.

USAID has targeted its grant resources at identifying investments. In the process, it has learned that most governments cannot meet loan criteria. Inadequate compliance with environmental standards forces default, with only two countries (Poland and the Czech Republic) meeting adequate loan standards.

EAP project criteria includes:
· high impact potential.
· least cost solution.
· committed sponsor.
· economically viable.
· available financing.

Steps in Project Pre-Investment
· identifying project.
· screening the project.
· preliminary risk assessment.
· identify sponsor.
· assess technology.
· identify financing.
· talk to donors.

Lessons learned in the process of assessing criteria and developing project pre-investment:
1. Don't assume that your project is the host country's highest priority.
2. Don't expect your principal investor will be the government.
3. Projects and processes don't have their own momentum (requires constant attention and energy).
4. Some countries will need grants.

3.3.2 Investment Strategy, cont. (Hale)

Much investment flow for environmental projects is private domestic capital. The challenge therefore is using EAP criteria to influence private capital flows. Domestic capital flows have proved to be larger than anticipated. For example, in Hungary 85% of investments are from domestic capital flows, and in Russia, 50%. As a result, this region has seen an expansion in financial intermediaries, such as investment banks.

While many domestic organizations are hesitant to invest in "green" causes, they are prepared to provide external capital due to mandates to lend to or invest in environmental projects. Often the problem is finding good projects in which to invest. USAID has an important role in helping to develop and screen potential investments.

Obstacles to securing capital include (1) the fact that market incentives are weak, with essentially no standards and no enforcement and (2) there are no international sources of capital without a sovereign guarantee, and host countries are reluctant to use scare sovereign guarantees.

3.3.3 Options and Lessons in the Investment Experience (van Antwerp)

A USAID program in the Czech Republic focuses on financing municipal investment projects by lending to banks which then lend to municipalities. By Spring, 1995, we expect to have 20 to 25 infrastructure projects under construction.

USAID's assistance strategy through this program is to focus on local governments. The objectives of the program are to (1) create a municipal finance system, (2) strengthen the decentralization of government, and (3)improve quality of life through the implementation of infrastructure projects which produce environmental benefits.

To date, assistance has been requested by 235 projects in three sectors: wastewater, energy conversion, and solid waste. The kind of technical assistance requested is overwhelmingly financial planning, with a lesser degree of technical analysis relating to infrastructure design.

The Czech Republic has historically been reluctant to finance such projects due to a low municipal debt although that situation is changing somewhat (total debt has risen 300% in the last few years). With the introduction of a rate structure, bank loans and terms have increased while interest rates have declined, and municipal bond interest rates have dramatically declined as well. To date, there have been no delinquent payments on any bonds, and they are now traded in secondary markets, such as the stock exchange.

Specifically, USAID has attempted to increase use of municipal credit; stimulate municipalities to think more seriously about debt financing; develop guidelines for project proposals that show how to calculate debt capacity and repayment schedules; and promote a responsible credit market and competition with banks.

The program operates through a new Czech institution called MUFIS, the Municipal Finance Company, which lends directly to commercial banks for municipalities. The entire system uses Czech crowns. The USG guarantees loans from U.S. investors; the Czech Republic guarantees the USG.

One of the program's biggest challenges has been the fast-changing nature of the Czech Republic, presenting an unstable banking structure with declining interest rates.

3.3.4 Options and Lessons, cont. (Sommers)

The experience in the Czech Republic is envied by many other countries.

In the U.S., capital investment in wastewater and other projects was enhanced by federal grants in the 1970s and 1980s. Consequently, wastewater treatment plants were financed by an abundance of federal loans to the states, creating much pressure to raise rates.

In contrast, consumers at the local level in Eastern Europe have historically paid for municipal increases in electricity, gas, etc. This can be contained somewhat by municipal-controlled rate structures, but over time presents a high consumer burden. In Poland, for instance, 60% of municipalities can finance their own operation and maintenance costs, while in Hungary only 30% can. In both these countries, problems opening up capital markets due to laws and other constraints contribute to the inability of municipalities to absorb more of the consumer burden.

3.3.5 Comments/Questions and Answers

C/Q: All other problems notwithstanding, if host governments are unwilling to give sovereign guarantees, isn't this the ultimate barrier to financing?
A: No, sovereign guarantees are over-emphasized. We want to look for ways to finance activities without using sovereign guarantees, such as domestic credit or municipal credit. Only 30% of the European Bank's loans are sovereign guarantees; 70% are commercial loans, and the Bank is looking for a formula to attach municipal assets as part of a guarantee, in order to lend at the municipal level without sovereign guarantees.

C/Q: It's difficult to incorporate this presentation with the way USAID has structured contracts in the NIS. No one is talking about these issues when setting up USAID programs. How can we take the lessons learned from these examples and apply them within the USAID structure?
A: This is a classic USAID problem. The ENI Bureau, like other USAID offices, has tended to behave too vertically (too little cross-sectoral coordination), partly because we're so new and have been under intense performance pressure. Now we have the luxury and the requirement not to work so vertically, and have the additional advantage of more staff and more knowledge. Much of this change must occur in the field, with the assistance of mission directors and other USAID officers. In Washington, we have the duty of trying to facilitate more integration and cooperation among USAID officers. We're struggling with this challenge and looking for input on ways in which all groups can work together using specific models.

C/Q: Please define economic viability.
A: When you have a large enough cash flow, above operational costs, to pay capital costs.

C/Q: Regarding van Antwerp's presentation: is there a reason for giving a loan guarantee?
A: When the guarantee was put in place, there were no lending municipalities. A new law had just been passed devolving responsibility to municipalities, so there was a political need to solve their problem.

C/Q: In the U.S., we have a fairly well-functioning municipal bond market; some of the expertise is at the city level, but much relies on underwriters and a technical service industry. Are we doing anything to set up a similar private sector financial service market in the NIS?
A: In the Czech Republic, we're trying to phase it in; we think it will be a major issue next year. A couple of banks are already underwriting municipal bonds and developing bond departments, although there is no rating agency to rate municipalities -- not enough of a record of repayment exists yet. But we're working with the Ministry of Finance to keep an eye on this issue.

C/Q: A sobering fact about environmental investment in the region: Poland has the highest investment in the environment per gross domestic product in CEE, about 1.3%. In the West, investment is more sustainable in the environment; in CEE, most of it is just capital investment to catch up.

Another sobering fact is that in Poland 35% of environmental investments are spent on air projects, about $350 million/year, but to meet the sulfur protocol for the next 15 years will require $1.5 billion. Thus, there is a huge gap between priorities and the ability to finance them.

C/Q: With all of the problems getting the EAP running in the CEE, what are we going to be doing in the NIS?
A: In Russia, we are encouraging and assisting least cost planning, for instance, as well as focusing more on the local EAPs rather than at the national level.

3.4 Building Blocks 4 & 5: Risk Assessment/ Least Cost Approach

Dan Thompson, EPA
Ron Greenberg, ENI/EEUD/ENR

3.4.1 Priorities and Risks: EPA Risk Assessment Program (Thompson)

Points for discussion:
1. Clarification of terms.
2. Risk and EAPs.
3. US projects involving risk.
4. Results.

Risk Assessment (RA) is the process of characterizing and quantifying potential adverse human health effects and ecological effects of environmental contamination. RA is key to determining which environmental problems pose the greatest risks to human health and the environment, helping policy makers better direct policies and regulations to achieve the greatest risk reductions. RA can be used to make predictions of health effects that might occur in the future, allowing decisionmakers to design long-term strategies.

When prioritizing resources in the process of designing EAPs, RA gives decisionmakers a tool for evaluating the importance of potential projects, providing specific data on ambient air quality, industrial pollution, potable water, etc. -- all possible indicators of human health problems. RA has become a key component in the EAP for Central and Eastern Europe, which uses environmental health as the first consideration in environmental planning and investment priorities.

Risk assessment elements:
1. **Risk**. Government officials, industry representatives, and scientists all complain that risk is not accurately perceived, yet
environmental groups, bolstered by the media, ask why governments delay taking action.

2. **Data**. Data must be summarized using a methodology and framework for systemically evaluating human health risks.

3. **Risk management**. A process, less consistent than risk assessment, that is subject to statutory considerations. It asks such questions as, which technologies are most feasible and what are the economic impacts.

4. **Comparative risk assessment (CRA)**. CRA ranks the human health impacts of a cluster of problems, allowing policy makers to set priorities for limited resources.

5. **Institutional capacity**. Institutions must be established or strengthened to sufficiently collect and analyze data, as well as set regulations and manage priorities for specific pollutants.

6. **Choose risk reduction actions**. Resources will be allocated and international financing requests justified.

3.4.1.1 EPA RA Projects

Telpice Project, Czech Republic. Focuses on air pollution; uses air monitoring and modeling to gather more and better data to understand human health risks in Telpice.

Project Silesia, Czech Republic and Poland. Uses a quantitative "screening" risk assessment to compare risks of different environmental problems, using the available environmental data in the region.

The Slovak Risk Assessment/Risk Management Project, Slovakia. Seeks to transfer tools and techniques for risk assessment and risk management to Slovakia, combining training with a case study approach.

The Bulgarian Community Environmental Action Project, Bulgaria. Working with the Institute of Sustainable Communities to develop an
EAP for the town of Troyan.

3.4.2 Comments/Questions and Answers

C/Q: While RA defines needs, a balance is required between what needs to be done and what can be done. Where does financing come into RA?
A: Risk management should include a cost-benefit analysis.

C/Q: How universally known and accepted are RA methodologies?
A: RA is internalized internationally by all epidemiological projects. One issue is who in government do you train? Members of the Ministry of Health or the Ministry of Environment, or both? Also, do we train scientists, professors, and local community leaders?

C/Q: It's clear from the Russian example that we're identifying many of the health impacts of pollutants, such as unemployment. Are these variables taken into account when you conduct RAs? Are social costs included?

C/Q: We must stick to high standards, even if it forces investments to be high; there should not be compromises.

C/Q: Regarding the issue of social costs, the World Health Organization developed an alternative framework for RA that looks at urban problems. Results have been mixed.

3.4.3 Least Cost Approach[1]

There is a question of how we should use our resources. That is, whether we focus on individual investments or go straight to the broader systemic level first and then proceed to the city or plant level.

The issue of design is significant to this discussion. In Poland, for instance, much money from national funds has been used on plants which are over-designed and impossible to maintain. There is a divorce between design criteria and design application by plant managers. Another related issue is the difficulty of regionalizing some aspects of design. For example, in a large western Polish city, plants upstream contaminate the water supply, while nearby communities downstream have mandates to build excessive plant capacity and structures to alleviate the water pollution. Instead of dealing with the problem on a larger scale, it is being managed at the micro level unsuccessfully. USAID's challenge is to get the design to a least cost level that could be financed by the municipalities and still be supported by the national fund. One lesson learned was that if your project cannot get in at the early design stage, it can be futile, in the context of least cost, trying to catch up later.

Again, it is important to distinguish between least cost in a project (e.g., at the design stage) and least cost solutions on a more systemic basis. At a Slovakia river with forbidden levels of water quality, for example, the project rarely looked at secondary treatment first, but focused instead on addressing non-point sources of pollution and other more systemic solutions. Similarly, in the energy sector, one could look at a host of less costly solutions first, before focusing directly on installing expensive scrubbers at a power plant, for example.

In the context of individual projects, a study conducted last summer on investments made by the national fund in Poland looked at the cost-effectiveness of SO2 reductions. The study showed an enormous gap between the amount of money being invested for each ton of SO2 and the actual cost per ton of reducing SO2. While other variables could be involved, this study is another indication that least cost planning is not being utilized.

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[1]Due to time constraints, a full presentation of least cost approach was omitted. Instead, a brief discussion on some issues related to least cost approach occurred at the end of the presentation on risk assessment. Participating in the discussion on least cost approach were Paul Parks, Bill Sommers, and Sandy Hale.

4.0 APPLICATION OF LESSONS LEARNED: FIVE ILLUSTRATIVE CASES

Mike Kalinoski, Moderator
Tony Marcil, World Environment Center
John Borazzo, Zlatna
Charlie Smith, Krakow
Anna Phillips and Helena Cizkova, Silesia
Craig Hafner, EHP, Danube

The purpose of this session is to hear about lessons learned from managers of USAID environment projects in Central and Eastern Europe. **Appendix C** contains papers presented and other supporting documentation for this section.

4.1 World Environment Center (WEC)

4.1.1 Overview

In 1989 WEC began its involvement in Central and Eastern Europe by assisting EPA in organizing the Regional Environmental Center in Budapest. In 1990, WEC and USAID signed a 5-year cooperative agreement to provide technical assistance, training, and information dissemination services related to urban and industrial pollution control in Central and Eastern Europe. The agreement was extended for two years due to early success.

4.1.2 Illustrative Lessons Learned

1. Anatomy 101
· Define strategy
· Set goals
· Work flexibly
· Measure, refine, re-set goals

2. Connect the Tools
· Discipline (don't narrowly define)
· Training
· Risk assessment
· Waste minimization

WEC has established an Industrial Waste Minimization Program (IWMP), the objective of which is to transfer U.S. private sector technology and techniques through a hands-on demonstration project that utilizes training and U.S. equipment. The IWMP builds in-country capability to independently conduct waste minimization which measurably reduces pollution, provides economic benefits, reduces worker and citizen exposure to toxic compounds, and conserves natural resources through the use of low-cost and no-cost techniques.

4.2 Zlatna, Romania

4.2.1 Overview

Zlatna is a town of 9,000 people with a copper smelter. The project, worth $680,000 the first

year, is considered a pilot and is designed to be transferable. A risk assessment indicated that short-term impacts, focused on health, should be sought within the first year, with longer-term investments anticipated.

To date, Zlatna has provided technical assistance and equipment, and the project has identified lead as the primary human health risk, with a focus on soil. Action plans for addressing health risks include community health, occupational health and safety, and ambient air (addressed by EPA).

4.2.2 Lessons Learned

- Risk assessment works best in simple situations.
- Reducing exposure does not necessarily equal environmental improvement.
- Institutional collaboration is key.

4.3 Krakow, Poland

4.3.1 Overview

The Krakow Clean Fossil Fuels Energy Efficiency program, now in its 3rd phase, is a $25 million project. Three-quarters of a million people are affected; the primary health risk is household level SO2 from coal (three times the standard emission rates).
Phase 3 involves 8 projects which have been selected for U.S.-Poland joint ventures, one of which is now producing coal briquettes.

4.3.2 Lessons Learned

- Simple economic analyses can indicate least cost option.
- Local participation is key.
- Initial ideas for solutions can be misleading.

4.4 Silesia, Czech Republic

4.4.1 Overview

Project Silesia is a comparative risk assessment and risk management effort jointly coordinated by EPA and the Ministry of the Environment (MOE) of the Czech Republic. The project is funded by both USAID and the Czech MOE, affecting 1.2 million people.

The goal of project Silesia is to identify those environmental problems posing the greatest risk to human health in the region of northern Moravia and Silesia, and to develop and implement strategies to reduce those risks. In 1991-1992, a set of risk assessment priorities were identified. Risk assessment fields include air pollution, surface water pollution, drinking water contamination, food contamination, occupational health, and waste disposal.

During the period 1992-1994, five demonstration projects were set up with several support activities. Each of the projects and activities has its own specific work team that is comprised of representatives of the institutions and organizations involved.

4.4.2 Lessons Learned

- Forming strong partnerships with counterparts is key.
- Sharing information is key.
- Enforcement is key.

4.5 Environmental Health Project, Danube River Basin

4.5.1 Overview

This project began with the ENI Environmental Program for the Danube, which provided $3.75 million in technical assistance from 1991 to 1994 through the WASH project, and affected Bulgaria, Hungary, Romania, and Slovakia. Project accomplishments have included:

- First donor consultant team in the Danube region in 1991.
- Hot spot identification.
- Coordination with other donors.
- Feasibility studies in four countries and project designs.
- Data management system institutionalized.
- Procurement of wastewater treatment plant (WWTP) technologies.
- Tannery pollution prevention assessment.
- Ten workshops on WWTP improvements, trained 100 plus staff.
- Ten US Army trucks donated to Romania WWTPs.

4.5.2 Lessons Learned

The following are key components to a successful project:

- Information and policy reform.
- Creative approaches to investment.
- A decentralized sector is more effective than a centralized one.
- Institutional assessments.
- Demonstration projects.
- Work with other donors.
- Stay focused with limited resources.
- Understand and utilize the capabilities of counterparts.
- Flexibility.
- Procurement takes longer than planned.
- Interaction from top to bottom.

5.0 WORKGROUP SESSIONS ANALYZING EXISTING CEE AND NIS PROJECTS IN THE CONTEXT OF LESSONS LEARNED AND BUILDING BLOCKS

Using the five building blocks as a framework, participants divided into groups and were asked to assess five CEE/NIS projects, incorporating the lessons learned from the previous sessions.

5.1 Donetsk, Ukraine

Phase I of this EPT activity featured an initial assessment that included information from the Ukraine Ministry of Environment; priorities were established and audits undertaken.

In the current Phase II, project implementors are asking what the issues are and how USAID could address the issues in the future. A more formal risk assessment will be conducted which will not be quantitative; it will examine more qualitative factors, such as community and social variables. A regional EAP process is underway to examine conditions in the area, with an active regional governor committed to enforcement who is playing an integral role. Also in Phase II, investment issues are being analyzed, such as restructuring, investment decisions, etc. Institutional strengthening issues are being studied as well.

In Phase III, more substantive project impacts will be achieved. Investment decisions will be implemented, and environmental incentives will be set up in the context of the policy framework that assumes functional institutions.

5.2 Russian/Far East Project

This Environmental Policy and Technology (EPT) project, Sustainable Natural Resources Management and Biodiversity Protection Program, had an unusual genesis, originally designed to provide training assistance to firefighters; now, the project provides advice on saving an endangered species of tiger. The project is fraught with local conflict; e.g., there is a strong interest at the local level in continuing activities that increase the rate of forest exploitation and a competing interest in conserving biodiversity. At present, the forest is being managed in a non-sustainable manner.

To address this problem, many interests have to be considered and incorporated into the project. Problematic issues include identifying an appropriate role for NGOs, enforcement, forest management, licensing, and U.S. business interests.

Analysis of project by building blocks:

- Risk assessment and least cost-planning - not appropriate for this project.

- Policy/institutions - the project needs a major training component. A local workshop was conducted in the region to discuss findings and results with policymakers and others in order to reach consensus on what kind of training is needed.

  Ended up with a needs assessment of what's required. Everyone involved agrees that the region faces serious environmental problems. Policy analysis shows a breakdown in institutions managing the forest. Belief that there's a great deal more rent the govt. could take from the forestry; help to improve enforcement.

The project needs low cost win-win situations to improve utilization of forest resources. Need a careful policy assessment of using forest products, and effective information dissemination. Need to be able to assess policy components better.

The project is working more with local and international NGOs, and is hoping to establish regional environment centers, as well as Integrated Conservation Development Projects (ICDPs).

- Investments and Financing - face the problem of evaluating non-monetary benefits. Have access to different sources of funding, which must be assessed.

5.3 Novokuznetsk

The EPT Novokuznetsk project is based in a large coal mining area in southern Siberia. The project has two goals: 1) to reduce pollution-related risks to public health; and 2) to contribute to environmentally sustainable economic development.

The EPT pollution program focuses on improving drinking water, controlling air pollution, and institutionalizing industrial environmental audits. The sustainable development program supports the city's strategic planning process for achieving economic and social restructuring, and providing guidance and training for new entrepreneurs and matchmaking with U.S. companies.

While several program activities are underway and planned, project implementors realize the importance of working with a strategy that incorporates cost minimization, rather than waste minimization, principles. The project has looked to the Krakow project as an example of effective use of least cost options for designing solutions to low level emissions. Risk assessment efforts at the outset could have been better utilized, as the existence of sufficient data was uncertain.

5.4 Central Asian Republics (CAR)

In 1993, the United States committed $15 million to the CAR for two general forms of assistance: 1) potable water and public health education projects to communities most affected by waterborne diseases and increasing infant mortality; and 2) technical assistance and training to support regional cooperation in water management.

This area features a river that's heavily polluted, the entire region needing great environmental improvements. The challenge for USAID has been to develop a strategy and EPT activities that target appropriate areas for effective clean-up efforts. How do we gather available data and form a hypothesis that can be tested?

Industrial emissions are the primary source of pollution. Clean up will threaten many local businesses, so the project must strike a balance between clean up and economic stability. In this relatively isolated area, people have little exposure to areas outside the region, making

training and institutional strengthening necessary. Saving as many businesses as possible will require risk assessment data that includes cost-benefit information; environmental economists should be part of the technical assistance teams.

To further complicate the task, there are weak policies due to poor standards and uncertain governmental infrastructure; i.e, lines of responsibility between central and regional government bodies are gray. Policies and regulations are poorly defined and enforcement is weak. Industry, NGO, and other citizen representation is virtually non-existent.

5.5 Bulgaria

USAID has committed $1 million of assistance for 1995 to Bulgaria, which is a high priority country for the CEE EAP since Sofia will host the follow-up ministerial on the EAP in October. While USAID hopes to have a substantive project underway by then, the short time frame makes definition of the project and measurements difficult. An unstable and changing government further complicates the task.

In the design process, USAID looked at some of the best projects in the region, as well as other donor activities, such as WRI, HIID, and EPA.

Issues for consideration include:

- Should EAP activities focus on one specific region where other USAID sector activities are concentrated or should the location of EAP activities be based on where these activities, themselves, could have the greatest impact?

- Should all environment sector activities be concentrated in one region to complement EAP, or should they be placed where they have the greatest impact?

- Since Bulgaria's economy makes economically viable projects difficult, what should be the division between pre-investment technical assistance and capital grants?

- How do we analyze the tradeoff between a high risk, longer-term, more sustainable effort, versus a more certain project that will have some impact and be implemented prior to the ministerial conference in October?

- Given the international nature of the EAP, what steps or projects should be undertaken to assure donor coordination is maximized; to what degree should the possibility of donor coordination influence USAID activities in Bulgaria?

5.6 Summary Points on Working Groups by M. Kalinoski

- Policy and financing are the most uncontrollable variables.
- Diversity of strengths should be optimized.
- Twinning potential with counterparts is great.

- Responding to short-term needs can be as important as planning for long-term effects like institutional strengthening.
- Address cross-sectoral issues, utilizing other USAID resources.
- Training efforts should be tailored to the appropriate level, forming local and regional training grounds.
- Thinking through project components for their relevancy and effectiveness should be a fluid process throughout design and implementation.
- Activities should be analyzed through different stages to assess the applicability of the building blocks.

6.0 DAYS ONE AND TWO SUMMARY

6.1 Summary Points on Day Two by M. Rock

- Turning off bad ideas is a good accomplishment.
- Economic restructuring and economic benefits have evolved more slowly than anticipated.
- Are we missing an opportunity to affect environmental impacts in the early stages of economic restructuring by not tracking private capital flows?
- Rationalizing environmental standards is tough but necessary for good enforcement.
- Rationalizing standards and getting good compliance is necessary for solid investment programs.
- EAP is predicated on the assumption that countries would come up with a list of environmental priorities, but this hasn't necessarily been the case.
- Municipal service projects are not high on the list of environmental priorities at the national level, but clearly are high priorities at the regional level.
- Waste minimization programs appear to be highly effective if managed wisely.
- Cost-effectiveness makes a difference (e.g., Krakow).
- Still ambiguity about how to work with NGOs: possibly we can't co-opt them as part of the solution if they're advocacy-oriented.

6.2 Summary Points of Days One and Two by R. Greenberg

- The Lessons Learned exercise was not intended to be uni-directional; i.e., there are obviously lessons to be shared by project implementors in both the CEE and the NIS.
- The framework for common building blocks was not meant to be strictly interpreted; it can be used as a framework but should be considered fluid.
- Days One and Two have set the stage for the relationship that must continue to evolve for successful program and project implementation in the field -- we will build on this relationship in tomorrow's session with USAID staff.
- It's clear that there is often a dilemma between showing short-term results and building long-term projects.
- Transferring information and knowledge among project implementors is as

important as substantive technical assistance; listening to each other the past two days has worked.

DAY THREE

7.0 IMPACT INDICATORS[2]

Jim Bever, ENI/EEUD
Alexi Panehal, ENI/EEUD/ENR
Patricia Vondal, EPAT/WIEA - Prism Project

7.1 Introduction by Bever

Developing and monitoring impact indicators is an intellectually valuable exercise because it forces project managers to ask at the outset what achievements are sought, and then to track those achievements through the life of the project and beyond. A more challenging task, in a way, is to communicate program and project results to the Office of Management and Budget (OMB) now. We're being asked to share information with a new Congress, many of whose members are skeptical of foreign aid, so if we can demonstrate success now, we'll be better positioned for the future. It's important, however, to keep a couple of caveats in mind.

First, we cannot hold ourselves to an unrealistic standard. It's nearly impossible to demonstrate all of a project's successes with a few indicators -- which is in reality what we're being asked to do. It's far more important to capture the spirit of our accomplishments. Second, those who develop indicators wonder if they'll ever be used. The impact indicators exercise is a two-edged sword because it asks us to develop concrete indicators at the outset that might, during implementation, become poor measurements of actual performance.

Somehow we have to strike a balance, though, since it's imperative today that we offer strong indications of our achievements.

7.2 Impact Indicators: An Overview (Panehal)

7.2.1 Discussion Points

- What is the ENI Bureau looking for?
- Traditionally indicators in the ENI have been used to track performance; now, the agency is going beyond that.
- OMB won't continue funding without acceptable indicators.
- Programmatically, indicators have value
  - · Helps define activities.
  - · Good business - shows countries projects have value.
  - · Keeps projects politically viable with constituencies.

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[2]Because the discussion on impact indicators involved more dynamic group interaction than previous discussions, the question/comment and answer format used in the rest of the report has been replaced here with notations of questions, comments, and answers as they evolved during the presentations.

7.3 Inputs, Outputs, Impacts (Panehal, cont.)

Inputs are the assistance we provide in the form of training, equipment, analyses, studies, etc. Outputs are the deliverables produced as a consequence of our inputs; e.g., seminars, numbers of people trained, reports, recommendations, etc. Impact, often outside the project's control, is what the recipients of our assistance do with the outputs.

The ENI Bureau and USAID in general are moving to the next level, asking, for example, whether environmental liability stimulates the privatization process because, at the program level, the ENI Bureau is interested in achieving privatization. We therefore must start developing program-level indicators, indicators of accomplishments that transcend project goals.

7.4 Project-Level Impact Indicators (Panehal, cont.)

Generally there are two types of indicators:
1) Quantitative, or tangible outcomes; and
2) Qualitative, such as indications of policy reform.

Three project-level objectives, and corresponding indicators, are listed below as examples of quantitative impact indicators.

7.4.1 Economic Restructuring

a. environmental liability.
b. Economic savings.
c. Leveraging investments.

7.4.2 Quality of Life

a. Reduction of Pollution.
b. Media-specific legislation.
c. Negotiation of compliance schedules.

7.4.3 Democracy

a. New NGOs.
b. Expansion of NGOs.
c. Increased exposure in the newspaper, on radio, television, etc.
d. Increased financial sustainability (e.g., Romania).
e. Passage of environmental impact assessment legislation.

Examples of qualitative impact indicators include:

- Krakow policy changes in water rates, improving the plant's viability and generating a World Bank loan.
- Increases in user fees.
- Behavioral and attitudinal changes in policymakers.

Question from room: When is it appropriate to take credit for accomplishments: need to take

credit vs. need to let host countries take credit?
Response (Vondal): Everyone realizes that we alone are not responsible for making changes because we're not the only ones involved in the process. We're not expected to make a case for direct causality; we're only expected to show a plausible association between activities and change. The level of proof is not strict. We are compelled to show our influence; this becomes difficult when progress is slow, when we are catalysts to change in a long-term plan.

Question from room: Who's using these indicators, for whom are we developing them?
Response (Bever): Tom Dine, Assistant Administrator of the ENI Bureau, wants a response in the short-term to answer the immediate call for indications of success. This response is different than the full-blown impact indicators exercise, which will be aimed more at OMB and USAID internal management.

7.5 Process of Gathering Impact Indicators Information (Panehal, cont.)

There is a logical flow of information, from the program to the project level, when developing indicators. We cannot predict project indicators without knowing the program indicators.

Contractors reported impact indicators to project officers. The ENR division shuffled and packaged the indicators according to the audience, then forwarded them to the Bureau's program office. From this process, the program office produced the tables of indicators, which focus almost exclusively on privatization, that have been recently distributed to missions.

The process of developing impact indicators should be built into contractors' workplans and cooperative agreements. Issues for discussion include whether its valuable to aggregate indicators by region (e.g., WEC projects -- calculating savings across all plants and reporting to the Bureau aggregate savings, potentially advantageous for the project because it could demonstrate large successes with one indicator). Another issue for discussion is the importance of tracking impacts beyond project termination since results often continue for years after the end of a project. We must think of ways to track and report post-project achievements.

Comments from room: We don't have a system for tracking long-term effects; who pays for it? How do you report progress after projects are closed?
Answer (Vondal): Project contracts and delivery orders may have to be modified so that project implementors collect data. You may be able to use existing data sets in country. There are many possibilities.

7.6 Vondal Presentation: Discussion Points

- De-mystify and clarify the request for the ENI program office and Dine.
- Quickly review basic indicator principles that will help you choose and develop useful, practical, and meaningful indicators.
- Present two examples from the CEE to illustrate the principles.
- Facilitate a frank discussion on anxiety-provoking indicator issues:

· Multiple audiences.
· Causality.
· How quickly can you get results.
· Cost of monitoring indicators.

7.7 Audiences for Data (Vondal, cont.)

- **You.** Program and project managers manage and monitor their activities in the course of implementation. USAID's "re-engineering" or "managing for results" exercise emphasizes the need for managers to develop effective indicators at the outset which they will use throughout project implementation to monitor, and perhaps modify their activities in order to increase the possibility of achieving desired results. The data can also help test development hypotheses related to strategy and program design.

- **Host Countries.** Counterparts and other in-country stakeholders must be convinced of project results to retain their cooperation and continued support.

- **Washington Observers.** Field-based managers must demonstrate project success to USAID/W counterparts, who in turn must answer to Congress, OMB, the Government Accounting Office (GAO), the media, taxpayers, etc.

The call for indicators is more urgent now than ever before for USAID programs and projects, and particularly for the ENI region due to political pressure to show results of USG assistance to the NIS. President Clinton has signed legislation requiring the measurement of results of USG aid, so in addition to the standard forms of political pressure we now have a law as well.

While it's difficult to address all audiences, designing appropriate impact indicators for any purpose follows some basic rules. The data you collect need not necessarily be complex or expensive, but it must demonstrate, as directly as possible, whether you've achieved quantitative or qualitative outcomes.

Theoretically, reliable and logical indicators, collected effectively and reported clearly, should address all audiences. Some sectors can do this more easily than others, however. Child survival projects, for instance, can show success using well-established and widely accepted indicators. In the environment, it's much harder. Typically, environmental projects have short lives but often produce effects far beyond project completion. Also, the environment sector does not benefit from broadly accepted measurements that speak to a variety of audiences. Section 7.9 below discusses in more detail the basic elements of sound impact indicators.

We won't succeed in developing perfect impact indicators overnight, but must attempt in the meantime to come up with a package of functional impact indicators that will satisfy current demands.

7.8 ENI Targets (Vondal, cont.)

The ENI program office has distributed matrices to missions asking for missing data, in order to create a chart that shows indicators, targets, and sources of funding by program strategic objectives and sub-objectives. In the column called "Indicators" they have provided project sub-activities, garnered from existing delivery orders in the region. They are asking you to provide "targets" for the indicators. You should identify the magnitude of the anticipated change, a timeline for reaching it, by stating that you project "X" amount of change in condition "Y" by "Z" year. If you know that you won't be able to affect the intended change prior to project completion, you should identify an interim outcome, or "milestone." Targets can be quantitative, e.g., a certain number of people trained, or qualitative, e.g., a change in policy.

The ENI program office is interested in receiving your feedback on the matrix; e.g., missing indicators, gross misstatements of indicators, misplacement of field projects against indicators, etc. You are encouraged to contact Jeff Evans or Debbie Prindle in Washington. They are trying to complete an initial package, in order to secure funding from OMB, by March 1995.

Question from room: Since projects are already underway and there's not enough data to measure interim changes, how do we provide indicators?
Answer (Bever): We're in a quandary because we weren't asked to develop these indicators in the beginning. Some projects have data; others do not. We have to work with what we have.

Question from room: The matrix is for CEE; what do NIS managers use?
Answer (Vondal): The ENI program office intends to merge the two regions during this exercise, and since the strategic objectives are similar, there should not be substantial differences.

Question from contractor in room: This request from ENI is confusing, from a contractor's perspective, because existing contracts (delivery orders) don't require us to conduct these tasks.
Answer (Panehal): Contractors need to work out with mission project officers the division of responsibility for responding to the ENI program office, and the actual development of indicators. Under your delivery order, you have to demonstrate that you've accomplished outcomes -- even if the process is not spelled out in your contract.

Comments from room: Existing delivery orders bear no relationship to this request we're discussing today. There is no connection between what the field is monitoring and what's being requested by ENI. There is a fundamental disconnect between design and outcome.

7.9 Basic Indicator Principles (Vondal, cont.)

A performance indicator is a particular characteristic or dimension for measuring progress toward achievement of an intended change, as stated in a strategic objective, program outcome objective, or program activity. Performance indicators for an objective should be:

- **Direct** Straightforward and at the same levels as the objective for which they have been developed; grounded in theory and practice; acceptable to both proponents and skeptics.

- **Precise** Uni-dimensional and framed in operational terms.

- **Adequate** As a group, they measure the strategic objective or program outcome effectively and efficiently.

- **Quantitative if Possible** - qualitative where necessary.

- **Disaggregated if Appropriate**
  By gender, age, urban-rural, socioeconomic status, etc.

- **Practical** They should be amenable to the collection of quality data, timely data, and cost-effective data.

Appendix D expounds on these principles and offers examples of good and bad indicators.

Question from room: What is a "target" as opposed to an "indicator"?
Answer (Vondal): What the ENI program office calls a "target" is an "indicator" in general usage by the rest of USAID. It's important to give ENI feedback that the terminology is confusing.

A useful strategy for approaching this exercise, despite the confusing terminology, is to look at objectives, define activities, and define targets against program-level "indicators" provided by ENI, which are in reality sub-activities for strategic objectives.

Question from room: Why are we using a system different than the rest of USAID?
Answer (Bever): While the PRISM system seems to work better than this one, both are imperfect.

There's so much activity going on at ENI, the program office is relying on this kind of feedback to improve the impact indicators exercise. They especially need input on matching projects with appropriate indicators.

Answer (Vondal): At the time, it was felt that the nature of the management of USAID interventions in the ENI was different than in other regions because programs were implemented from Washington. Accordingly, they felt strongly that a different system was needed.

Question from room: For project implementors using similar approaches and techniques in several countries, will targets change from country to country?
Answer: Yes, USAID has not set uniform targets.

7.10 Case Study: EHP Activity - Zlatna, Romania (Vondal, cont.)

Project Objective: Reduce lead exposure to young children.

Data Collection:

1. Collected and analyzed approximately 200 soil and 200 house dust samples for lead to better understand the contribution of these exposure media.
2. Research conducted regarding current knowledge, attitudes, and practices of young children and their care givers regarding exposure of young children to lead in their environment.
3. Collection of approximately 300 child blood lead samples for children between ages 1-6 (underway).
4. Mapping and statistical analysis of environment and blood lead data to identify important exposure pathways (following collection of blood samples).

Interventions

1. Community-based Lead Education Awareness programs in Zlatna.
2. Technical seminar for medical staff at Zlatna hospital.
3. Train home visit nurses in counseling techniques to accompany delivery of blood lead sampling results to individual families.
4. Educational material for schools.
5. Develop safe play areas for young children.
6. Training and equipment to analyze large numbers of child blood lead samples delivered to the Center for Medical Research in Cluj.

Expected Results: Reduced blood lead levels in children in one year.

Issues:

1. This is a direct measure of impact focused on a target group of young children.
2. What degree of change in blood lead levels can be expected in one year based on what is known from these kinds of interventions?
3. What changes in knowledge, attitudes, and practices can be expected as an interim result of these interventions?
4. Who has responsibility for follow-up data collection, transmission of data to USAID and the environmental project?

   Partial answer: EHP is developing a capability to collect and analyze these data by Zlatna citizens.

This case study illustrates several issues related to the choice and use of indicators. Reduced blood lead levels is a direct measure of the project objective, and it communicates well to many audiences. But project implementors must also take care to acknowledge other activities that may contribute to a reduction in blood levels, and they must be careful to project reductions that are realistic in that time frame.

Ultimately, the task of collecting data must be with host-country counterparts because eventually USAID will leave. In the World Environment Center project, for instance,

implementors successfully convinced plant managers of the importance of data collection by demonstrating related cost savings. The plant now realizes that not only are savings incurred but productivity has risen due to new environmental standards.

END OF DAY THREE

APPENDIX A
ENVIRONMENT STRATEGY SUMMARY FOR ENI REGION

ENVIRONMENT STRATEGY FOR ENI REGION
SUMMARY

The current environment assistance strategy for the ENI region integrates the Central and Eastern Europe and the New Independent States sub-regional strategies. A final strategy is planned for the middle of FY 95.

KEY OBJECTIVES:

The broad strategic objectives of the two regions support USAID's overall environment strategy to address key global environmental issues and sustainable development issues in the region and at the country level. The ENI approach to global and sustainable development issues is to ensure that both are undertaken in a way to be mutually reinforcing, rather than completely stand alone in their activities. This approach more closely links the environment assistance with the more critical economic and democratic transformation of the former communist countries in the ENI region.

The global objectives are:

- assist ENI countries to improve biological diversity and natural resources management conservation
- address global energy and environment issues.

The sustainable development objectives are:

- promote major policy, economic, and legal reforms which will support economic restructuring and lead to improvements in the environment
- support general democratic reforms by strengthening environmental non-government organizations (NGOs) and increasing public participation in government decision making
- assist ENI countries to reduce major environmental health threats from urban and industrial pollution

While generally these strategic objectives are being followed in each of the countries in the ENI region, each country's strategy is tailored to the economic, democratic, and environmental conditions in these countries and is implemented within the budgetary restrictions.

FUNDING LEVELS:

The funding levels for the environment assistance program from FY 90 to FY 96 are included in Table 2 to indicate longer-term trends. The NIS program did not begin until FY 93, therefore, the overall level of ENI environmental assistance took a large jump in

FY 93 and FY 94. Further, the administration's budget for the NIS region in FY 94 was nearly $2.5 billion and was intended as a one time major thrust to support the NIS reforms at a critical stage. FY 95 and subsequent budgets need to be reviewed in that context.

CONSISTENCY WITH AGENCY'S ENVIRONMENT STRATEGY:

The strategy and activities are consistent with the Agency Strategy, including the emphasis on both global issues, and risk assessment to determine economic, ecological and health priorities for sustainable development interventions.

RELATIONSHIP TO GLOBAL ISSUES:

The environment program has a significant biodiversity emphasis, particularly in Russia and Bulgaria, two countries with significant biological diversity. The Bulgaria program is also an AID GEF initiative.

CONSISTENCY OF COUNTRY PROGRAMS WITH STRATEGY:

Each country has strategic objectives and implementation activities based on a country set of priorities related to economic and democratic reform. The country or regional strategies are influenced by the ENI Bureau environment and energy strategies.

STRATEGY FORMULATION AND COORDINATION WITH OTHER DONORS AND INTERNATIONAL FINANCIAL INSTITUTIONS

Substantial efforts have been made to collaborate with the World Bank, EBRD, other bilateral donors, and the Commission for the European Union to develop coordinated strategies for Central and Eastern European countries at the regional and country level. The key strategic analyses (Attachment) which USAID has played a leadership role in are:

- Environmental Action Programme for Central and Eastern Europe, which includes the New Independent States
- Environment action plans and joint environment strategies for the Czech Republic, Slovakia, Bulgaria, Romania, Russia, and the Baltic Republics
- Danube River action program
- Aral Sea action plan.

STAFFING LEVELS:

The environment staffing in the ENI Bureau is one of the most rapidly expanding in the Agency (Attachment). While the program in

Central and Eastern Europe was fully managed initially in Washington, the staff grew from one Direct Hire in 1990 to nineteen approved and partially recruited Direct Hire, IPAs, RSSAs, and PSCs in 1994. In addition, each USAID mission has a part-time or full-time FSN and part-time direct hire and full time PSCs to manage and monitor program implementation. The most important trend in the past year has been the further delegation of authority to the field for program management in the CEE countries, which will require increased country based staffing in conjunction with frequent AID/W staff TDYs.

RUSSIA

The key elements of the Russia program are developed under the Gore Chernomyrdin Commission and meet the strategic objectives identified by the Office of the Vice President, USAID, State, OMB, EPA, and other federal agencies. The primary strategic objectives are:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development and CH2MHill to Russian regulatory and policy groups in environmental economics, policy, and regulations. A high priority will be placed on urban and industrial pollution reduction and sustainable forest management and conservation.

- NGO support: is being provided through sub-grants from ISAR to empower NGOs. Beginning in FY 95, the ISAR program will be expanded to include partnerships with other US NGOs and NIS NGOs.

- Environmental health: is being supported through four key programmatic areas in FY 94 and will be focused on two regions in FY 96. These activities are:

  - Novokuznetsk (environment and defense conversion)

  - Nizhnii Tagill (environment and multiple industrial source pollution reduction)

  - Moscow (protection and improvement of drinking water)

  - Volgograd (air quality improvements).

  These activities are identifying major health threats, establishing priorities for remedial action, and providing equipment and least costs management solutions to mitigate egregious problems, while demonstrating cost-effective U.S. technology.

- To meet the objective of supporting biodiversity conservation and natural resources management, ENI is supporting:

  - a $16.7 million Sustainable Natural Resources Management and Biodiversity Program in the Russian Far East

  - conservation of the Lake Baikal region

  - conservation of germ plasma and genetic plant resources at two Russian institutions.

The budget for Russia (including general program support for monitoring, evaluation, staff oversight) is:

RUSSIA PROGRAM OBJECTIVES	FY 93 ($000)	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	1,299	1,163	750	1,000	4,212
NGO support	1,550	2,297	750	750	5,347
Environmental health	2,198	15,600	7,000	6,500	31,298
Natural resources management and biodiversity	420	10,562	6,000	5,000	21,982
Global energy/environment	1,012	160	0	0	1,172
Program management and evaluation and training	380	1,717	2,500	2,000	6,597
Total Russia	6,859	31,500	17,000	15,250	70,608

CENTRAL ASIA REPUBLICS

In November 1993, USAID began to implement the $15 million Aral Sea Initiative, pledged by Secretary Warren Christopher, designed to alleviate serious environmental degradation and to foster regional cooperation among the Asian republics of Khazakstan, Uzbekistan, Turkmenistan, Tajikistan, and the Kyrgyz Republic.

The Central Asia Republic environment activities are:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development and CH2MHill to CAR regulatory and policy groups in environmental economics, policy, and regulations. A high priority will be placed on water resources use and pricing.

- NGO support: is being provided through sub-grants from ISAR and an agreement with the Peace Corps to strengthen and empower NGOs. Beginning in FY 95, the ISAR program will be expanded to include partnerships with other US and NIS NGOs.

- Environmental health: The Aral Sea Initiative emphasizes assisting local authorities with critical water supply, sanitation and health education needs in communities most affected by water-borne diseases and infant mortality. In FY 95, USAID will support long-term efforts by Central Asian Republics to address the underlying causes of the Aral Sea problem. The Aral Sea Initiative is implemented by CH2MHill.

  In addition, USAID will begin to assist CAR counterparts to address major urban and industrial pollution threats to human health.

The planned budget for the Central Asia Republics is:

PROGRAM OBJECTIVE	FY 93 ($000)	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	988	800	1,000	1,000	3,788
NGO support	90	600	500	500	1,690
Environmental health	551	19,400	8,500	7,500	35,951
Program management and evaluation			1,500	1,500	3,000
TOTAL	1,629	20,800	11,500	10,500	44,429

WNIS

Planning for the work in the western NIS countries is also underway. General plans have been developed for FY 94 and FY 95 which will provide for:

- Policy and legal reform: is being provided through technical assistance from CH2MHill to local and national environment authorities in strategic planning and legal assistance.

- NGO support is being provided through sub-grants from ISAR to strengthen and empower NGOs. Beginning in FY 95, the ISAR program will be expanded to include partnerships with other US NGOs and NIS NGOs.

- Environmental health: is being supported through a) institutional capacity building and pilot demonstrations projects managed by the US Environmental Protection Agency to reduce urban and industrial pollution, and b) USAID managed technical assistance, training, and equipment from CH2MHill for environmental health risk assessments; water quality improvements and watershed management; assessment of potential environmental hazards from the Chernobyl disaster on forest product use, and pilot demonstrations of US environmental technology to mitigate industrial and municipal pollution.

- Global energy and environment issues: The USG undertook an assessment and demonstration of a potential technology to reduce SO_2 emissions from coal burning power plants.

The planned budget for WNIS is:

WNIS PROGRAM OBJECTIVES	FY 93 ($000)	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	73	1,800	0	0	1,873
NGO support	310	600	500	500	1,910
Environmental health	617	9,279	4,250	3,500	17,646
Global energy/ environment	50	0	0	0	50
Program management and evaluation		71	1,250	1,000	2,321
TOTAL	1,050	11,750	6,000	5,000	23,800

CAUCASUS

In the Caucasus region, the project has been focused on humanitarian assistance and relief, particularly with regard to improved water and waste water treatment. It was supplemented with an initial effort to strengthen the environmental capacity and democratic participation of non-government groups in local community environmental issues.

Until the current political crisis in the Caucasus is resolved, environmental programming is on hold.

The planned budget for the Caucasus is:

PROGRAM OBJECTIVE	FY 93 ($000)	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
NGO support	50	0	0	0	50
Environmental health		548	0	0	548
TOTAL	50	548	0	0	598

POLAND

The Poland environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations. The primary activities are to support the implementation of the Environmental Action Programme for Central and Eastern Europe.

- NGO support: is being provided through training under the Environment Training project and technical assistance to Ministries of Environment in public participation.

- Environmental health: The primary emphasis is to assist Poland in several key areas:

  - support waste minimization efforts in industrial facilities

  - increase investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe

  - strengthen the capacity of local and national institutions to address urban and industrial pollution issues.

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	900	500	400	1,800
NGO support	250	200	200	650
Environmental health	3,875	4,050	3,400	11,325
Total	5,025	4,750	4,000	13,775

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CZECH REPUBLIC

FY 95 marks the final year of the program in the Czech Republic. The environmental assistance program in the Czech Republic has one strategic objectives during the final transition phase of the assistance program:

- Environmental health: The primary emphasis is to assist the Czech Republic undertake actions to sustain investments to reduce threats to human health from air pollution and industrial sources. The program is limited to:
    - complete actions to establish a waste minimization center to reduce pollution from industrial facilities
    - increase investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
NGO support	125	0	0	125
Environmental health	1,695	1,625	0	2,920
Total	1,895	1,625	0	3,045

SLOVAKIA

The Slovakia environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Policy, economic, and legal reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations. The primary activities are to support the implementation of the Environmental Action Programme for Central and Eastern Europe.

- NGO support: is being provided through training under the Environment Training project and technical assistance to Ministries of Environment in public participation.

- Environmental health: The primary emphasis is to assist Slovakia in several key areas:

  - support waste minimization efforts in industrial facilities

  - increase investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe

  - strengthen the capacity of local and national institutions to address urban and industrial pollution issues

  - in cooperation with the multi-national Danube River Action Plan, support regional cooperation and improve the environmental conditions in the tributaries to the Danube River basin through a three year USAID funded GEF program.

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	900	1,125	750	2,775
NGO support	150	100	100	350
Environmental health	2,125	2,655	2,500	7,280
Total	3,275	3,880	3,350	10,505

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HUNGARY

The Hungary environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations.

- NGO support: is being provided through training under the Environment Training project and technical assistance to Ministries of Environment in public participation. In addition, the US is supporting the efforts of the Regional Environment Center, located in Budapest

- Environmental health: The primary emphasis is to assist Hungary in several key areas:

  - support waste minimization efforts in industrial facilities

  - strengthen the capacity of local and national institutions to address urban and industrial pollution issues

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	500	550	250	1,300
NGO support	100	100	0	200
Environmental health	1,225	1,375	1,000	3,600
Total	1,825	2,025	1,250	5,100

BULGARIA

The Bulgaria environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Biodiversity conservation: The cornerstone in the CEE biodiversity conservation program is to assist Bulgaria protect its unique biological diversity, which is the highest in Central and Eastern Europe. From 1990 to 1996, this assistance has and will assist the Government of Bulgaria to:
    - establish of a new National Park Agency
    - develop a National Conservation Strategy
    - develop national park conservation plans and establish a national park visitors center
    - with the World Bank, protect a unique biological reserve and habitat for migratory and endangered species
    - support a three year, USAID funded, GEF program.
- Policy, economic, legal, and regulatory reform: technical assistance will be provided by the Harvard Institute for International Development and the World Resources Institute to the Ministry of Environment to support the Environmental Action Programme for Central and Eastern Europe.
- NGO support: is being provided through training under the Environment Training project and technical assistance to Ministries of Environment in public participation.
- Environmental health: The program assists Bulgaria in several key areas:
    - supports waste minimization efforts in industrial facilities
    - increases investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe
    - strengthens the capacity of local and national institutions to address urban and industrial pollution issues.

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Biodiversity	1,000	1,500	1,500	4,000
Policy, economic, and legal reform	450	800	800	2,050
NGO support	200			200
Environmental health	2,475	1,900	1,900	6,275
Total	4,125	4,200	4,200	12,525

ROMANIA

The Romania environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations. The primary emphasis is the integration of environment into the overall economic reform.

- NGO support: is being provided through training under the Environment Training project.

- Environmental health: The primary emphasis is to assist Romania in several key areas:

  - support waste minimization efforts in industrial facilities

  - increase investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe

  - strengthen the capacity of local institutions to address urban and industrial pollution issues

  - in cooperation with the multi-national Danube River Action Plan, support regional cooperation and improve the environmental conditions in the tributaries to the Danube River basin through a three year USAID funded GEF program.

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	750	511	500	1,761
NGO support	200	200	200	600
Environmental health	1,250	1,857	1,800	4,907
Total	2,220	2,568	2,500	7,268

ESTONIA

FY 95 marks the final year of the program in Estonia. In the final year of the program the environmental assistance program in has two activities:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations.

- Environmental health: The primary emphasis is to assist the Czech Republic undertake actions to sustain investments to reduce threats to human health from air pollution and industrial sources. The program is limited to:

  - complete actions to establish a waste minimization center to reduce pollution from industrial facilities

  - complete one investment assessment to reduce health threats under the Environmental Action Programme for Central and Eastern Europe.

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	250	0	0	250
Environmental health	900	0	0	900
Total	1,150	0	750	1,150

LATVIA

The Latvia environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations.

- Environmental health: The primary emphasis is to assist Latvia to:

  - support waste minimization efforts in industrial facilities

  - increase investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe

  - strengthen the capacity of the Ministry of Environment to address urban and industrial pollution issues

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	250	450	250	950
Environmental health	565	405	400	1,370
Total	815	855	650	2,320

LITHUANIA

The Lithuania environmental assistance program focuses on the broad strategic objectives with an emphasis on:

- Policy, economic, legal, and regulatory reform: technical assistance is being provided by the Harvard Institute for International Development to the Ministry of Environment and a policy think tank to support changes in environmental economics, policy, and regulations.

- Environmental health: The primary emphasis is to assist Lithuania to:

  - support waste minimization efforts in industrial facilities

  - increase investments to reduce health threats under the Environmental Action Programme for Central and Eastern Europe

  - strengthen the capacity of the Ministry of Environment to address urban and industrial pollution issues

PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Policy, economic, and legal reform	500	410	400	1,310
Environmental health	540	840	800	2,180
Total	1,040	1,250	1,200	3,490

ALBANIA

The Albania environmental assistance program focuses on improving the long-term sustainable use of forest resources by local communities. During FY 94 to 99, to meet the objective of supporting biodiversity conservation and natural resources management, ENI is supporting:

- technical assistance in policy, economic instruments, and legal reform to support sustainable forest management
- technical assistance, training, and commodities for local community management of forest resources.

ALBANIA PROGRAM OBJECTIVES	FY 94 ($000)	FY 95 ($000)	FY 96 ($000)	TOTAL ($000)
Sustainable Forest Management	400	1,000	1,600	2,000

APPENDIX B
OVERVIEW OF ENVIRONMENTAL PRIORITIES AND ACTIONS

TABLE 1: OVERVIEW OF ENVIRONMENTAL PRIORITIES AND ACTIONS

	Environmental Priority Actions: --reducing threats to human health --conserving natural resources
Policy changes	--economic policies --investment policies --environmental policies --regulatory measures --restructuring enterprises --privatization --public participation
Institutional reform	--setting priorities --reforming regulatory and enforcement practices --decentralization --investment planning
Investments	--operation, maintenance, repair of existing public environmental services --"win-win" investments --reduce major threats to human health --address environmental problems unique to specific countries --reinforce investments supporting new environmental policies --low cost measures to address long-term priorities

TABLE 2: DETAILED SUMMARY OF ENVIRONMENTAL PRIORITIES AND ACTIONS

	Reducing threats to human health	Promoting the conservation of natural resources
POLICY CHANGES		
--economic policies	--privatization and restricted access to govt funds --removal of subsidies for energy, raw materials, processing	--privatization and restricted access to govt funds --removal of subsidies for natural resource extraction, processing
--investment policies	--modernization --pollution prevention --adopt guidelines on environmental liability --economic incentives	--government support for conservation, conservation taxes --private investment incentives
--environmental policies	--EIA requirements adopted --public access --public disclosure of waste and chemical data --mix of regulations and economic incentives --pollution charges based on economical rationale	--EIA requirements adopted
--regulatory measures	--framework of economically rational standards --phased in compliance with standards over 10-20 years --use of ambient standards	--fees, fines, and taxes used for conservation and forest management

	Reducing threats to human health	Promoting the conservation of natural resources
--restructuring enterprises	--close down enterprises which are not economically viable --for phase out period, give priority to good housekeeping investments --support environment for new investments --Best practical control technology	--conversion of land use to wetlands, reserves, forested area
--privatization	--develop policies and procedures to address environmental liability --undertake environmental audits and process assessment --develop financial instruments to fund clean up of past damage	--develop procedures to prevent the loss of biological diversity during land privatization
--public participation	--develop programs for populace re: dangers from industrial, municipal, and energy pollution --improve public understanding and benefits from recycling and proper waste disposal --promote improved local environmental management	--promote improved relationships between public and government use of environmental fees and natural resource use --acquire land for preserves --involve public in development of conservation and natural resource policies, strategies and plans

	Reducing threats to human health	Promoting the conservation of natural resources
INSTITUTIONAL REFORMS		
--set priorities	--National Environmental Action Plans --introduce use of risk assessment and least cost planning	--Forest and conservation strategies --Ecological risk assessment and rapid ecological assessments
--regulatory functions	--strengthened monitoring system --improve compliance and enforcement functions	--improved forest and conservation monitoring --enforcement to reduce illegal logging and poaching
--decentralization	--support the devolution of authority to local governments --develop the local capacity to: set priorities and make sound environmental management decisions --river basin management units --air quality management units	
--investment planning	--improve capacity in risk assessment, least cost planning --improved project identification --full cost pricing, cost recovery --setting objectives for investment	

	Reducing threats to human health	Promoting the conservation of natural resources
INVESTMENTS-Short term		
--Operation, maintenance, repair, and selected rehabilitation of existing public environmental services	--safe drinking water, collection and disposal of solid and hazardous waste	
--"win-win" investments	--small investments in energy and water conservation: metering, reducing leakages, low-input and low-waste technologies --waste minimization --energy efficiency	--sustainable forest management
--reduce major threats to human health or irreversible loss of habitat	--<u>air quality</u>: reduction of particulates, emissions reduction of lead, zinc, copper, aluminum --<u>water quality</u>: industrial pre-treatment, nitrate reduction and biological contaminants of drinking water supply --<u>hazardous waste</u>: ensure leachates do not contaminate drinking water sources	--protection of the habitat of rare and endangered species --protection of international migratory habitat --germ plasm conservation of globally significance

	Reducing threats to human health	Promoting the conservation of natural resources
--problems unique to specific countries	--providing drinking water --replacing unsafe nuclear facilities	--biological diversity conservation for threatened habitats and species --waste water treatment to protect tourism and critical habitat
--support to reinforce/ accelerate environmental investments in response to new environmental policy	--industrial wastewater treatment --reduced emissions from chemical and petrochemical enterprises	--stimulate private investment in sustainable natural resource use --establish conservation funds
--low cost measures to address long-term environmental priorities	--phase out leaded gasoline --sustainable agriculture --eco-tourism	--rescue threatened internationally critical conservation areas

doc: matrix.ovr, draft: 1/14/95

APPENDIX C
LESSONS LEARNED PAPERS AND SUPPORTING DOCUMENTATION

Project Selection and the Setting of Priorities:

The CEE Cases on Lessons Learned

Tuesday, January 24, 1995

KRAKOW

Background Paper for Case Study Presentation

The historic city of Kraków has a population of 750,000 and is located in the Vistula River Valley in Southern Poland. It is close to the Upper Silasian Coal Basin and coal is naturally the primary fuel for heating and industrial energy needs. Air pollutant concentrations in the city far exceed ambient air quality standards and one of the major contributors to this situation is the Low Emission Sources. These include: 100,000 small tile stoves used for heating individual rooms or flats, over 2000 hand-fired boilers which use coal, coke, or coal/coke mixtures and provide heat to individual buildings or small groups of buildings, and 227 larger mechanical stoker-fired boilers which provide heat to local parts of the district heating system and steam to local industries. These sources are major contributors to the air quality problems in the city and a main goal of local government policy is to eliminate them as significant pollution sources.

The U.S. Agency for International Development (USAID) and the U.S. Department of Energy (USDOE) are cooperating in a program to reduce pollution from the city's Low Emission Sources. This program, called the "Kraków Clean Fossil Fuels and Energy Efficiency Program" is based on the SEED Act of 1989 (Support for Eastern European Democracy). The program seeks to help introduce market economy practices into Poland, allows the transfer of state-of-the art U.S. technology, and provides opportunities for U.S. companies. The program has been developed following three basic assumptions:

- the program will support approaches which can be competitive in an open market,
- the approaches must lead to significant reduction of pollution with only a limited increase in heating costs,
- the City of Kraków is willing to use its authority to apply incentives, as appropriate, to promote the reduction of pollution from these sources.

The program is dedicated to the heavily polluted Kraków area but results are also expected to be models for other cities in the region. USAID and USDOE are actively pursuing the extension of Kraków ventures to other Polish cities.

USAID and USDOE worked with Polish officials to establish an eight-member Bilateral Steering Committee (BSC) to plan and oversee the program. In 1991, U.S. and Polish officials signed a Memorandum of Understanding formally initiating and directing the Kraków Clean Fossil Fuels and Energy Efficiency Program. The BSC considered a range of options for controlling pollution and grouped those of most interest into five "subprojects":

- Energy Conservation and Extension of the District Heating System - Building energy conservation measures would reduce the load and emissions from boiler houses or make more heat available for expansion of the district heating system. Extension of

the district heating system would result in the elimination of local boiler houses in favor of heat supplied by more efficient, less polluting cogeneration plants.

- Replacement of Hand-Fired Boilers with Natural Gas-Fired Boilers - The feasibility of such replacements is limited to areas of the city where natural gas is available and the infrastructure is sufficient to handle the additional load. This is presently the case in the center city Old Town area, where low emission sources, boilers and home stoves, are concentrated.

- Conversion of Home Stoves to Electric Heating - A fairly common practice in the city, this involves the installation of electric resistance heating elements in the combustion chamber of an existing tile stove. This is a permanent conversion requiring extensive rewiring of apartment buildings and the use of favorable off-peak electric rates. During the off-peak hours the massive stoves are heated electrically and this stored heat is then used during the day time to warm the flat. Conversions of this type are most attractive in areas of the city which have excess electric power distribution capacity.

- Modernization of the Stoker-Fired Boiler Houses - Many of the stoker-fired boiler houses are relatively new and/or are far from the existing district heating system lines. These boilers houses will not be eliminated and there are numerous alternatives to increase their efficiency and reduce their emissions. One option is to totally renovate the boiler houses, installing new boilers. Other, less costly, approaches include simple improvements in physical conditions, the addition of economizers, improvements in the pollution control devices, use of better fuels, and the addition of instrumentation and automatic controls.

- Reduction of Emissions from Coal-Fired Home Stoves - Due to the historical significance, low operating cost, and esthetics of the tile home stoves, it is likely that they will continue to be widely used. It has been estimated that there are 7 million stoves of this type throughout Poland. Emission reductions from home stoves are possible through proper operation of these stoves and the use of smokeless fuels, such as certain briquettes.

In addition to the five subprojects the BSC identified three phases for the execution of the program. Phase I was to gather more information on emissions and costs, to evaluate technically successful options, to evaluate the economic attractiveness of options, to identify impediments to implementation of alternatives, and also to identify specific incentives and actions which the City could use to overcome these impediments. Phase I included home stove testing in a laboratory established in Kraków, field testing of hand-fired and stoker-fired boilers, an energy conservation demonstration, numerous engineering studies to develop option costs, public opinion studies, studies of air quality impacts of selected options, and the legal and financial studies to develop incentive options. Phase 2 was to inform Polish and U.S. companies of the Program, available results of Phase 1, and the opportunities available in Phase 3. Phase 3 was to solicit U.S. firms for participation in cost-shared projects to

demonstrate and market energy efficiency and clean fossil fuel technologies in the Kraków area to alleviate the air pollution problems caused by the low emission sources..

Presently, planned work in Phase I is nearly complete and a report summarizing all results is being prepared jointly by U.S. and Polish participants. Phase II is completed and eight U.S. companies have been selected to receive cost share funding for their Phase III work. These U.S. companies are now actively working in Kraków. An excellent summary of much of the Phase I work as well as of the details of the eight Phase III projects is available in the Proceedings of a conference on the Low Emission Sources, held in Plzeň, Czech Republic in April of 1994. The remainder of this paper will be dedicated to discussions of the approach used in the Kraków project to compare options, the options which appear to be most attractive, and the issues which are arising in the development of incentives and option implementation.

In initially comparing options the BSC developed a computer spreadsheet model which accounted for the existing sources in various categories (e.g., home stoves, boilers by size or fuel, etc.) and tallied the air pollutants, as well as the estimated capital, operating, and maintenance costs associated with each category. As part of the analysis of the Phase I results, the data in the model is being improved and updated. The approach taken in the model is very simple - options are compared on the basis of a "User Combined Cost" per ton of emissions reduction. The User Combined Cost is the change in annual operating cost plus the annualized investment cost associated with a particular option. For the emissions reduction both individual pollutants are considered along with combined emissions which weigh different pollutants based on some measure of their relative environmental damage. Most commonly used now is Equivalent Emission, in tons, which is:

$$Ee = \text{particulates} \bullet 2.9 + CO \bullet 0.5 + NO_x \bullet 2.9 + SO_2 \bullet 1$$

This spreadsheet model provides a rough comparison of options. Some options when evaluated using the spreadsheet are relatively close in terms of cost per ton of emission reduction. In such cases the method is not used to draw firm conclusions. In other cases, however, differences are large and the spreadsheet can be very useful in identifying interesting approaches. In one evaluation of options for the home stoves, for example, conversion to electric heating was found to have a User Combined Cost of almost $1000 per ton of equivalent emission reduced while conversion to smokeless briquettes had a cost of less than $100 per ton of equivalent emission reduced.

As part of the Phase I work types and levels of financial incentives which the city might offer for selected options were developed. Detailed investment analyses were done, on a site-specific basis, using different assumptions about energy price projections and discount rates. In one case, energy prices were assumed to escalate from their current levels based upon recent trends and expectations about how fast they will approach free market levels. While such an approach may be useful in evaluating an investment made in the present it can lead to errors if the results are used to guide longer-term policy decisions. For this reason analyses were also done using the assumption that average Western European prices are in place now in Poland and that these prices will escalate in step with world trends.

These prices would better reflect the relationships among energy prices expected for the longer term.

In one study analyses were done of incentives to promote the conversion of hand-fired boilers which use coal or coke and are located in the city center to natural gas. In this area 33 boiler houses are considered to be candidates for conversion and 10 representative sites were selected for detailed analysis. In all cases conversion to gas is not a economically justifiable investment and a wide range of options were considered for conversion incentives. These include:

- Mandated Conversions without direct assistance from the city - The City of Kraków has several mechanisms it could use to effectively force conversion to gas. It might be assumed, in this case, that the conversion costs would be recovered through increased heat charges to customers. Traditionally, however, prices which have been charged for heat have been regulated. In cases where there is a possibility to recover the conversion costs through rent increases it is not considered an acceptable solution. Residents are already being pressed by deregulation of rents and additional increases, effectively forced by the City Council, would meet with great resistance. The situation is made difficult by unresolved ownership issues in some cases.

- Capital Cost Subsidy - Overall the lowest cost would result from direct assistance for the conversion and the National, Voivodship, and City (Gmina) Environmental Funds could be used for this purpose. Demands on these funds are great, however, and these is some uncertainty about which level accepts responsibility for such projects.

- Annual Subsidy - The city has a wide range of options for annual subsidies including low interest loans, tax relief, relief from environmental fees, and direct heat price subsidies.

The financial position of the City at present is difficult and for this reason there is reluctance to provide direct financial support for any investment projects or tax exemptions. Any new taxes which might be levied for the purpose of supporting environmental projects would require approval in a local referendum. In a public opinion survey conducted as part of Phase I of this project only 54% of Kraków residents expressed a willingness to pay more taxes (or a special tax) to cover environmental projects.

In comparing the results of analyses done with the present energy price structure and the price structure based on open market estimates, it is clear that as Poland continues its transition to free prices, the level of subsidies required for projects of this type increase.

For some other technical options the economics are much more attractive. A good example of this is upgrading operations at the stoker-fired boiler houses. Here, through a combination of improved fuels (washed and graded coal), and automatic controls to give improved operating efficiency, emissions reductions will occur with net cost savings to the boiler house owners. Three of the eight U.S. companies involved in Phase III of this program have directed their efforts at this attractive opportunity. Results of the Phase I testing program

have enabled these companies to quantify the potential economic advantages. It is interesting to note that these measures are attractive simply because they will result in reduced fuel costs; the economic benefit to the boiler operators of the resulting reduction in air pollution emissions is insignificant.

Another option which could be interesting for the boiler houses is improved particulate collectors and one U.S. company is actively developing a market in this area as part of Phase III. However, the air pollution emission limits which are now in place and also those which will become effective in 1998 are not strong enough to force owners of stoker-fired boilers to use controls other than simple, low efficiency cyclone dust collectors. The current environmental fees for pollutant emissions are similarly not high enough to induce boiler house owners to improve current pollution control practices. Local officials can impose tigher limits but this is done only in isolated cases.

The home stoves in Kraków are especially important because they are the largest source of particulates in the center of the city (among the low emission sources). In the conversion to electric heating the construction of local transformer stations is required. The Power Plant - Kraków SA and the local distribution company are not interested in making this investment because electric tariffs are not high enough to justify it . The formation of resident committees is being considered to seek subsidies for the design and construction of these transformer stations. In the public opinion survey conducted as part of the Phase I work, 70% of the residents who currently have coal stoves said that a lack of funds is the main barrier to switching to a cleaner heating system.

Another option which appears more attractive for the home stoves, at least as an interim solution, is the use of smokeless fuels. During the Phase I testing program one type of smokeless briquette was shown to yield very dramatic reductions in emissions -particulates are reduced by a factor of 10. Using the coal stove test lab placed in Kraków as part of this project, the operating characteristics of the stoves could be understood and methods of optimizing stove performance with conventional and improved fuels were developed. One of the U.S. companies involved in Phase III is developing a low cost "environmental" briquette for the Kraków market. Measurement capabilities developed in Kraków under Phase I are assisting this effort.

There are many questions about how the City should promote the use of such better home stove fuels in Kraków. It has been proposed that the city act as a central purchasing organization for briquettes and then distribute the fuel to the City's existing fuel merchants. It is not clear if under such a plan the city would purchase fuel from only one supplier. While it might be necessary for the City to enter into a long term purchase agreement with one supplier to essentially put that supplier into business, such an arrangement would go against free market principles and may lead to distorted prices. As an alternative the City could simply mandate the sale of environmental briquettes everywhere or establish smokeless zones. There is an increasing availability of briquettes on the Polish market now with a very wide range of quality. If the city chooses to allow an open market for this fuel it will be necessary to establish performance specifications, presumably based on combustion testing.

The stove testing laboratory established in Kraków as part of this project will be valuable in establishing such standards.

Another very valuable part of Phase I work is in building energy conservation. In a series of demonstrations of retrofit building energy efficiency measures, local Polish technicians applied building envelope improvements and heating system controls to over 250 living units, as well as to selected school rooms. These improvements, using Polish and American materials, resulted in savings of over 20% of building space heating energy use. Effective low cost conservation measures identified by the Polish-American teams yielded simple payback of the capital costs in two to five years (depending upon the building and fuel type, and the measures tried).

The demonstration of such significant savings has motivated the National and City governments, as well as the district heat utility, to work to revise the structure of heat tariffs and subsidies, to encourage conservation by ensuring that those who implement the efficiency measures will pocket the savings. A shift in one year's subsidy payments, from direct payments for heat to assistance with energy conservation measures, can eliminate the need for subsidies in ensuing years.

These conservation measures, if implemented City-wide, could allow the district heat utility's existing central combined heat and power plants to serve all customers presently connected to local boilers, without requiring construction of any new generating capacity. For those buildings where it is not feasible to connect to the central district heat network, conservation measures applied to gas-and electric heated residences can reduce the costs of heating with these less polluting fuels, thus making conversions from coal more feasible. Building envelope efficiency measures can reduce the amount of coal burned by coal stoves or local boilers, thus reducing emissions.

The economics of the demonstrated efficiency measures were compelling enough that the Polish technicians have trained others, and formed an organization which has insulated and weatherized many other buildings - apartments, single family dwellings, older brick and masonry buildings in the Old Town, schools, office buildings, and a hospital - on a commercial basis, without additional American financial assistance. The Polish technicians formed a building energy service company, which has supported itself and grown over the last two years. Jobs in other cities, as well as Kraków , have proven that the methods and materials identified in Phase I of the Kraków project are also applicable throughout Poland.

The eight companies currently developing joint ventures in Kraków will receive 50% cost sharing under this program through 1996 (in a few cases longer). By this time, it is expected that the teams will have established their technologies in the Kraków market and will begin branching out into other ares of Poland. In parallel with their efforts participants in Phase I are involved with selected extension activities which are designed to support the Phase III joint ventures specifically and the elimination of the low sources generally. These activities include:

- A conference in Low Emission Sources to be held in Kraków in October, 1995. Future direction for Kraków and relevance of the Kraków results for other Polish cities are primary topics.

- The development of an overall city plan for the Low Emission Sources in Kraków including a schedule for investment requirements.

- The formation of a utility committee in Kraków to address institutional and economic issues which affect options for pollution reduction. This group will, of curse, primarily address those options which relate to utilities - district heat expansion, utility source control, distribution system upgrade, etc. This program will primarily provide assistance to this group in technical, legal and financial areas.

- The development of pilot project for Phase III ventures. This Program will assist by identifying candidate project sites, performing engineering design studies, developing project financing, and providing legal support as required. These pilot projects will be developed in cooperation with the utility committee. The spreadsheet model will be used to help identify those projects which will be developed under this task.

- Phase I participants will work with other Polish cities to disseminate the Project results and demonstrate the use of the spreadsheet to compare options for addressing pollution sources in those cities.

[for presentation at ENI environment retreat
Prague, 23 Jan 1995]

ENI environment activities in Zlatna, Romania: Evolution of an opportunity

History

mid-1993: initial contact between Ministry of Industry and ENI/EEUD/NR to address environmental problems in the copper smelting town of Zlatna.

October 11-15, 1993: WEC team conducted an assessment in Zlatna of 1) community health risks, 2) occupational health and safety conditions, and 3) smelter performance and options for reducing pollution emissions. In addition, the WEC team examined the environmental problems connected with the mines associated with the smelter.

June, 1994: initial meetings of Environmental Health Project (EHP) with Romanian stakeholders to determine priorities as well as roles/responsibilities

September, 1994 (and ongoing): startup of EHP field activities

Accomplishments to date

1) *Major health risks have been identified.*
   high children's blood lead levels in the community
   poor worker health and safety conditions at the plant
   poor ambient air quality

2) *Action plans for addressing these risks have been developed.*
   short-term (1 year)
   within the total budget for this activity ($680K)
   formulated in conjunction with Romanian counterparts at both senior and implementing levels of authority

3) *Equipment and training activities have been prioritized and delivery has begun.*
   Romanian counterparts are reassured that USAID is serious about a meaningful and lasting contribution to improving conditions in Zlatna.

Lessons learned

1) *Understanding current knowledge, attitudes, and practices is critical for the design of interventions.*

for reducing children's lead exposure, this has lead to an intervention design that has focussed on the development of safe play areas

for the occupational health and safety program, a two-week training program will take place in the spring of 1995 and be tied closely to equipment provision

2) *Understanding routes of exposure is critical to the design of appropriate interventions*

established that soil and food were the principal routes of exposure for lead (not air)

reductions in air emissions would not be reflected in short-term reductions in soil dust concentrations

interventions focussed on identifying high-risk subpopulations and reducing exposure

3) *Facilitating institutional collaboration, particularly across sectors, is critical to success in addressing environmental health problems*

In addition, this is a particularly useful role that USAID can play.

4) *A recent institutional assessment has been extremely valuable.*

sort out roles and responsibilities among Romanian counterparts

identify the necessary institutional support that will be critical for sustainability

5) *The formation of working groups with Romanian counterparts has been critical to getting beyond the equipment-focussed perspective, and developing an integrated package of training, TA, and equipment.*

[U:\JBORRAZZ\DOCS\EUR\ZLATNA.LL]

ENVIRONMENTAL HEALTH PROJECT

ZLATNA ACTIVITY PROGRESS REPORT

ACT 037 RC: Reduction of Blood Lead Levels in Children
ACT 038 RC: Air Quality Monitoring and Control
ACT 039 RC: Worker Health and Safety Program

November 29, 1994

Report Prepared by:
Pat Billig
Team Leader

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The Environmental Health Project

ZLATNA ACTIVITY PROGRESS REPORT
October 10-November 4, 1994

INTRODUCTION

Environmental Health Project (EHP) involvement in the Zlatna Activity began in June of 1994 when two EHP consultants and one USAID advisor spent one week visiting officials in Bucharest, Alba Iulia and Zlatna. The purpose of that visit was to discuss the findings of the previous WEC report and to seek concurrence from Romanian counterparts regarding EHP activities that would be responsive to the concerns identified in the WEC report. Because the distribution of the WEC report had been extremely limited, the team spent considerable time explaining the nature and results of the report as well as seeking concurrence regarding appropriate EHP activities. Equipment was clearly the focal point of the project for the Romanians and was a major topic of discussion.

The major health concerns identified in the WEC report included high blood lead levels of children in Zlatna (20-65 ug/dL), poor worker health and safety conditions at the copper smelter and a need for more adequate monitoring of ambient air quality. Other concerns were identified, such as acid mine drainage into surface water in the surrounding mining areas, but the immediate health concerns in Zlatna were considered to be the most appropriate EHP focus for this year.

The October/November 1994 trip included major start up activities for each of the identified areas of concern, as detailed in the following section of this report. Because the WEC report and the June 1994 trip focused on a technical assessment of environmental health issues in Zlatna with relatively few and mostly higher level Romanians involved in the discussions, an associated institutional assessment was also included in the October/November 1994 activities. This institutional assessment was extremely valuable for two reasons. First, it allowed EHP team members to identify and begin to work with their actual counterparts and second, it allowed us to identify and acquire the necessary institutional support for EHP activities that will be crucial in achieving sustainability for programs begun as part of this project.

The rest of this report includes brief summaries of the major accomplishments and future action plans for each activity, lessons learned thus far, and potential follow-up activities for Zlatna.

MAJOR ACCOMPLISHMENTS/FUTURE ACTION PLANS

The three major activities for the Zlatna Activity are reduction of lead exposure in young children (1-6 years), improvement of worker health and safety, and air monitoring and emissions control. Major accomplishments occurred during this trip in the areas of protocol, technical scoping and implementation, and institutional assessment and buy-in for each of the three major activities.

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Protocol accomplishments include improved relationships with the Prefect for Alba Judet (the county in which Zlatna is located), the Mayor of Zlatna, the Ampellum plant manager, and the Director of the hospital in Zlatna, despite some initial conflict and frustration on their part that we did not arrive with all the equipment. Several formal as well as informal meetings with these key officials appeared to reassure them that we were serious about making a meaningful and lasting contribution to improving conditions in Zlatna and to resolve some misunderstandings about the need to clarify equipment specifications and limitations on how quickly we could supply the needed equipment.

During this four week trip, ten EHP staff worked for varying lengths of time, primarily with Romanian counterparts in Alba Iulia and Zlatna. A list of these staff and their specialties is provided in Attachment 1. Attachment 2 provides summary reports for each activity including action plans for future activities. A brief summary of accomplishments and future action plans for each activity follows:

Reduction of Lead Exposure to Young Children

Major Accomplishments

1. Delivery of an Atomic Absorption Spectrophotometer (AAS) with a graphite furnace and autoanalyzer to the Center for Medical Research in Cluj for use in analyzing large numbers of child blood lead samples from Copsca Mica and Baia Mare as well as from Zlatna with the low detection limit required for child blood lead evaluations.

2. Agreement from the Director of the Center in Cluj to ship their existing AAS to the Sanitary Police in Alba Iulia for use in the worker health and safety program to screen worker blood lead samples, where a higher detection limit is acceptable, and analyze work place monitor samples for lead.

3. Collection and analysis of approximately 200 soil and 200 house dust samples for lead to better understand the contribution of these exposure media (vegetation, tap water, and air data already exists).

4. Completion of a social marketing research training program and conduct of research regarding the current knowledge, attitudes and practices of young children and their care givers regarding exposure of young children to lead in their environment.

5. Provision of a two hour technical seminar for medical staff at the Zlatna hospital on the health effects of lead exposure in young children.

6. Development of a Romanian social marketing team to design and implement a lead awareness program in Zlatna.

7. Establishment of a Zlatna-based lead awareness program coordination team and conduct of first team meeting.

Future Activities

1. Monthly meetings of the Zlatna-based lead awareness program coordination team facilitated initially by the EHP Romanian coordinator.

2. Collection of approximately 300 child blood lead samples during the first two weeks of December 1994.

3. Prepare draft counseling materials and train home visit nurses in counseling techniques to accompany delivery of blood lead sampling results to individual families in January 1995.

4. Analysis and evaluation of blood sampling results, in conjunction with environmental sampling results, by early January 1995.

5. Review and finalize counseling approach with Zlatna Coordination Team.

6. Develop community-based lead awareness and health education program with special emphasis on the development of safe play areas for young children. It is currently anticipated that this will be a joint effort between Ampellum, the community, and the U.S. Peace Corps, with facilitation provided by the EHP. A tentative goal is to either complete or begin development of at least one safe play area by April 22 (Earth Day) 1995.

7. Launch community-wide lead awareness/health education program in February 1995.

Improvement of Worker Health and Safety

Major Accomplishments

1. Establishment of a seven member working group for improvement of worker health and safety with representatives from Ampellum, the Sanitary Police in Alba Iulia, medical staff in the plant and in the Zlatna hospital, the Department of Worker Protection within the Ministry of Health, and the Center for Medical Research in Cluj.

2. Identification of major health issues at the plant.

3. Development of a prioritized list of equipment and training needs to address the identified health problems at the plant.

4. Interviews with several workers regarding their knowledge, attitudes and practices regarding health and safety issues at the plant.

Future Activities

1. Monthly working group meetings facilitated initially by Romanian EHP coordinator.

2. Collaboration between the working group and the EHP on the design and implementation of a worker health and safety training program for two weeks in March or April of 1995.

3. A plant tour by the working group to identify hazardous areas at the plant requiring special attention during the training program.

4. Equipment procurement and delivery to coincide with training program.

Air Monitoring and Emissions Control

Major Accomplishments

1. Conducted a pollution prevention audit of the Ampellum plant and identified emission reduction opportunities.

2. Conducted a three day air quality management and air monitoring training program for local EPA staff, Ampellum staff, the Ministry of Environment Air Quality Specialist from Bucharest, a representative from the Prefect's office in Alba, and industry and EPA representatives from another county.

3. Developed and prioritized a more detailed air monitoring equipment list in conjunction with the local EPA Director.

4. Established an air quality working group to oversee development of an air quality monitoring program and ensure that adequate program and preparatory logistical needs are in place prior to installation of air monitoring equipment. In addition, this group will review and oversee how the air monitoring data is used and communicated to the public.

5. Met with teachers at the Zlatna high school regarding student participation in air monitoring activities, including the potential location of an air monitoring station at the school, and received a very enthusiastic response.

Future Activities

1. Monthly meetings of the air quality working group facilitated initially by the EHP Romanian coordinator. Monitor programmatic and logistical readiness to begin using new equipment.

2. Procure and deliver air monitoring equipment by March or April of 1995, if local EPA is

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deemed ready to install and use equipment.

3. Provide additional operations and maintenance training in conjunction with equipment delivery.

4. Procure and deliver emissions monitoring equipment by March 1995.

5. Develop a proposal for the Environmental Action Program (EAP) regarding emission control options (see follow up activities at the end of this report).

LESSONS LEARNED TO DATE

1. The Need for Institutional Assessments

Given USAID's institution building and sustainability goals, it is very clear that small, "first contact" teams, such as the initial WEC team, need to be given the direction to do an institutional assessment as well as a technical assessment. As discussed previously, it is the institutional assessment that facilitates identification of actual in-country counterparts and identification and acquisition of the necessary institutional support for USAID-sponsored activities.

2. Methods for Incorporating Training and Information Needs, Given the Equipment-Focused Perspective of Many Officials

The identification of actual working in-country counterparts, in addition to higher level officials, and the development of working groups for each activity have been extremely important in identifying training and information needs in collaboration with Romanian counterparts.

3. The Need to Empower Individuals

In-country counterparts, especially "natural" leaders, need special attention to develop a range of problem solving skills. Despite the fact that most of our counterparts are highly knowledgeable and very well educated, their feeling of powerlessness to change anything is quite evident. Needed skills include identification of stakeholders, communications skills, meeting facilitation, and action plan development and implementation.

4. The Need to Teach Methods for Facilitating Institutional Collaboration to Solve Environmental Health Problems

The teaching of methods for facilitating institutional collaboration to solve environmental health problems follows logically after individuals within institutions begin to acquire and feel comfortable with problem solving skills and techniques.

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1/5/95

Case Study

Danube Water and Wastewater Lessons

Introduction:

Since 1991, the ENI Bureau has provided technical assistance, training, and equipment to Bulgaria, Hungary, Romania and Slovakia as part of the Agency's contribution to the *Environment Program for the Danube River Basin*, a multilateral initiative to protect Central and Eastern Europe's largest watershed. USAID implemented its $3.75 million contribution to the Danube program in three phases through the WASH Project. Start up activities focused on conducting broad environment and institutional studies to identify priority pollution activities. These general activities were followed in 1992-93 with detailed pre-feasibility studies for potential projects in individual tributary basins. In 1993-94 the project began providing technical assistance in targeted theme areas.

During these three years WASH and the new Environmental Health Project (EHP) has provided over thirty consultants with various disciplines in more than twenty-five Activities. The following are some of the major lessons learned from our work in the Danube Basin that we believe have direct applicability in the NIS region.

1) Establishing Priorities

- **Need for Countries to Set Clear Priorities:** There are a wide array of serious environment and human health problems in Central and Eastern Europe and the New Independent States, and relatively meager resources of host countries and the donor community to apply to the problems. In light of this fact, there is a pressing need for these countries to establish clear priorities based on sound scientific and economic principles and for donor assistance to be based on these priorities. The Environmental Action Programme adopted in Lucerne clearly places human health impacts caused by environmental pollution as the highest priority.

- **Ability to Identify Priorities:** Problems with available data notwithstanding, it is still generally possible to ascertain the principal pollution problems in a region and the most likely candidate sources of environmental and human health impacts. This is due to the fairly egregious nature of many of the problems and the ability to view a problem in light of a number of other sources of information -- in addition to water quality data (e.g., operating histories of manufacturing facilities and municipal wastewater treatment plants, epidemiological information, etc.)

2) Policy

- **Need for Revised Statutes, Regulation, and Policies:** Existing laws, regulations and policies are often out of date. However, those engaged in revising them have been frustrated by inertia and lack of political will for putting in place the requisite changes. Interim strategies for environmental improvements within the existing frameworks are needed, while awaiting the necessary long-term legal, regulatory, and policy changes.

- **Need for Revised Approaches for Compliance with Environmental Standards:** In some cases, environmental legislation actually is a good deal more stringent than comparable provisions in the west. However, they tend to be paper requirements only and exceptions are granted to facilities that cannot meet the requirements or pay the accompanying fines. What is needed is a rational, step-wise approach for coming into compliance with appropriate environmental standards including realistic environmental schedules with interim targets and dates. Often the most significant environmental changes can be brought about through policy changes originated in non-environmental ministries; i.e., finance.

- **Information and Policy:** The countries of eastern Europe have been collecting water quality related data for quite some time, but their governments have not used the information in formulating related policies. However, recent dramatic changes in these countries have placed new demands on the data; consequently, these statistics are now forming a necessary component of important decision-making processes concerning water and wastewater investments. Country officials also are recognizing that they will need to use new and different types of data not previously collected, especially data regarding regulations and costs. To address these concerns, a computer-based water emissions management system, Danube Emissions Management Decision Support System (DEMDESS) has proven useful and should also be useful in the NIS region.

3) Investments/Finance

- **Investments in Environmental Infrastructure Projects:** One of the greatest frustrations of those engaged in attempting to develop investment projects in environmental infrastructure has been the difficulty in locating truly "bankable" projects. Since donor organizations and countries typically have only minimal grant funds available, major improvements in environmental infrastructure will require loans. Although abundant loan funds exist (World Bank, European Bank, etc.), local revenue streams necessary for repaying often do not exist and, in many cases, legislative or regulatory changes are needed to allow locally-generated environmental fees and fines to remain at the local level.

- **Need for Creative Approaches to Investments in Environmental Infrastructure Projects:** There is an increasing need for creative ways to develop investment projects such as bringing together several different types of funding sources (various grants, loans,

etc.). Host country revolving loan fund-type mechanisms offer particular promise (e.g., Poland, Slovakia). Scaling back the size of projects and funding projects in multiple stages should also be explored (e.g., primary wastewater treatment facilities as a first stage, rather than an all-or-nothing approach to wastewater treatment plant construction).

4) Institutional

- **A decentralized sector is more effective than a centralized one.** Real progress in the provision of water and wastewater service will not occur until countries institute a decentralized system under municipal control. Successful decentralization requires redefining central government functions which usually include policy setting, sector planning, financing, monitoring, enforcing environmental regulations, research and development, and specialized training that must still be accounted for.

- **Commercial investments are more likely if water and wastewater systems are under municipal control.** Without changes in tariff policy water utilities will never be financially self-sufficient and be able to address some of the gaps in infrastructure investment that have built up. Overcoming these constraints is very difficult because of the economic situation in most countries in the region and the resistance by those currently in control to change. Working on site-specific problems will bring some short-term benefits, but major progress will only come when these overall constraints are effectively addressed.

- **Institutional factors are the real impediment to progress on large projects.** The inseparability of the three basic elements of development (1) policy, (2) finance, and (3) technology was demonstrated whenever we tried to identify a feasible project or move on toward implementation. Projects of large size can require a long time before national policies on many issues are clarified and related regulations are passed to pave the way for financing of technology. This in turn puts environmental improvements on hold as most of the environmental improvements have to be done as a part of industrial process improvements which require substantial financing.

- **The Need for Institutional Assessments.** Given USAID's institution building and sustainability goals, it is very clear that small, "first contact" teams need to be given the direction to do an institutional assessment as well as a technical assessment. It is the institutional assessment that facilitates identification of actual in-country counterparts and identification and acquisition of the necessary institutional support for USAID-sponsored activities.

5) Technical

- **Water Waste:** In the Danubian countries in the past, the interrelationships between wastewater and municipal water supply have been generally ignored. Both systems were formerly designed to accommodate very high per capita demands, often on the order of

350 to 700 L per capita per day. In combination with low user prices and lack of household water meters, this has resulted in significant waste of water from leaking water taps and toilet tanks. Leakage in water distribution systems also is high, and may be contributing to infiltration into sewers. Where water meters are available, they are unreliable and are provided for blocks of apartment buildings rather than for individual apartments, which inhibits water conservation sought by raising water prices.

- **Sludge treatment and sludge disposal:** In most wastewater treatment plants, sludge treatment and sludge disposal are major problems. In partially built plants, the sludge facilities are the last components to be built, and reliance is placed on sludge drying beds that do not function well in cold, wet climates. Agricultural reuse of sludge is often precluded by high levels of heavy metals caused by inadequate industrial pretreatment. Sludge generally is disposed of in municipal dumps or landfills, without isolation or control over leachate. Recovery of heavy metals from industrial sludge is generally not attempted.

- **Control over industrial pretreatment:** Monitoring and control of industrial emissions to municipal sewer systems are generally weak, and fines on industries for exceeding allowable limits on pollutants are generally not imposed due to poor economic conditions. Additionally, the agencies that operate the municipal plants usually lack necessary laboratory and technical resources, and the environmental inspectorates are more concerned with direct industrial discharges to rivers than with indirect discharges. Exacerbating the problem are older industrial plants, which spill chemicals from liquid wastes they store on-site.

6) **Other - Lessons**

- **Value of Tangible Outputs:** Tangible results from the implementation of water quality programs -- even if modest and limited -- are often instrumental in garnering the host country support necessary for related, less tangible projects and initiatives (e.g., provision of laboratory equipment along with assessment and recommendations related to operation and maintenance of a wastewater treatment plant).

- **Demonstration Projects** are much more than simple procurement projects. They can become a "testbed" to implement and demonstrate various institutional and regulatory changes. The first competitive tendering for WWTP improvements in Veliko Tarnovo, Bulgaria was a new educational and gratifying experience for staff at MOE because it raised many questions about how to do competitive procurement.

- **Partnerships and Technical Exchanges:** Up-to-date information on the latest technical approaches used in particular disciplines is often lacking. Thus, programs that foster technical exchanges both within the region and between the region and the west are needed and welcome. For example, municipal wastewater treatment facility operators have, up until recently, not been a well regarded profession (we were told in one country

that is was, at one time, considered punishment for individuals who ran afoul of the authorities). Thus, there is a real need for bolstering the capability of such individuals, creating the possibility for technical exchanges, and helping Senior managers (city mayors, etc.) understand the importance of these activities.

- **Working with Other Donors:** The Program Coordination Unit (PCU) of the Environmental Programme for the Danube River Basin, now based in Vienna, has proven to be an effective mechanism for donor coordination, collaboration and information sharing. Prior to the establishment of the PCU, donor coordination depended to a large degree on the interest, time, and commitment of individuals within agencies. This often is not sustainable since individuals are continually changing.

- **Stay Focussed with Limited Resources:** River basin clean up in any country or region is an enormous and costly undertaking. For the Danube program it was determined that AID would focus on four sub-river basins, one sub-basin in each of four countries. Within the four sub-river basins the WASH work was focused on particular, manageable activities. This proved to be an effective approach given the modest resources available.

7) **Process of Working in Eastern Europe and NIS**

- **Capabilities of Host Country Counterparts:** Host country counterparts (Ministry of the Environment officials, city engineers, industry technical directors, etc.) are often highly trained in scientific and engineering disciplines and thus a common basis exists for exchange of ideas and approaches. However, current concepts of strategic planning, management, risk assessment/management are often not as well understood or accepted.

- **Selection of Host Country Counterparts:** One of the more interesting issues is who to work with. As USAID consultants our natural tendency is to work with government agencies. Yet in some cases, governments may be the obstacle to change and other actors such as NGOs and municipalities may be much more receptive to outside assistance. Selection of in-country counterparts in a critical issue and may even change during the course of an activity.

- **Local Subcontractor's Role:** Local subcontractors have played an invaluable role in implementation of USAID's water quality programs. From a substantive perspective, they offer on-the-ground knowledge of pertinent information that helps frame decisions and issues. They often have insightful knowledge about the perspectives and biases of local "players" that helps inform the judgments of USAID in project implementation. In addition, the value of their logistical support and local languages cannot be underestimated. Cutting through red tape; setting up meetings with key players; and obtaining needed data and other information have all comprised meaningful contributions of local subcontractors. Finally, local subcontractors are a relative bargain as they are typically available at a fraction of the rate the western consultants.

- **Need for Flexibility:** As with many of USAID's programs, implementation of water quality programs has been fraught with mixed signals from host country counterparts, changed priorities, surprising findings (versus what one initially expected) etc. The overall lesson of such experience is to build in and **expect** a fair amount of uncertainty -- even in implementing programs that are fairly well defined. Both contractors and USAID technical representatives need to be able to respond rapidly to changing conditions.

- **Procurement:** The procurement of goods generally takes longer than planned due to the many factors influencing purchase and delivery, including bids solicitation, procurement approval, delivery lead times, customs clearance, etc. The scheduling of training associated with the equipment items should be kept flexible to allow for unforeseen difficulties with delivery. The use of an in-country representative to facilitate the receipt and distribution of goods is highly recommended.

DANUBE RIVER BASIN

CASE STUDY

LESSONS LEARNED

January 24, 1995

ENI Retreat

Craig Hafner
EHP

BACKGROUND

* Part of ENI Bureau contribution to Environmental Program for the Danube River Basin

* 1991-1994 , $3.75 million of TA - WASH Project

* Bulgaria, Hungary, Romania, Slovakia

* 3 phases

* Transition to the Environmental Health Project (EHP)

ACCOMPLISHMENTS

* First donor consultant team in the Danube region in 1991
* Hot spot identification
* Coordination with other donors - P.C.U., World Bank
* Feasibility studies in four countries and project designs (Hungary and GEF)
* Data management system (DEMDESS) institutionalized
* Procurement of Wastewater Treatment Plant (WWTP) technologies
* Tannery pollution prevention assessment
* 10 workshops on WWTP improvements, trained 100 plus staff
* 10 US ARMY trucks donated to Romania WWTPs

LESSONS LEARNED

* Establishing Priorities
* Policy
* Investments/finance
* Institutional
* Technical
* Other
* Process of working in region

HIGHLIGHTED LESSONS

* Information and policy
* Need for creative approaches to investment
* A decentralized sector is more effective than a centralized one
* Need for institutional assessments
* Water waste
* Sludge treatment and disposal
* Control over industrial pretreatment
* Demonstration projects

HIGHLIGHTED LESSONS - Continued

* Working with other donors
* Stay focussed with limited resources
* Capabilities of host country counterparts
* Local subcontractor's role
* Need for flexibility
* Procurement takes longer than planned
* Interaction from top to bottom

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A World Environment Center Paper

Approach and Lessons Learned: The Experience of Waste Minimization in Central and Eastern Europe

prepared for the

Environment and Natural Resources Division
Bureau for Europe and the New Independent States
U.S. Agency for International Development

Prague, Czech Republic
January 23, 1995

I. PROGRAM DESCRIPTION AND RESULTS

A. Program Genesis

In 1989, WEC began its involvement in Central and Eastern Europe by assisting U.S. EPA in organizing the Regional Environmental Center in Budapest. The following year, WEC and USAID entered into a five-year cooperative agreement (CA) to provide technical assistance, training, and information dissemination services related to urban and industrial pollution control in Central and Eastern Europe. Because of early results, the cooperative agreement was extended for two additional years.

The first year under the CA was spent conducting environmental audits and information gathering. In the second year, the environmental audit program was expanded to include workshops on industrial audits.

Following traditional WEC activities, programs were conducted in the urban sector, i.e., municipal waste collection and disposal. As USAID refined its program in coordination with other donors, WEC was requested to focus its program on the industrial sector. Where possible, WEC worked with factories conducting audits to assist the WASH program by identifying low cost measures to reduce industrial discharges into tributaries feeding the Danube River. This, in turn, could reduce the size of the waste water treatment facilities needed to treat effluents entering the Danube River.

The third and fourth years were spent on introducing and implementing WEC's Industrial Waste Minimization Program (IWMP) which is a logical next step after our audit programs.

B. Industrial Waste Minimization Program (IWMP) Objectives

The objective of the WEC IWMP is to transfer U.S. private sector technology and techniques through a "hands-on" demonstration project with training and U.S. equipment. This builds in-country capability to independently conduct waste minimization which measurably reduces pollution, provides economic benefits, reduces worker and citizen exposure to toxic compounds, and conserves natural resources through the use of low-cost and no-cost techniques.

Nearby local consulting firms, plant managers, and other companies are invited to participate in the IWMP. This helps to build in-country capability and broadens the impact of the demonstration projects.

While in progress, a demonstration project is publicized regionally. This motivates other industrial plants to seek information about waste minimization programs and to seek assistance from U.S. and local consulting firms and local managers which are involved in the projects.

Waste minimization demonstrates that a more efficient use of natural resources results when market oriented principles, such as cost-benefit, are applied to pollution problems. Local managers learn how market forces can improve environmental management by reducing pollution, increasing

economic benefits, and improving worker health and safety. This has the added benefit of enhancing the enterprises' attractiveness to private investment.

The waste minimization projects also provides local enterprises with techniques to better define past environmental liabilities and to comply with environmental requirements needed for privatization.

For U.S. consultants and pollution equipment manufacturers, this program provides an opportunity to demonstrate that their services and products can increase private investment by U.S. companies.

The WEC Industrial Waste Minimization Program consists of three phases:

1) Waste Minimization Demonstration Project (WMDP)
2) Waste Minimization Impact Project (WMIP)
3) Formation of Pollution Prevention Centers (PPC)

1. Waste Minimization Demonstration Projects

The following steps comprise the Waste Minimization Demonstration Project (WMDP):

a. A reconnaissance visit is made to the plant by a WEC team consisting of WEC staff, a process specialist, and consulting engineers. During the trip, processes are selected jointly with plant managers. Based on the consulting engineer's and process specialist's experience, an estimate is made of potential economic savings and pollution reduction which should be realized by the implementation of the recommendations. During this visit, organization, logistics, and a time schedule of the project is established. The type of necessary monitoring equipment to be supplied by WEC also is identified.

b. A Waste Minimization Management Committee is formed consisting of managers from operations, maintenance, environmental, and other key plant departments. The objectives of this group are to ensure that the appropriate resources are committed to the project within the enterprise and to supervise the waste minimization project.

c. Following review and evaluation of the data collected by the WEC team and after supplying the monitoring equipment, a team consisting of WEC staff and the consultant travel to the plant to start the project. The WEC team conducts an orientation meeting for the Waste Minimization Management Committee and gives a demonstration on the use of the equipment and discusses the objectives of the program and the necessary steps for its implementation.

A Memorandum of Understanding is prepared incorporating the objectives, procedures to be followed, and structure of the project. A commitment to subsequently continue waste minimization projects on their own is signed at the commencement of the project by the General Director of the company and a Senior Vice-President and the Chief Operating Officer of WEC.

The consultant develops and conducts an initial "hands-on" training session in waste minimization and operating the monitoring equipment for plant staff assigned to work on the project. In addition, the consultant works with the plant waste minimization team to review the use of the information in their overall waste minimization program, helps log results, and is available for advice.

d. While plant personnel continue the work, the consultant and WEC staff monitor and provide consultations during the project. The WEC team makes several trips during the course of the project on an "on-call" basis to assist in resolution of problems which may arise. The consultant will prepare interim field reports and a final report. The consultant also is available to make emergency trips, if necessary. On the consultant's final visit, prior to project close-out, he/she will receive feedback on the overall program and make any adjustments that may be required.

e. WEC staff, the consultant, and a representatives from USAID participate in a meeting at the conclusion of the project. WEC arranges for media coverage of the close out ceremony as a means to draw attention to the success of a waste minimization project.

Following USAID procedures, ownership of the WEC-supplied equipment can be transferred to the participating company at the conclusion of the cooperative agreement. As agreed to in the Memorandum of Understanding, the company begins implementing waste minimization programs as an integral part of its operations.

A table of pollution reduction examples from the WMDP follows on the next page.

2. Waste Minimization Impact Program

Using the results from the WMDP, other major companies are contacted and persuaded to become participants in a follow-up waste minimization impact program. However, no equipment or consultants from the U.S. are provided to these companies. Rather, company personnel are trained to implement waste minimization using a systematic approach consisting of changes in practices and procedures followed by implementation of small waste minimization projects that do not require capital investments. These small projects may produce savings of only $1,000 each and result in a small reduction of pollution; however, there are hundreds, maybe thousands, of such projects in factories and most can be done within 90 days.

This is the hardest part of the program since management and workers are asked to change how they operate the factory. It may require several years before waste minimization is fully implemented in a company; however, this approach results in a faster start in implementing waste minimization throughout a facility and should help entrench the program into day-to-day operations. Positive results from this approach can now be seen.

Table I. Waste Minimization Demonstration Projects

Pollution Reduction Examples, based on 1993 results

Country	Type of Facility	Equipment Provided, Source Reduction Activity	WEC Investment (USD) 1/	Waste Reduced	First Year Savings: (USD)
Bulgaria	oil refinery, petrochemical	organic vapor analyzer to detect and control equipment leaks of fugitive VOC emissions and a formal Leak Detection & Repair Program to correct leaks	$30,000	VOCs: 1,800 tons/yr	$570,000
	rayon fiber manufacturer	air monitoring equipment to reduce the release of carbon disulfide and hydrogen sulfide improve and working conditions in the spinning hall	11,000	carbon disulfide and hydrogen sulfide: 8,090 tons/yr	50,000
Czech Republic	oil refinery & petrochemical	organic vapor analyzer to detect and control fugitive VOC emissions	19,000	hydrocarbons: 900 tons	140,000
	chemical complex	photoionization detector and densitometer to control fugitive VOC emissions	25,000	VOC's: 50 tons/yr	880,000
Hungary	chemical complex	oxygen analyzer to control vinylchloride monomer emissions	11,000	VCM's: 300 tons/yr	150,000
	chemical fiber manufacturer	continuous particulates monitor to control acrylic powder emissions	19,000	polymer powder: 70 tons/yr	75,000
Romania	oil refinery, petrochemical	organic carbon analyzer to control hydrocarbon contamination	34,000	hydrocarbons: 20 tons/hr of steam condensate	185,000
	detergent manufacturer	scrubber water control instrumentation to control water pollution	29, 000	detergents: 250 tons/yr	330,000
Slovak Republic	chemical plant, cyclohexane	organic vapor analyzer to control fugitive VOC emissions	8,000	benzene: 1,100 tons/yr	80,000
	petrochemical, oil refinery	sulfur dioxide analyzer to reduce SO2 air emissions	27,000	sulfur dioxide: 250 tons/yr	35,000

Pollution Reduction Examples - continued

Country	Type of Facility	Equipment Provided, Source Reduction Activity	WEC Investment (USD) 1/	Waste Reduced	First Yea Savings: (USD)
Poland	non-ferrous metals	Process modifications and instrumentation increase product yield and decrease waste discharge	$27,000	zinc sludge: 1,000 tons/yr. waste electrolytes: 7,500 tons/yr.	$204,00
	chemical works	heat recovery from waste water saves 11,000 tons/yr. of steam	22,000*	NO_X SO_2 : N/A	243,00
	chemical works	special COD analyzer improves product yield	4,600	COD: 70 tons/yr.	91,00
	tolylene diamine (TDA)	equipment modifications increase process efficiency and decrease waste discharges	26,000	TDA: 150 tons/yr.	195,00
	chemical works; polyvinylchoride	equipment and process modifications save raw material vinyl chloride monomer	30,000	vinyl chloride: 54 tons	2 mil -
Latvia	synthetic fibers - caprolactam	special type viscometer improves product efficiency	29,000	caprolactam: 307 tons	101,00
	electroplating	process and equipment modifications and instrumentation save energy and water use	15,000	NOx1SO2 wastewater N/A	269,00
Estonia	meat processing	operational changes and instrumentation save energy and water use	5,000	water and solid waste N/A	1.5 mil +
Lithuania	chemical works, fertilizers	NO_x analyzer and special flowmeter save catalyst, natural gas, and steam use	23,000	N/A	23,00

1/ Represents equipment cost
COD = chemical oxygen demand
NO_x = nitrogen oxides
SO_2 = sulfur dioxide
tons = metric tons

N/A Not available at this time
(1) Depending on production output
* Investment by plant

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3. Pollution Prevention Centers

WEC has entered into agreements with various NGOs, e.g., Engineering Societies, to act as Pollution Prevention Centers (PPCs) which can further institutionalized waste minimization in each country. A major objective of WEC's IWMP is to have PPCs become self-sustaining by the end of the cooperative agreement. The centers are identified in all WEC projects as a co-sponsor of its program which gives them instant credibility. Initially, WEC sent basic pollution prevention materials to the centers to start their libraries. WEC also has developed a waste minimization manual and workbook - complemented with a one and one-half hour condensed video of the three and one-half day workshop - that is part of each center's materials. In addition, WEC may provide centers with environmental monitoring equipment. Using this equipment, the center can perform consulting assignments to provide it with a source of revenue. The centers also may sell the waste minimization manual, workbook, and video.

WEC is assisting the centers develop business plans with a strong emphasis on revenue generating programs to help ensure continued operation. Some of these programs include:

- Training programs in waste minimization for industry;
- A waste exchange system;
- Working with local consultants so they could also use the monitoring equipment for a fee; and
- Implementing industry-wide programs, e.g., battery recycling.

By the end of the agreement, the PPCs should develop into a self-sustaining technical assistance centers, offering these general services:

- Implementation of environmental projects, for example, waste minimization projects at industrial plants;
- Workshops for executive managers of industrial plants in environmental protection and how to implement cost-effective environmental programs;
- Training programs in environmental management;
- A library of pollution prevention information;
- Assistance in accessing international, environmental information;
- Assistance in providing information and contacts with similarly oriented non-governmental and other organizations worldwide; and

- Certifications in professional and continuing education programs.

4. Contributions to Economic Restructuring Objectives

WEC's IWMP contributes to the Bureau for Europe and NIS economic restructuring objectives in several ways:

a. Promoting Economic Efficiency:

- Reduces pollution at the source, saves raw material for production, reduces the need to purchase additional raw material, and improves plants' operating efficiency and production.

- Reduces losses to the economy from worker health care costs associated with pollution and safety problems within the industry and the surrounding community.

- Assists polluting industries in their transition to a market economy by demonstrating that market-based fees and fines and market-based natural resource prices exceed the cost of implementing pollution prevention programs, thus resulting in natural resource conservation.

- Reduces the amount of funding required to control pollution because waste minimization decreases the quantities of waste generated.

b. Promoting Privatization:

- Trains industrial managers in market-oriented management techniques enabling them to show their ability to function in the private sector.

- Assists industrial managers in assessing current and past environmental liability, helps government and plant management in determining a realistic value of a company, and enhances a company's attractiveness to western investors.

c. Promoting U.S. Investment:

- Establishes a close working relationship with U.S. consulting firms; therefore, promoting the use of U.S. monitoring equipment, demonstrating the capability of industrial services and products to a broad range of companies, and generating investments by local industries in U.S. products and services.

II. LESSONS LEARNED IN CEE

A. Involve Top Management

Select enterprises managed by individuals who want to be personally involved in the project. Their visible commitment and personal stake in the success of the project is critical to broader empowerment.

B. Work as Partners Not Teachers

Select enterprises managed by individuals who want to be partners; then treat them as such and involve them from the beginning of the project. In other words, the project is defined, planned, and executed with their full and equal participation.

C. Focus on Economics

Always relate projects to economic benefits. Environment, health, and safety are not potent drivers. In fact, too much emphasis on them could keep the project from getting off the ground. Improving the bottom line is what really matters.

D. Maintain Simplicity

Don not overwhelm host professionals with unnecessarily complicated projects. Sophistication or technical elegance is not the objective. Don't let the principles and the approach be overshadowed. Keep projects simple.

E. Use Specialists

Provide process specialists and not generalists for technical projects. Theory and principles ring hollow on their own; provide a simple technical success that only a specialist can provide and the theory and principles will be quickly absorbed.

F. Eschew Paperwork

Limit paperwork to the minimum required to keep track of sound and relevant data, i.e. the starting point or condition, actions taken, and results obtained.

G. Take Early Action

Make only one reconnaissance visit during which general issues are settled. The second visit should be an action program. In other words, after the second visit the hosts are left with a clear sense of a project that is under way and something has been accomplished.

H. Show Significance

Show the broader implications of the smallest projects for the facility, the neighborhood, the region, and the country.

I. Maintain Quality

Employ a highly qualified and suitable country coordinator: they can make a significant difference when they are an integral part of the project. If they are the right quality but don't feel that they are both learning and contributing, they won't be around long.

J. Exhibit Cultural Sensitivity

Don't preach to them. Accept how they operate and work around the bottlenecks. Sustainability depends upon them getting there their way, not ours.

K. Be Flexible

Follow a golden rule: Expect the Unexpected.

L. Form Relationships

Socialize, but pick your occasions carefully. Don't be a trophy or an unwanted guest who was invited out of politeness.

M. Maintain Validity

How we do it in the U.S. will lose currency very quickly. Because it is right for us, does not necessarily mean that it is right for them. Talk about generally accepted approaches which have some value here.

N. Take Risks

Don't be afraid of taking chances. Technical chances are OK too as long as the decision is shared and understood.

O. Uphold Timeliness

Prompt responses show continued interest, seriousness, and can impart a sense of progress. Be quick with your response even though theirs may be slow.

P. Be Candid

Be forthright and realistic. Don't raise expectations unduly.

Q. Leverage

Understand and leverage pressures from peers, the community, clients, government, etc. Help them to manage those pressures but also play off them to gain broader based motivation.

R. Work Toward Sustainability

Build local capacity to continue the work.

III. CONCLUSIONS AND PROGNOSIS

The IWMP has achieved measurable results including: reduced emission of pollutants to the environment; reduced use of raw materials; generated savings many times the invested equipment costs; and, trained a significant cadre of in-country trainers, managers, and consultants. In addition, there now is a foundation of sustainable environmental and health projects in CEE enterprises.

The IWMP also faces challenges impeding the realization of greater benefits and accomplishments. The sharp curtailment in funding planned for FY96 and FY97 needs to be addressed. In-country programs are approaching a level of sustainability, especially the PPCs, at a time when the overall IWMP will have its funding significantly reduced: FY95 and FY96 funding is only 36% of FY94 total funding. The lack of available financing for mid-level projects – between no- and low-cost projects and multimillion dollars projects supported by the international development institutions – also requires attention. A possible solution is the creation of loan wholesaling, guarantee or revolving funds, or a combination of these funds set up to support mid-level industrial-environmental investments.

WEC recommends that its IWMP be expanded in CEE and introduced in the New Independent States to more strongly contribute to USAID's support of the Environmental Action Program (EAP). WEC's IWMP presents USAID and the EAP with an excellent opportunity to build upon the strong relationships established with local and national governments and with enterprises. With WEC participation, the EAP could move quickly to identify and implement mid-level projects that would help stimulate income growth, foster a healthier urban development, and protect the environment by reducing existing negative environmental impacts on workers and neighboring communities.

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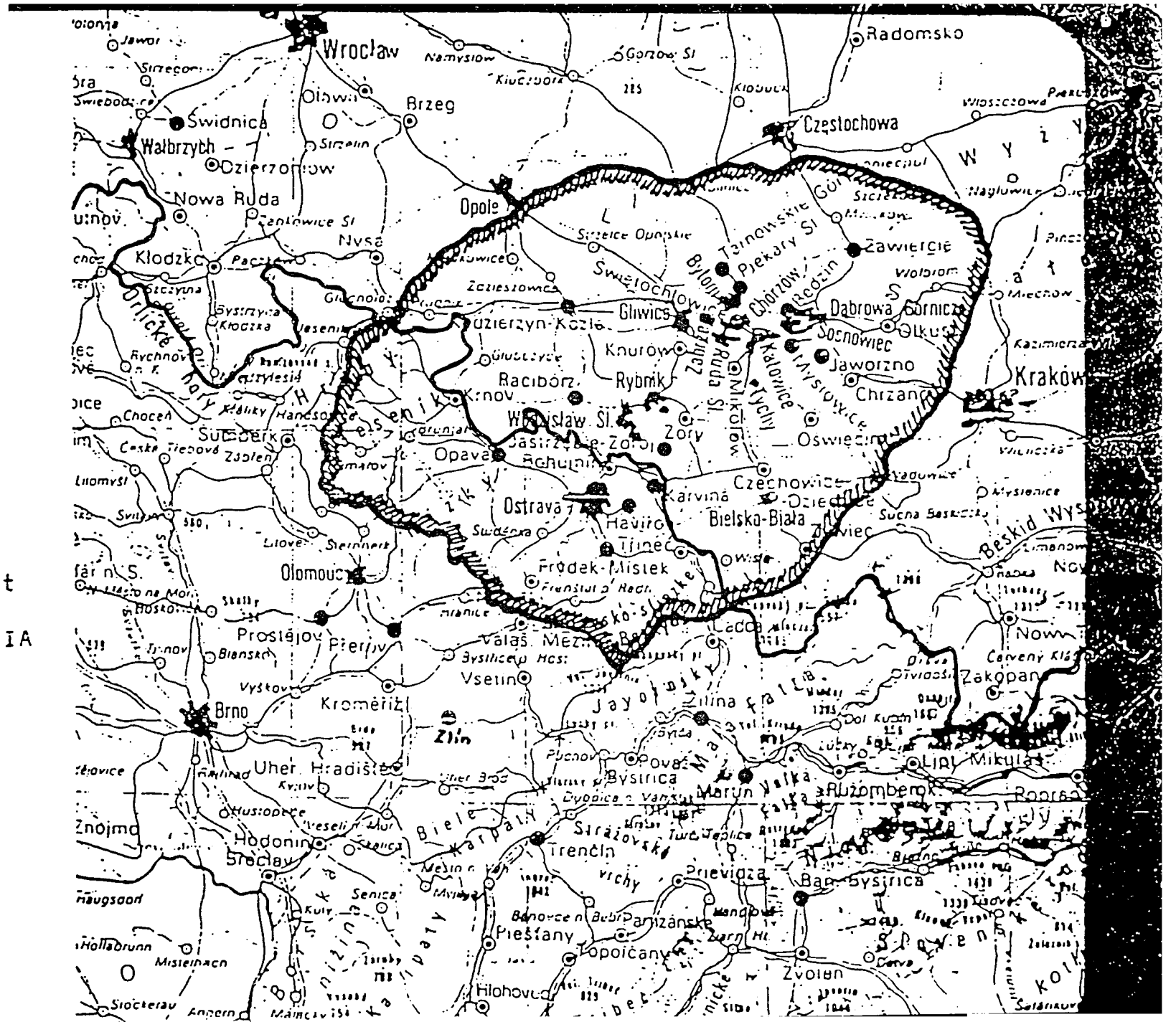
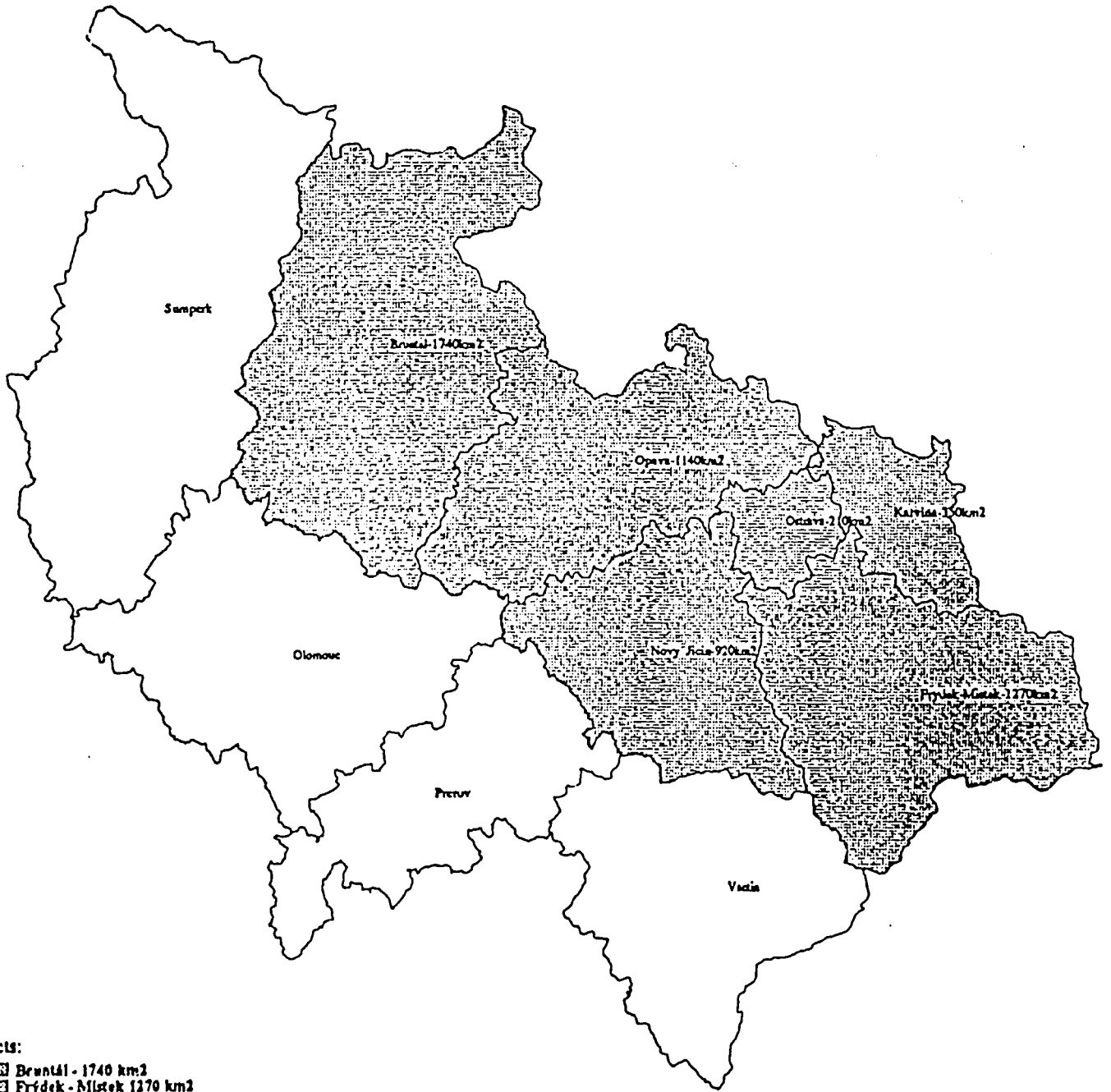
Zájmová oblast projektu SLEZSKO/SILESIA



SCOPE OF THE CZECH PART OF THE PROJECT SILESIA

(6 districts - 1.2 mil. inhabitants)



Districts:

- Bruntál - 1740 km2
- Frýdek - Místek 1270 km2
- Karviná - 350 km2
- Nový Jičín - 920 km2
- Olomouc
- Opava - 1140 km2
- Ostrava - 210 km2
- Přerov
- Šumperk
- Vsetín

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PROJECT SILESIA - CZECH PART
PHASE I - RISK ASSESSMENT

AREA:

6 DISTRICTS IN THE NOTHERN MORAVIA AND SILESIA

- Ostrava
- Karviná
- Frýdek-Místek
- Nový Jičín
- Opava
- Bruntál

RISK ASSESSMENT FIELDS:

- Air Pollution
- Surface Water Pollution
- Drinking Water Contamination
- Food Contamination
- Occupation Health
- Waste Disposals

PRIORITIES (based on comparative risk assessment)

- Air Pollution (coke production, iron and steel industry)
- Surface Water Pollution (pulp industry, waste water treatment plants)
- Food Contamination (PCB, heavy metals)

PROJECT SILESIA - CZECH PART
PHASE I - RISK ASSESSMENT

MANAGEMENT STRUCTURE

POLICY COUNCIL:

- Czech Ministry of the Environment
- Czech Ministry of Health
- Czech Ministry of Finance
- Czech Ministry of Economy
- Directors of 6 District Offices
- Head of Economic and Social Council of Ostrava-Karviná Region
- Head of Association of Cities and Municipalities of Northern Moravia and Silesia Region
- Representative of NGO's
- Head of Technical Workgroup
- Head of Economic Workgroup
- Czech National Coordinator

TECHNICAL WORKGROUP

- Institute of Industrial Landscape Ecology, Czech Academy of Sciences, Ostrava
- Technical University in Ostrava
- Other research institutes in the region
- Project institutions in the region
- Technicians from 6 District Offices (Representatives of Environmental Protection Departments)

ECONOMICAL WORKGROUP

- INORGA Consulting Ostrava, Ltd.
- Technical University in Ostrava
- Representatives of important industrial companies in the region (from departments of environmental protection)

DIRECT CONTACTS WITH US-EXPERTS

PROJECT SILESIA
PHASE II - RISK MANAGEMENT

DEMONSTRATION PROJECTS:

aimed to the most important priorities identified in Phase I
focused to reducing the highest risks specified in Phase I
designed as models (case studies)

1. Reducing Risks from Coke Ovens Emissions
2. Reducing Risks from Surface Water Pollution - BIOCEL Paskov Pulp Comp.
3. Reducing Risks from Food Contamination
4. Air Quality Management
5. Reducing Risks from Abandoned Industrial Lands - Karolina Area in Ostrava City

SUPPORTIVE ACTIVITIES:

assistance to Demonstration Projects
intensive transfer of experience and skills from the U.S.
influence to decision-making processes
public outreach

1.Information Center of Silesia Project

- center of information concerning the Silesia Project, center of environmental and human health data from the region, center of US-methods, handbooks etc.
- training center
- *public outreach center*

2. Strengthening of Negotiation Skills and Capacity

- mediation the negotiation process between Ostrava City and the rafinery of used mineral oils OSTRAMO Vlček and Comp. in Ostrava
- mediation the negotiation process between Ostrava City and Ostrava-Karviná Coke Ovens Comp. in Ostrava

PROJECT SILESIA
PHASE II - RISK MANAGEMENT

MANAGEMENT STRUCTURE

CORE GROUP

- Czech Ministry of the Environment
- Czech Ministry of Health
- Czech Inspection of the Environment
- Representative of Ostrava City Council
- Demonstration Projects Managers
- Head of Project Silesia Information Center
- Czech National Coordinator

5 DEMONSTRATION PROJECTS WORK GROUPS

- Demonstration Project Manager
- Representative from each of the institution directly involved into problem solved by the Demonstration Project

INFORMATION CENTER OF SILESIA PROJECT

- Head of Information Center
- Assistant - Training Expert
- Librarian
- G.I.S. Expert
- *Public Outreach Expert*

DIRECT CONTACTS WITH US-EXPERTS

PROJECT SILESIA
RESULTS - SUMMARY

Technical Results

- studies and analysis
- independent audits
- independent statements

Scientific Results

- transfer scientific information from U.S.
- forming scientific partnerships between Czech and U.S. institutions

Methodological Results

- transfer and modifications US-methods of comparative risk assessment

International Results

- direct cooperation with US-experts
- open cooperation with Polish experts
- coordination with other international projects and programs (PHARE, Baltic Sea Environmetal Protection Program, Post-Luzern Initiative)

Political Results

- introduction the comparative risk assessment method as a tool for setting environmental priorities
- introduction the risk management methods (including negotiation procedures) as an approach to constructive solving of environmental problems with respect to economical and social conditions in the country and in the region

GENERAL RESULT

- starting development towards meeting both environmental (human health) protection and economical goals

PROJECT SILESIA

CONDITIONS FOR VIABILITY OF THE PROJECT

1. Partnership between US and Czech experts based on direct cooperation and open communication:
   - sharing experience and information
   - working hand-by-hand
   - training by doing

2. Creativity in transferring know-how from U.S. (modifications of US-approach and methods accordingly to Czech environmental, economic and social conditions)

3. Effort towards self-sufficiency in management of environmental protection and human health protection in Czech Republic

4. Respect to economical and social background of environmental problems and to complex impacts of environmental risks reduction opptions

5. Permanent involvement of industry representatives and local authorities into Demonstration Projects (finding "clients" for each of them); involvement of local consultants

6. Excellent cooperation between regional representatives of Czech Ministry of the Environment and Czech Ministry of Health

7. Flexible management structure "tailored" according to actual needs (including roles of individuals)

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PROJECT SILESIA

An international project of a regional character, initiated by recommendations and conclusions of "The Comprehensive Study of Environmental State in the Czech and Slovak Federal Republics", which has been elaborated by a group of prominent experts for the World Bank in March 1991 with the participation of the Federal Government, the Governments of the Czech and the Slovak Republics, the USA and with the European Community. This project has been included into the World Bank's program "Environment I", together with four other important activities (The Centre for Liquidation of Problem Wastes; The Reconstruction of Areas Devastated by Mining Activities; The Control Plan for the North Bohemia Region; Communal Services).

The Project objectives:

- the understanding of environmental risks in the territory of Project Silesia's interest, the identification of sources of these risks and the specification of their relevance;
- the working out of proposals, recommendations and particular interventions, reducing the environmental risk rate and leading to the stopping of worsening trends of development of the environment and to the improvement of the current situation;
- the transfer of the best technical, technological and methodical processes of economically effective and efficient protection of the environment;
- the opening of possibilities for an entry of foreign capi- tal and a taking part of domestic capital into the process of economically favorable restructuralization and reconstruction of the area's economy;
- the creation of conditions for the gradual realization of principles of the sustainable development of the region, integrating economical, ecological and social goals.

The method of solving:

The method of comparative assessment of risks (Comparative Environmental Risk Assessment), elaborated by the United States Environmental Protection Agency (US-EPA) and with it linked-up procedures of the controlled reduction of identified risks's effects (Environmental Risk Management), which have been also transferred philosophically and methodologically from the USA.

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CHARACTERISTICS OF THE COURSE AND THE RESULTS OF THE PROJECT SILESIA PHASE I

Objectives:

1. The identification of main sources of health and ecological risks in the area of interest, with a use of the comparative risk assessment method.

   - The identification of existing risks which exert their influence on human health (conceivably on ecosystems).

   - The evaluation of exposures, containing the assessment of concentrations of pollutants which people are (conceivably ecosystems) exposed to.

   - The evaluation of organism's (ecosystem's) reactions to pollutant doses detected in the environment, the pointing out of cancer and non-cancer risks related to the unit dose for the individual substances.

   - The description of health and ecological risks for different exposure levels to the individual substances.

   - The elaboration of the survey of existing environmental risks and their sources, the specification of their relevance.

2. The setting priorities for solving of problems identified and the proposal for immediate measures and for further more detailed specifications of tasks in the Project Silesia Phase II.

3. The evaluation of economical, political, social and market incentives involved in the process of the risk reduction.

The risk identification in the area of interest involving six problem spheres:

1. AIR POLLUTION
2. SURFACE WATER CONTAMINATION
3. OCCUPATIONAL DISEASES
4. FOOD CONTAMINATION
5. DRINKING WATER CONTAMINATION
6. WASTE DISPOSAL SITES

- pulp and paper plants
- steam power plant
- anorganic chemicals production plants.

The most relevant contaminants are as follows :
- metals (Hg, Cu, Pb, Cr, Fe);
- polychlorinated biphenyls (PCBs);
- organic substances.

The ecological quality of water was disturbed in all five rivers under observation (Moravice, Odra, Olše, Opava and Ostravice). Based on estimated contaminant loadings, roughly 199 km of the 347.9 km of rivers under observation are chemically polluted (57 %). Another 66 km may be polluted by contaminants not monitored in this project's phase.

3. OCCUPATIONAL DISEASES

These diseases represent a high risk for professions exposed to hazardous substances and extreme situations.

Kinds of occupational diseases:

Disease	% of incidence	Absolute number of cases
Silicoses	34	477
Vibration diseases	32	442
Workload	20	275

Occupational diseases by percent:

Industrial branch	% of incidence
Mining industry	70
Metallurgy and steel industry	13
Food industry	4

Silicoses represent 1/3 of all occupational diseases. The risk of individual silicosis development is very high ($5x10^{-3}$). The mining industry accounts for 96% of silicosis cases.

5. DRINKING WATER CONTAMINATION

The drinking water analysis showed that total health risks from contaminated drinking water are low. The closing report gives evidence about the contamination of water by arsenic and lead and about the bacterial contamination of water in the Šance water reservoir. (This conclusion was not proven by intensive monitoring of drinking water, which has been carried out in the area of the town of Ostrava since January 1993 with a monthly sampling frequency for inorganic and microbiological parameters and with bimonthly frequency for organic substances).

Cancer risk estimates were calculated according to the arsenic content in drinking water. The value of 1×10^{-3} (3.2 cases/year) is to be considered regarding the above mentioned note. An important non-cancer risk (confirmed also by the drinking water monitoring performed in the Regional Hygiene Institute) is the occurrence of long-term increased levels of nitrogenous substances in drinking water of the Ostravian area. The values for organics were not at our disposal.

6. VASTE DISPOSAL SITES

The risk for an individual living near waste disposal sites is potentially high, but there are few people who are actually exposed to this risk.

The exposure to harmful substances can occur through
- consumption in drinking water
- direct contact
- inhalation of vapors released from waste disposal sites.

We evaluated in total 464 waste sites in the area of interest. Communal wastes and mixed communal and industrial wastes predominate, representing 70% of the sites.

The greatest individual risk comes from waste sites of industry or chemical wastes (2×10^{-3}) and from waste sites of waste rock after extraction of non-ferrous metals. Mixed and communal waste sites represent much lower risk. Risks posed by inhaled contaminants are estimated to be several orders of magnitude lower than risks associated with ground water and with direct contact pathways.

The risks from the Ostramo lagoons and from mining sites have not been evaluated in the Project Phase I and they can be much larger than those from open waste sites.

CHARACTERISTICS OF THE ORIENTATION AND THE COURSE OF THE PROJECT SILESIA PHASE II

Based on the results of the Project Silesia Phase I, the following priorities were set for solving the most relevant risks and the work on the so-called demonstration sub-projects and support acttivities was started:

Demonstration sub-projects:

- The reduction of risks from coke oven plants' emissions.
- Air quality management.
- The reduction of risk from food contamination.
- The reduction of risk from polluted surface waters - the BIOCEL Company in Paskov.
- Reduction of the Risk Resulting form the Contamination of the Carolina Site

Support activities:

- The Information Centre of Project Silesia.
- Negotiation Skills Development

The goal of the Project Phase II is first to check on the results found in screening analysis during Phase I and subsequently to propose ways in which the determined risks could be most effectively reduced.

The number of demonstration projects and support activities is not considered to be final; we plan further adding to the core of the project and/or broadening its original objectives. For example, an assessment and management of the health risks resulting from the mobile sources (in connection with the construction of the D-47 highway) is being negotiated. Gradually, we make Project Silesia to be compatible with the Post-Luzern Programme and with other activities that are to continue in designing and implementing proposed environmental projects and to help in obtaining the funding for realization of the measures and options recommended.

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Reduction of the Risk Resulting from the Contamination of The Carolina Site

A demonstration sub-project of the Project Slezsko/Silesia

The objective of the project, that was begun in August 1994 is to transfer know-how and long time experience of the US-EPA experts in assessing and reducing the risk caused by heavy contamination at abandoned industrial sites. The project involves assessment of the contamination - investigations that were already performed at the Karolina site, which is located i the very centre of Ostrava City and formerly used to accommodate coke-oven batteries, steel works and chemicals production. The project also involves an evaluation of the plans of detail analyses of quality and quantity of the contamination and of its primary source, calculation of the health risks to which the inhabitants are currently exposed to, and preparation of several variants of remediation necessary to reduce, or eliminate, the identified risks with regard to the future use of the Karolina site. Experience acquired during the course of works on the project will be incorporated into the Czech three phase training programme "Remediation and reclamation of the former coke-oven sites", that the US-EPA has already designed for the Polish partners.

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PRESENT STATE OF ACTIVITIES

The Czech phase of the Project Silesia, that was begun in the first half of the year 1993, has been continuing. It includes five demonstration projects and several so-called support activities; each of the projects and activities has its own specific work team that is comprised of representatives of the institutions and organs involved.

1. <u>The demonstration project "The reduction of Risk of Coke Ovens Emissions"</u>

- Technical and environmental site audit for each of the coke oven batteries performed (January 1994).
- Coke market analysis performed (July 1994).
- Detail risk assessment for each of the coke ovens performed (February - July 1994)
- Comparison of the models used for the risk calculations continues.
- Cost-benefit and cost-effectiveness analyses of the proposed measures for the risk reduction will be soon finished.
- Results so far are being used in the negotiation process between Ostrava-City and coke producers (OKD-OKK, Ostrava) about the future coke production within the boundaries of the Ostrava-City.

2. <u>Demonstration project "Reducing Risk of Surface Vater Pollution - Biocel Paskov (Pulp and Paper) Comp."</u>

- First version of the technical and environmental audit performed (April 1994).
- Mathematical model of money-flows and the audit finished, financial plan prepared (April 1994).
- Pulp market analyses performed (April 1994).
- Initial documentation for a loan request and for a state guarantee finished (September 1994).
- More precise preparation of the documentation necessary to start negotiation about the loan and about the state guarantee continues.

3. <u>Demonstration project "Reducing Risk from the Food Contamination"</u>

- Survey of the food consumption habits of approximately 1,600 respondents was finished (September 1994).
- Analysis of the data obtained from the survey of the food consumption habits continues, as well as does the preparation of the interpretation of the acquired data.
- Comparison of the food consumption habits in the region with the results from the national survey done by the Department of

Health (September 1994)/
- Food sampling continues (the plan for 1993, as well as the adequate portion of the plan for 1994, was fullfilled).
- Analysis of the samples taken is being performed.
- Database for the risk calculation - software - was designed for this very task (May 1994).

4. Demonstration project "Air Quality Management"
- Data for technical site audit of monitoring networks was prepared (April 1994).
- Three training courses were organized in order to ensure a routine operation of the dispersion model from the US-EPA (including the methodology of the entering data preparation) (December 1993 - January 1994).
- Phase I of a specific "30-days" study preceding the audit performed to identify details of air-pollution quality and quantity (April 1994); the interpretation of results is being prepared.
- Preparation of the background material for the 2nd phase of a 30-day study (including the comparative analysis of the methods for measuring VOC - volative organic compounds).
- Preparations of the background material for the partial project oriented on achieving an improvement of the smog warning system in the region of North Moravia were finished (September 1994).
- Gathering the data for analysis of individual contributions of sources belonging to different categories to the overall air-pollution in the Ostrava-Karviná region.

5. Demonstration Project "Reduction of the Risk Resulting from the Contamination of The Carolina Site"
- Evaluation of the so far analytical works at the Karolina site was finished (September 1994).
- Evaluation of the proposal of the detailed hydrogeological investigation continues, and the recommendations for its improvement performed (October 1994).
- Outline of accesible remediation and reclamation technologies is being prepared.
- Gathering the data linked to the quality and quantity of the contamination of adjacent areas and ecosystems continues.

6. Support activity - Information Centre of Silesia Project
- Library that provides interlibrary loans was opened (January 1994).
- Geographical Information System (GIS) developed and then equiped by the US-EPA (February 1994).
- Preparation of data complexes for GIS continues.
- "Environmental Risk Assessment" training course for public was performed (June 1994).
- "Conflict Resolution in Environmental Protection" training

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course designed in cooperation with WWF was performed (October 1994).
- US-EPA's training courses "Environmental Enforcement" and "Environmental Economics" have been prepared for performing in November 1994 and January 1995 respectively.
- Preparation of training and adult-educational programmes for both professionals and laic public continues.

7. Support activity - Negotiation Skills Development
- Series of negotiations was successfully finished when signing an agreement between the enterpreneuer - Mr. Vlček - and Ostrava-City (October 1993). Independent and objective data for the negotiation process were prepared with US-EPA's significant support.
- US-EPA expert oversaw the fullfilment of the agreement and pronounced it to be satisfactory (May 1994).
- Based on recommendation prepared by US-EPA's expert an independent citizens' control committee was established - "Vatch-Dog Group" (May 1994).
- Harvard University experts used the data in preparation of a model case study, which was presented at an international conference in June 1994; after the translation into Czech is finished, the study will be offered to the Czech universities, institutions of state administration as well as to local governments.
- Negotiation model is, in slightly modified form, used in resolving the problem of coke production in the Ostrava City.

Ostrava, October 14, 1994

Helena Čížková
Project Silesia Czech National Coordinator

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PROJECT SILESIA
SUMMARY OF RECENT ACHIEVEMENTS

Project Silesia is a comparative risk assessment and risk management effort jointly coordinated by the U.S. Environmental Protection Agency and the Ministry of the Environment of the Czech Republic. This project is funded both by the U.S. Government through A.I.D. and by the Czech Ministry of the Environment.

The goal of the project is to identify those environmental problems posing the greatest risk to human health in the region of Northern Moravia and Silesia, and to develop and implement strategies to reduce those risks.

PHASE I (1991 - 1992):

- Initial risk screening analysis performed for six fields of environmental pollution in the specified region.
- Comparative risk assessment performed for the specified region.
- Results and data of these studies have been interpreted and used by the Czech Ministry of the Environment, by the local government and by the regional industry for setting environmental priorities.
- Risk Assessment methods have been transferred to Czech institution by join work and specific training as a tool for environmental decision-making.

PHASE II (1992 - now):

Demonstration project "Reducing Risks of Coke Ovens Emission"

- Technical and environmental site audit for each of the coke oven batteries completed.
- Coke market analysis completed.
- Detail risk assessment for each of the coke ovens completed.
- Proposals of risk reduction opptions developed (some of them already implemented) and their cost-benefit analysis completed.
- First draft of the cost-benefit analysis for proposed risk reduction opptions completed.
- Negotiation between the Ostrava Town and Ostrava-Karviná Coke Ovens Comp. concerning setting conditions for environmentally more friendly coke production is being supported by independent technical assistance provided during negotiation and for preparing an agreement between these two subjects.

Demonstration project "Reducing Risk of Surface Water Pollution - Biocel Paskov (Pulp and Paper) Comp."

- Technical and environmental site audit completed.
- Pulp market analysis completed.
- Financial plan and financial model developed.
- Initial documentation for load request developed and submitted to the Ministry of Environment of the Czech Republic for negotiation with the Czech Ministry of Finance and financial institution for providing a soft loan for BIOCEL Comp.

All activities involved into Silesia project have been coordinated with other international and domestic environmental efforts implemented in the specified region. The Silesia project has started to be accepted as "model approach to sustainable development" under conditions of economic transformation and reconstruction. Transfer (and modifying accordingly to Czech conditions) the US skills and experiences of environmental risk assessment (as a tool for setting environmental priorities) and environmental risk management (as an approach to solving environmental problems with respect to their real economical and social background) is considered as the most significant contribution of the Silesia project. During the period of more than three years many positive changes in decision making procedures (and in approaches of industrial managers, local governments and state administrative) have been stimulated by involving them into the Silesia project. Reaching good response of public (which has been not visible enough by now) will be one of the most important issue for continuing the Silesia project in next two years.

Ostrava, January 18, 1995

Helena Čížková, Project Silesia Czech National Coordinator
Ministry of the Environment of the Czech Republic
Project Management Unit in Ostrava

SLEZSKO ♥ SILESIA

PROJEKT SLEZSKO Informační centrum Projektu Slezsko
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THE INFORMATION CENTRE OF THE PROJECT SILESIA

A support activity of the Project Slezsko/Silesia

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OBJECTIVES

1. To be the single information resource with the system to collect, store, develop and distribute environmental and risk assessment data for the Project Silesia's participants and for other clients.

2. To be the point for public relations for the transfer of information from the Project Silesia and its demonstration projects, as well as for the support of realization of strategies and principles of the sustainable development.

3. To be the central base for transfering of the US-EPA's project methodology in the sphere of environmental protection and management to the Czech Republic, especially in regions of North Bohemia and Silesia.

The ICPS activities are coordinated with activities of other institutions engaged in processing of environmental information in the region of North Bohemia and Silesia.

The ICPS also collaborates with other similar centres in the Czech Republic and perspectively also internationally, to exchange information and experiences regarding environmental policy and management techniques.

The ICPS is staffed by a small, professional team, which is supported by the US-EPA and its contractors.

STRUCTURE

A) Library management and providing librarian and guidance services.

B) Organization of the ICPS's own or transfered training activities.

C) Operation and use of the Geographic Information System.

D) Support of environmental and health education.

E) The Project Silesia's and the ICPS's publicity.

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Ad A) Library

The library ensures the following services:

- the acquisition, catalogization and accessing of journals, books and publications dealing with environment and health as a general subject, namely in a form of a lending service for professionals and the general public;
- the search compilation ordered by the ICPS's clients;
- the organization of regular collaboration with specialized information centres (the Ministry of Environment of the Czech Republic, USIA);
- the access to professional databases with the environment and health as a general subject;
- the provision of reprographic services to clients and to ICPS personnel;
- the guidance of information on CD-ROM databases, conceivably on other specific media.

Ad B) Organization of training activities

The ensuring of organization, administrative work and all preparation for:

- courses or training courses incorporated into the Project Silesia or those linked up with it (i.e., risk evaluation and management, environment management);
- public gatherings directly related to problematics solved in the project Silesia (in collaboration with non-govern- mental organizations centred on environmental problems, state administrative and autonomous regional agencies);
- popular lectures thematically connected with the Project Silesia.

Ad C) Geographic Information System (GIS)

The GIS workplace provides information on territory- related data, which are processed in thematic layers and created on digital map models.

The GIS provides the folloving services

- the creation of the dynamic system for processing of territory-oriented information - data about a territory, health, demography and environment;

- the conversion of numeric figures into the form of map outputs;

- the identification of connections between population health status, risk factors and environment state with the aid of comparative analysis of different layers;

- the ensuring of data exchange between similar workplaces within the framework of the "Association of the GIS Users" in the region (the Ostrava University, the Mining University, the Municipal Information System);

- the provision of clearly interpretable graphic grounds through the ICPS to the public and to state administrative and autonomous rwegional agencies.

Ad D) Health and environmental education

It is assured on a collaborative basis with a specialized Department of the Regional Hygiene Institute in Ostrava, which organizes:

- the direct participation in hygiene service educational programmes for pupils and students of primary and grammar schools, the distribution of publicity materials, the playing of videocassettes, the organizing of lectures with the environment and health as a general subject;

- the support of existing courses for teachers and employees of school, environmental and health service facilities;

- the organizational ensuring of the ICPS's relations with mass media (television, radio, press). In cooperation with a Project Silesia's spokesperson it passes on information to the public.

Ad E) The Project Silesia's and the ICPS's publicity

The publicity service of the Project Silesia and the ICPS is assured in cooperation with the Department of Health Education of the Regional Hygiene Institute in Ostrava by a professional of this Department on request.

THE ICPS STAFF

MUDr.Ivan Tomášek	head of the ICPS, GIS-technical information
Ing.Hana Santariusová	main coordinator, training activities
Dr.Olga Tomoszková	library
Ing.Čestmír Kantor	GIS, computer data processing
Mgr.Jana Charbuláková	health and ecological education, publicity

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A model of negotiation between an entepreneurier (owner of an industrial facility), City authorities, State administration authorities, and general public in solving the question of so-called "environmental debts from the past" with regard to the decision-making process about the future development of a given facility.

The objective of this activity, that was first applied on the OSTRAMO, Vlček and Comp., is to present (but more importantly to exert) a negotiation model, widely used in similar situations in the United States, and to stimulate participants involved in the negotiation to apply this negotiation procedure routinely as a tool in solving the conflict situations in the future as well.

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THE REDUCTION OF RISK FROM COKE OVEN PLANTS' EMISSIONS

A demonstration sub-project of the Project Slezsko/Silesia

The demonstration sub-project "The Reduction of Risk from Coke Oven Plants' Emissions" has been created within the framework of the Project Silesia Phase II in order to reduce the high health risk caused by carcinogenic coke oven plants' emissions.

OBJECTIVES:

1. To set measures necessary for the coke production in a way which will show more regard for the environment and will have a lower risk for the health of population in the region.

2. To elaborate recommendations for decision-makers from production plants and also from state authories.

3. An independent and objective evaluation of the health risk resulting from coke oven batteries' operation.

4. A determination of the possibility of financing the proposed technical solutions.

STRUCTURE:

To reach the above mentioned objectives, the structure of the demonstration sub-project includes these four parts:

A) The survey of an evaluation of the risk from coke oven batteries.

B) The evaluation of the current state of coke oven plants and the independent assessment of prepared technical solutions.

C) The funding possibilities of solutions proposed.

D) The assessment of the coke market.

E) The summary of recommendations.

Ad A) The survey of evaluation of the risk from coke oven batteries.

This first part includes a detailed analysis of coking plants, the enumeration of the health risk of particular coke oven plants, its impact on the health of the population and the confirmation or correction of results from the Project Silesia's PHASE I, where some substitute data and coefficients from the USA

authority and their consultants. By reason of the great extent and difficulty of this problem, this working team forms other specialized sub-groups for completing partial tasks,as required.

The elaborated computer database of all coke oven plants and particular batteries (made in the FoxPro 2.0 environment) serves as a basic information source for all partial tasks.

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Demonstration project "Reducing Risk from Food Contamination"

- Consumption basket analysis for the region of the Northern Moravia and Silesia completed.
- Food contamination analysis of fish, meat and vegetable completed.
- First draft of detail risk assessment completed.
- Recommendations for risk reductions are being developed.
- Public outreach information program is being prepared.

Demonstration project "Air Quality Management"

- Basic data for technical site audit of monitoring networks prepared.
- Dispersion model used in Phase I of Silesia project and BLP model transferred to the Czech institutions for routine operation.
- Phase I of a specific "30-days" study was completed to identify details of air pollution quality and quantity in urban areas of Ostrava Town.
- Phase II of the "30-days" study is being prepared.
- Data and conditions for improving the existing early warning system in Ostrava region by transfer of US-EPA experience prepared.

Demonstration Project "Risk Reduction of Abandoned Industrial Lands - Karolina"

- Review of recent hydrogeological investigations and preliminary risk assessment performed by Czech institutions performed by Region III US-EPA.
- Recommendations for detail analysis of site contamination (improvement the project developed by Czech institute) prepared.
- Data for human health risk assessment are being prepared.

Information Center of Silesia Project

- Information Center of Silesia Project founded as the focus point of public and professional information provided by the Silesia project and as the focus point of US-EPA methods in Ostrava and Czech Republic as well.
- Geographical Information System developed, equiped and implemented.
- The Risk Assessment training course for public performed.
- Specific trainig for environmental conflict resolution performed in cooperation with WWF.
- The training courses of Environmental Enforcement and of Environmental Economics performed in cooperation with US-EPA; repeating these courses prepared for 1995.

Negotiation Skills Development

- Technical and environmental site audit for the used oils refinery OSTRAMO Vlček and Comp. Ostrava performed.
- Proposals of an agreement between Ostrava Town and OSTRAMO Vlček and Comp. developed and negotiated (the agreement was signed in October 1993); accepted by central and local authorities, industry and public as a model example of solving environmental problems in urban areas.
- The citizens'activities (forming a "watch-dog" group) supported.
- Independent assessment of the quality of respecting the agreement provided.
- Negotiation between Ostrava City and Ostrava-Karviná Coke Ovens Comp. (please see the demonstration project "Reducing Risk of Coke Oven Emissions" above) is being supported.

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AIR QUALITY MANAGEMENT

A demonstration sub-project of the Project Slezsko/Silesia

OBJECTIVES

The basic objective of this sub-project is to assess the present state and to interpret information about air quality in the Ostrava-Karviná region, and to improve work through the transfer of suitable methods from the USA. A part of the sub-project is also the training of Czech experts in the new methods.

The information about air quality is not the only information about quality of the environment we are living in, but it is also the basis for decision-making from the bodies of state administration and autonomous state organs - the decision-making so that our environment may be better it is today.

STRUCTURE

A) Air monitoring
- The auditing of existing measuring networks of the Czech Hydrometeorological Institute and the Regional Hygiene Institute.
- The recommendations for the existing state improvement.
- The immediate improvements of monitoring according to the audit results.

B) Air modeling
- The transfer of the US-EPA models and modeling's training.
- The comparison of the US-EPA models with those in use in the Czech Republic.
- The comparison of the model results with reality.

C) The analysis of air pollution sources
- Data gathering about medium-sized pollution sources in the territory of the town of Ostrava.
- Data gathering about small pollution sources on the territory of the town of Ostrava.
- The calculation of the percentage of eachindividual source type.

D) The information for the general public and professionals.

E) Collaboration with the institutions responsible for decision-making.

DESCRIPTION

- The assessment of the present level of measuring networks of air pollution, operated by the Czech Hydrometeorological Institute and the Regional Hygiene Institute and an elaboration of recommendations for their improvement (an evaluation of the placement of stations in the area; the measured characteristics and pollutants; the sampling methods and sample processing; the measuring and evaluating techniques in use). There will be carried out a 30-day measurement in Ostrava, from which results it will follow which pollutants are in the air, which are the most risky for health of the inhabitants and those will be further observed in more detail.

- The routine work with air pollution models used in the USA, their comparison with models and techniques being used till now in the Czech Republic, and their link to local information systems for the state and local authorities and for the inhabitants.

- The improvement of forecasting adverse air pollution situations through the use of methods applied in the USA.

- A detailed determination of air pollution sources and the relative impact of particular source types (large, medium-sized, small sources; local heating units; transportation) on air pollution in Ostrava.

RESEARCH TEAM

From the Czech side, the specialists from the Czech Hydrometeorological Institute - Branch Office in Ostrava, the Regional Hygiene Institute in Ostrava, the Czech Inspection of Environment - the Department of Air Protection, the Municipality of Ostrava and the Mining University take part in the project; the representatives of companies concerned will be also engaged the in completionin of concrete tasks.

Therefore the objective of the project "Air Quality Management" is the increase of air quality information as a whole for the general public and professionals and the improvement of grounds for decision-making from the bodies of state administrative and autonomous regional agencies.

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THE REDUCTION OF RISK FROM SURFACE WATER POLLUTION - THE BIOCEL COMPANY, PASKOV

A demonstration sub-project of the Project Slezsko/Silesia

The necessity to reduce risk of surface water pollution specially the Ostravice and Odra rivers),is among the top priorities for environmental improvement, which in its consequence will lead to a reduction of the Baltic Sea's pollution.

Within the framework of the Project Silesia Phase II, the case of the BIOCEL Company in Paskov has been chosen as the demonstration sub-project for the solution of above mentioned problem.

OBJECTIVES

1. To reduce the Baltic Sea's pollution by lowering the pollution levels of the Ostravice and Odra rivers by eliminating pollution sources.

2. To comply with the new, more strict pollution limits given by the Vaste Vater, Air Emissions and Vaste Acts.

3. To create economic and environmental conditions necessary for further development of the BIOCEL COMPANY.

4. Based on knowledge obtained, to develop a model solution for other problems.

DESCRIPTION

The technological change will be based on a replacement of present chlorine bleaching process of pulp by a non-chlorine one, using oxygen, hydrogen peroxide and ozone; this change will require an investment of approximately 746 mil. Kč, which will be spread over the years 1993 - 1995.

Within the framework of this sub-project, the help for the BIOCEL in Paskov will be aimed at an independent evaluation of the technical solution, which is being prepared, at an anticipated ecological contribution of the activity and the project's ecological vitality, including a verification of marketing presumptions.

For the verification of the economic vitality, a mathematical model is used, which enables us to model different variants of the future development of the amount of sales, the costs for raw material input, power, etc. - and thereafter to find out the company's revenue situation, related to the considered time spread of installments for granted credit.

Therefore this project's part will prove whether the company will be able to pay off the requisite credit in general - and what impact this fact will exert on the company's cost flow.

The summary joint material - the content and the structure of which will fully correspond with the requirements of financial institutions in developed countries - will be exploited in the process of obtaining financial sources for the considered technology change.

RESEARCH TEAM

In working out this sub-project the research team has been created from representatives of the BIOCEL Company in Paskov, INORGA and the US-EPA. This team leans on the help of a so-called greater team, which includes representatives of the Municipality of the Ostrava, the Research Institute for Management of Water Supply, the Odra Basin, the District Office of Frýdek-Místek and of foreign companies EPIC and Lenzing.

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THE REDUCTION OF RISK FROM FOOD CONTAMINATION

A demonstration sub-project of the Project Slezsko/Silesia

OBJECTIVES

Within the framework of the Project Silesia Phase I, basic information from food contamination has been included among main risk sources for the inhabitants of the area in interest.

Because this risk was determined on the basis of findings from non-systematically taken samples and food consumption data for the risk calculation was given by the Czech Statistical Office and by the WHO, we worked out a further procedure for refining the manner in which these data were obtained.

Through making the input data more precise and through the subsequent calculations, the risk determined in the Project Silesia Phase I can be confirmed or it also can be found that the measures, which were done, have reduced the risks from food contamination.

STRUCTURE

A) The taking of samples and their laboratory analysis.

B) The analysis of food consumption habits and the 24-hour consumption for individual kinds of food by the region's inhabitants.

C) The identification of food sources in families.

D) The calculation of the risk rate from food contamination by the region's residents.

Ad A) The taking of samples and their laboratory analysis.

The sampling is carried out for those kinds of food (beef and pork, fish, poultry, sugar, wheat, milk, eggs, drinks, strawberries, apples, carrots, potatoes and cabbage), which are grown and bred in the area of six districts involved in the Project Silesia. The laboratory analysis is focused on concentration data for heavy metals, protective organic substances used in agriculture and forestry and on the level of PCBs.

Ad B) The analysis of food consumption habits and the 24-hour consumption of individual kinds of food by the region's inhabitants.

The analysis was performed in 1,600 households with the method of gathering data by telephone. It consists of two parts:

1. Frequency questionnaire - the frequency of consumption of the most common groups of food;

2. Identification of the 24-hour dietary regimen (what was eaten the day before by the questioned person).

Ad C) The identification of food sources in families.

It is carried out together with the data collection for item B). It is centred on the kinds of food from own production, e.g., fruit, vegetables, meat, milk, honey, etc.

Ad D) The calculation of risk rate from food contamination for the region's inhabitants.

After collecting all data from laboratory analyses and food consumption analyses, the risk from food contamination for an average adult of this region will be calculated.

RESEARCH TEAM

The research team consists of employees of the Regional Hygiene Institute in Ostrava, the State Veterinary Administration and foreign consultants.

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A USAID Project Consortium led by CH2M HILL

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K & M Engineering Consulting Corporation

Ogden Environmental and Energy Services Company, Inc.

Price Waterhouse

World Wildlife Fund, Inc.

Fact Sheet:
USAID Multiple Pollution Sources Management
Novokuznetsk

Project Overview

Novokuznetsk (NVK) is an industrial city of 600,000 located in the Kuzbass coal region in southwestern Siberia. Its economy is based on heavy industry – steel, aluminum, ferroalloy, pharmaceuticals and coal mining. NVK has been named as one of Russia's most polluted cities.

The EPT Project has two goals: to reduce pollution-related risks to public health and to contribute to environmentally sustainable economic development.

- The pollution program will focus on improving drinking water, controlling air pollution and institutionalizing industrial environmental audits.
- The sustainable development program will support the city's strategic planning process for achieving economic and social restructuring (Novokuznetsk 2010), and provide guidance and training for new entrepreneurs and matchmaking with U.S. companies.

Progress to Date

- In June, Nikolai Korolyov, Executive Director of the Novokuznetsk Development Fund, spent 3 weeks in the United States, working with U.S. task managers. Together they developed the plan for Russian participation in U.S. technical assistance efforts.
- In July, a drinking water team from NVK, including both drinking water producers and regulators, visited the United States. The Russian visitors were exposed to U.S. practices and technologies that can improve the quality of drinking water in NVK.
- In August:
  - An air pollution design team spent 3 weeks in NVK developing a strategy to control particulate pollution from 180 district heating plants and to upgrade the city's air pollution program.

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- In August (continued):
  - The sustainable development task manager spent 3 weeks in NVK working with Russian counterparts preparing to implement the NVK 2010 planning process.
  - A team of U.S. drinking water laboratory experts visited NVK and recommended improvements in the laboratories of regional and city regulatory agencies. Working with his counterparts, the drinking water task manager developed a refined schedule of future work.
- In September and October, a team of U.S. specialists conducted a 6-week training program in industrial environmental auditing in NVK. Participants included both environmental managers from large enterprises and independent engineers who will subsequently provide audit training conduct audits at other industries.

Next Steps

- In early 1995:
  - Joint teams of U.S. and Russian specialists will begin the 2010 planning process. Areas to be addressed include economic development, the environment, public health, education and public administration. Public participation will be fostered.
  - Additional tasks now being defined in drinking water and air pollution will be conducted in NVK.

Contacts

The U.S. and Russian contacts in NVK are Peter Niederberger and Nikolai Korolyov, respectively. Both are located at the Novokuznetsk Development Fund, Room 45, Sverdlov Street 20, Kemerovskaya Oblast, Novokuznetsk, 654080. Telephone: 7 (3843) 45-83-45. Fax: 7 (3843) 45-83-45 or 45-64-46. E-mail: <ecokuzbas@glas.apc.org>

You may also contact Michele Brown at USAID/Moscow, Bolshoy Deviatinsky Per., Dom 6, 121099 Moscow, Russia. Telephone: 7-095-956-4281. Or, contact Ron Greenberg at USAID/Washington, Office of ENI/EEUD/ENR, Room 4440 NS, Washington, D.C. 20523-0053. Telephone: 202-647-7315.

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A USAID Project Consortium led by CH2M HILL

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT

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Price Waterhouse

World Wildlife Fund, Inc.

Fact Sheet:
USAID Air Quality Management
Volgograd

The purpose of this pilot project is to develop a long-term strategy to obtain significant reductions in public health related air pollution impacts. It will demonstrate alternative approaches to improving air quality management and serve as a model for other industrial areas in Russia. A combination of new technology, training and increased public awareness will result in (1) a measurable reduction in public health-related air pollutants and (2) a specific long-term strategy for the Volgograd area.

Progress to Date

- Air monitoring equipment delivered and operators trained.
- Inventory of point pollution sources in the Volgograd region.
- Air pollution audits of nine enterprises to identify low cost/no cost control measures.
- Training in visible emissions evaluation.
- Subcontracts with six Russian organizations to implement project activities.

Next Steps

- A large-scale inventory of air pollution sources.
- Train auditors in air emission control assessments and conduct additional audits to implement pollution reduction and prevention measures.
- Work with officials to set realistic health-based emission standards.

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- Develop a strategy to restructure specific enterprises in order to improve air quality by emphasizing technology options, economic incentives and investment potentials.

- Establish a training center for air quality improvement techniques in Volgograd.

Implementors

The primary implementors of this program are the U.S. Environmental Protection Agency (USEPA), the Ministry of Environmental Protection and Natural Resources, and the Volgograd City Environmental Services Administration. The U.S. firms SAIC and CH2M Hill and five Russian institutions also provide assistance.

# # #

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Fact Sheet:
USAID Industrial Environmental Management
Nizhnii Tagil

Nizhnii Tagil/Sverdlovsk Oblast, like other Russian cities, faces numerous environmental, health and economic challenges as it moves forward under a democratic system toward a market economy. Most industries in Nizhnii tagil, until recently defense related, must now find new products and markets for distribution in order to remain viable. At the same time, this "environmental emergency zone" in the Ural Mountains must ensure that new industry is developed in an environmentally sound manner.

The objectives of this pilot project are to strengthen the institutions, both public and private, which are involved in environmental decision making; to reduce health risks posed by pollution; and to train environmental professionals in new technologies and methodologies and to increase public awareness of environmental issues.

Progress to Date

- Agreement to cooperate signed by three U.S. and seven Russian organizations on February 16, 1994.
- Russian site manager retained and U.S. project coordinators placed in Ekaterinburg and Nizhnii Tagil. Russian staff hired.
- Forty professionals trained in environmental management courses held in Ekaterinburg and Nizhnii Tagil in May.
- Conference for 120 Russian and 20 American participants held May 24-25, 1994, to commence project activities. Workshops included: Pollution Prevention/Environmental Audits; Environmental Planning and Comparative Risks; Institutional Strengthening; Health Assessment; and Environmental Education.
- Preliminary survey of environmental problems at six enterprises.
- Pollution prevention audit of a medical instruments plant recommending significant reduction in wastewater discharges.

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Next Steps

- Local institutes and academic institutions to develop curricula and teacher training in environmental education for all school levels.
- Fall training courses in risk assessment and comparative risk.
- Audit of municipal drinking water system.
- Development of "white paper" to guide future activities related to water treatment.

Implementors

The primary implementors of this activity are the U.S. Environmental Protection Agency (USEPA), Nizhnii Tagil City Administration, CH2M Hill Consortium, Institute for Sustainable Communities, Tagilecoprom Environmental Protection Center, Interraion Committee for Environmental Protection, Center for Sanitary and Epidemiological Surveillance, and the Ministry for Environmental Protection and Natural Resources.

# # #

A USAID Project Consortium led by CH2M HILL

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT

CH2M HILL International Services, Inc.

Center for International Environmental Law

Clark Atlanta University and the Historically Black Colleges and Universities and Minority Institutions

Consortium for International Development

ECI Environmental Compliance, Inc.

Ecojuris

Harvard Institute for International Development

Hughes Technical Services Company

Interfax News Agency

International Programs Consortium, Inc.

International Resources Group, Ltd.

K & M Engineering Consulting Corporation

Ogden Environmental and Energy Services Company, Inc.

Price Waterhouse

World Wildlife Fund, Inc.

Fact Sheet:
USAID Sustainable Natural Resources Management and Biodiversity Protection Program
Russian Far East

Russia's immense forests account for nearly a quarter of the world's forest and timber volume and are a critical global resource to buffer the effects of global climate change since they take up vast amounts of carbon dioxide. The Russian Far East (RFE) forests, 75% of the area, provide 80% of the region's hard currency earnings, and contain Russia's most biologically diverse terrestrial region, the Sikotin-Alin – home of the endangered Amur Tiger.

These forests are in crisis. They have not been managed for either sustainable yield economic productivity or habitat protection. The forest products sector is collapsing and unsustainable forestry practices are resulting in significant habitat and economic loses.

The purposes of this program are to (1) promote environmentally sustainable forest management and (2) to enhance protection of endangered species and critical habitat, in the Sikotin-Alin region.

Progress to Date

- Agreement to cooperate signed by the U.S. Agency for International Development (USAID) and Khabarovskii and Primorskii Krai (Territory) Administrations to implement key activities in sustainable forest management, integrated resource planning, development of a regional biodiversity strategy, and enhanced protection of parks and preserves.
- Russian Coordinating Committees established with representatives of numerous governmental and nongovernmental (NGO) organizations.
- Offices established in Khabarovsk and Vladivostok. U.S. and Russian staff retained with expertise in business development and biodiversity protection.
- Forest fire prevention demonstration areas identified and some equipment is being provided for forest fire prevention and control, as well as for forest regeneration and geographic information systems.

(over)

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- Developed linkage between the Far East State University and Washington State University.

- Funding provided to Russian specialists to develop a land use planning strategy to protect the Ussuri-Gavino River Basin as part of an international planning effort by Russia, China and the United States.

Next Steps

- Establish Small Enterprise Development Fund to co-finance the initiatives of small enterprises to use forest products (timber and non-timber) or services in a financially and environmentally sustainable manner.

- Conduct market studies to identify promising products, services or downstream production opportunities for the forest sector, and to provide clearinghouse and information services for potential investors.

- Policy and legal analysis on: (1) the market and non-market biodiversity values of multiple-use forest management; (2) improvement of the total economic value of extracted timber and other forest products; (3) and the application of market-based incentives to discourage unsustainable forestry practices and to encourage conservation of areas of biodiversity.

- Develop an NGO and local community development grant program and a Conservation Trust Fund.

- Develop forest and ecosystem inventory database management systems and demonstrate compatible resources management in an area of present conflict between tiger habitat and commercial logging.

- Provide assistance in forest regeneration activities.

- Assist in the creation of new protected areas and introduce anti-poaching and anti-encroachment programs.

Program Implementors

Program implementors include the CH2M Hill Consortium, World Wildlife Fund, ISAR, Harvard Institute for International Development (HIID), Ecologically Sustainable Development, Inc., Khabarovskii and Primorskii Krai Administrations, MEPNR, Federal Forestry Service of Russia, Russian Federal Service for Geodesy and Cartography, Khabarovsk Territory Hunting Committee, All-Russian Society of Nature Protection, Wildlife Foundation, Khabarovsk Branch of the Geographical Society, Pacific Institute of Geography (Far Eastern Branch, Russian Academy of Science) and Economic Research Institute (Russian Academy of Science).

# # #

Fact Sheet:
The EPT Project in Central Asia

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT

In October 1993, Secretary of State Warren Christopher announced that the United States would contribute $15 million to the Central Asian Republics (CAR) for assistance and for fostering regional cooperation in the Aral Sea Basin. USAID NIS Task Force, State Department S/NIS and Eur/ISCA, and the Office of the Vice President worked to develop a specific focus for assistance and agreed to provide:

1. potable water and public health education projects to communities most affected by waterborne diseases and increasing infant mortality

2. technical assistance and training to support regional cooperation in water management

In October-November 1993, a team worked in the Aral Sea Basin to develop rapidly implementable program activities in the Aral Sea Basin. The team traveled to Almaty, Kzyl Orda, Aralsk, Kazalinsk, Ashkabat, Tashauz, Charjew, Tashkent, Urgench and Nukus. Team members met with the heads of ministries and local authorities from sanitary epidemiological services, hydrometeorological services and local water plant engineers. They also met with heads of local water districts and authorities in state collective farms.

The team identified high priority areas for assistance and target groups most severely affected by waterborne disease. Discrete activities were proposed within the two assistance categories.

Activity No. 1 - Potable Water and Public Health

Kazakhstan - ***Aralsk-Kazalinsk Potable Water Branch Distribution System, Pubic Health Education and Laboratory Assistance Project.*** This activity will extend availability of a piped drinking water supply to two towns and improve the present water distribution system as needed. It will also support improvement in public health and sanitation practices. The health of residents in both towns is negatively affected due to contaminated drinking water supplies.

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Turkmenistan - ***Tashauz Reverse Osmosis Potable Water, Public Health Education and Laboratory Assistance Project.*** This activity provides a reverse osmosis drinking water treatment system to a region with the highest infant mortality in the Aral Sea Basin. Public health, sanitation and health education training activities complement the technical component.

Uzbekistan - ***Karakalpakstan Potable Water, Public Health Education and Laboratory Assistance Project.*** Epidemiological data in the Khorazm Oblast and the Republic of Karakalpakstan show high rates of morbidity attributable to poor drinking water quality, sanitation and to environmental degradation. Two municipal water treatment plants serving Nukus and Urgench will be modified to improve effluent water quality. Plant operations and maintenance, as well as water quality laboratory capabilities, will be improved through technical assistance, training and equipment. This activity includes public health training of local sanitary epidemiological services and health education.

Activity No. 2 - Regional Cooperation: Capacity Building and Management for Water Resources

U.S. water management and environmental protection study tour. In April 1994, 22 government water resources officials – from the fields of management, planning and policy – traveled to the United States for two weeks. Their study tour took them to the Colorado River Basin, the Central Valley Project and the State Water Project in California. This activity provided the delegation with the U.S. perspective and expertise on water management in a region similar to the Aral Sea.

Regional water management conference in Tashkent, Uzbekistan. This activity, scheduled for 1994, will help leading scientists and technical organizations to address water management problems. Regional technical workshops on topics covered at the conference will follow.

Professional partnerships between water management experts in the United States and the CAR counterparts. Modeled after successful utility partnerships programs in other areas of the NIS, this program provides a basis for professional exchange and informal education between U.S.- and host-country organizations facing similar challenges.

# # #

Fact Sheet:
The EPT Project in West NIS (Ukraine, Belarus and Moldova)

ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT

The U.S. Agency for International Development's (USAID) environmental assistance program in the western republics of the Newly Independent States (NIS) promotes sustainable economic development through environmental projects that ensure environmental protection, resource conservation and public health. The three countries in this region are Belarus, Moldova and Ukraine.

Current Issues and Constraints

The centrally planned economies of the former Soviet Union emphasized production, with little consideration to resource conservation or environmental management. The result was extensive environmental degradation, massive pollution and significant health problems.

The present economic situation is desperate, which contributes to a general decline in overall human health due to shortages of food, medicine and heat. The health consequences are exacerbated in many areas by polluted drinking water, poor air quality and contaminated food. Agencies responsible for environmental management are weak and fragmented, and data on environmental quality necessary for effective decision-making is either nonexistent or suspect.

West NIS Environmental Action Strategy

USAID's program initially focuses on Ukraine, with a modest Moldova component; assistance to Belarus will be developed at a later stage. Key program elements are:

1. **Set environmental priorities and target U.S. assistance.** Workshops will be held with senior representatives of Ukrainian environmental agencies to identify and prioritize major environmental issues, and mutually target U.S. activities.

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Quickly initiate several small projects. These projects will demonstrate U.S. commitment to providing environmental assistance and will aim to facilitate more effective decision-making. For example, a survey is planned of current chemical laboratory capabilities in Ukraine, in order to determine whether a new facility should be established to help assess the extent of environmental contamination.

3. **Design and initiate several larger environmental assistance projects in various sectors of the environment.** Drawing upon the results of numbers (1) and (2), above, undertake projects in various sectors of the environment to address high-priority environmental issues. Assistance projects under consideration include –

   - **Urban/industrial environmental health risks:** Improve municipal drinking water and waste management services. Reduce industrial air and water pollution.

   - **Rural:** Improve drinking water supplies in Moldova, which have been largely contaminated by excessive applications of agrichemicals.

   - **Aquatic and river basin:** Effective water resource management of the Dnipro River basin, which is the source of drinking water for 30 million people, but reportedly is heavily contaminated.

   - **Marine:** Improve wastewater treatment in the Ukrainian port of Odessa, which is contributing to the polluting of the Black Sea.

   - **Transnational:** Evaluate point and non-point pollutant loads into the Pruit River basin, a sub-basin of the Danube River.

4. **Design and initiate several environmental assistance projects to address special environmental and industrial problems.** Projects under consideration include –

   - **Low-cost improvements:** Evaluate low-cost means of environmental improvements that result in substantial cost-savings at large industrial complexes.

   - **Radiological contamination:** Review extent of radiological contamination and recommend measures to address most urgent issues.

5. **Provide technical advice.** At the invitation of Ukraine's Ministry for Environmental Protection, participate on a joint "Ukraine-U.S. Advisory Committee on Environmental Issues During Economic Restructuring."

# # #

III. APPLICATION OF LESSONS LEARNED

INSTRUCTIONS FOR WORKGROUP SESSIONS

2:00 to 3:30 p.m.

We will divide the main group into 5 workgroups. Each workgroup will use the information from the papers and the presentations to identify key lessons learned from USAID/CEE environmental programs and develop applications of those lessons to selected NIS programs or other special cases.

STEP 1. Read the one-page fact sheet about your program or case (located at the end of tab 5 in notebook). Ask clarifying questions of area expert in your workgroup.

STEP 2. Divide your workgroup into smaller teams to identify key lessons from each of 5 building blocks (policy reform, institutional reform, investments, risk assessment, and least-cost planning) that pertain to your program or case. There will be 1 to 3 people per team depending on your group size.

STEP 3. Share key lessons among workgroup members and discuss how to apply the lessons in each of the 5 building blocks.

STEP 4. Identify how the applications will lead to environmental improvements.

STEP 5. Prepare a summary of results with some details about at least one area of major importance.

3:45 to 4:30 p.m.

We will re-convene the main group for a series of presentations of results from each workgroup.

4:30 to 5:15 p.m.

We will conduct a general discussion of the presentations, with questions and answers, and delineate the overall conclusions from the workgroup exercise.

NRM	NIS	CEE	DC	Con	Pol	EPA
Sugrue (Team Leader)			x			
Tarrant (Expert)			x			
Haynes		x				
Sartonov	x					
Hale				x		
Klose				x		
Branovsky		x				
Markandya					x	

* NIS = AID/NIS
  CEE = AID/CEE
  DC = AID/Washington
  CON = Contractors, Grantees
  POL = Policy
  EPA

CAR	NIS	CEE	DC	Con	Pol	EPA
Posner (Team Leader)		x				
Kalinoski (Expert)			x			
Dreyer				x		
Borrazzo			x			
Dubowitz			x			
Feeney	x					
deMarcken		x				
Hafner				x		
Owen					x	

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  EPA

WNIS	NIS	CEE	DC	Con	Pol	EPA
Hough (Team Leader)		x				
Osborn (Expert)	x					
Mitchell			x			
van Kempen				x		
Thompson						x
Pecikiewicz		x				
Anderson					x	
Cloutier		x				
Cizkova		x				
Hamilton				x		

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  CEE = AID/CEE
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  EPA

EAP	NIS	CEE	DC	Con	Pol	EPA
Tiffany (Team Leader)	x					
Parks (Expert)			x			
Phillips						x
Freer			x			
Yoveva		x				
Schulze		x				
Sommers				x		
Daane	x					
Pisko		x				
Perry		x				

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  CEE = AID/CEE
  DC = AID/Washington
  CON = Contractors, Grantees
  POL = Policy
  EPA

RUSSIA	NIS	CEE	DC	Con	Pol	EPA
Bednar (Team Leader)		x				
Rushing (Expert)	x					
Pasarew						x
Marcil				x		
Panehal			x			
Rogers			x			
Jakubowicz		x				
Gordienko	x					
deGraffenreid		x				
Bever			x			

* NIS = AID/NIS
  CEE = AID/CEE
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  CON = Contractors, Grantees
  POL = Policy
  EPA

KEY POINTS

WEC

1. REPRODUCIBILITY
2. CHANGES MADE WHEN ECONOMIC
3. EARLY ACTION / FLEXIBILITY

Zlatna

1. RA WORKS BEST IN SIMPLE SITUATIONS
2. EXPOSURE REDUCTION & ENV. IMPROVEMENT
3. INSTITUTIONAL COLLABORATION

Krakow

1. CHANGES MADE WHEN ECONOMIC
2. LOCAL PARTICIPATION
3. INITIAL IDEAS MISLEADING

Silesia

1. USE LOCAL EXPERTS
2. HIGH-LEVEL COLLABORATION
3. PARTNERSHIPS

Danube

1. DECENTRALIZED CONTROL OF MUNICIPAL.
2. GAP BETWEEN FUNDS & PROJECTS
3. PLAN ON PROCUREMENT PROCESS

	WEC	Zlatna	Kraków	Silesia	Danube
POLICY	✓		✓	✓	★
INSTITUTION	✓	★	✓	★	★
FINANCING	✓		★	✓	★
RISK ASSESS.	✓	★		★	
LEAST-COST	★		★		

PPC 5/12

ENVIRONMENT FOR EUROPE

Project Preparation Committee (PPC)

for the
Implementation of the Environmental Action Programme
for Central and Eastern Europe

CASE STUDY: RUMANIA MUNICIPAL UTILITIES DEVELOPMENT PROGRAMME

EBRD

5th PPC Meeting 18-20 January 1995,
Bulgaria

PPC Secretariat
European Bank for Reconstruction and Development
One Exchange Square, London EC2A 2EH

European Bank for Reconstruction and Development (EBRD)

PPC Case Study

Romania Municipal Utilities Development Programme

1. Project Objectives

The key water sector issues are indicated in the box below. In view of these issues, the objectives of the MUDP are to:

- Rehabilitate and upgrade municipal water and sewerage systems in five cities which will improve the quality of water services, increase the productivity of existing assets, and bring environmental benefits;
- Enhance the operational and financial performance of water utilities and develop their creditworthiness;
- Strengthen the capacity of municipal authorities and their water enterprises to provide adequate and reliable public services;
- Establish a decentralised system of investment funding that promotes economic efficiency in resource allocation and instils financial discipline in investment identification; and
- Introduce credit as the predominant source of investment financing.

2. Environmental Issues

The primary environmental issues facing the water supply and waste water sector are:

- Inefficient resource use and pollution of ground and surface waters—including the Danube on whose tributaries the Project cities are located—due to the poor quality of waste water collection and treatment;
- Over-consumption of water and waste water services and, in conjunction therewith, depletion of ground water sources, due to leaking water distribution and sewerage networks, low user charges and absence of demand management;
- High energy use resulting from leakage, over-consumption of services and system deficiencies, compounded by the use of energy-inefficient pumping equipment.

guarantee provides final comfort to the Bank. The MUDP is a first step towards non-recourse financing in the sector.

Asset maintenance and replacement: Through the project, a mechanism will be established for the first time in Romania for the water companies to make adequate provision for asset maintenance and depreciation, through the establishment of a special reserve fund.

Catalytic effect for the future: The project has enabled institutional structures and approaches to investment processing to be established at central and local level, which can be generalised and applied to municipal financing in the water supply and waste water sector across Romania. This goal will be furthered through the next phase of the programme.

5. Donor Involvement

There has been substantial donor support both in the preparation of the MUDP, in loan implementation, and now also in preparations for a second phase of the programme.

	Donor/amount	Purpose
MUDP Preparation	Netherlands, approx $ 1 m	Technical assistance for project preparation
	EU-PHARE, approx $ 300,000	Technical assistance for project preparation
MUDP Implementation	EU-PHARE, approx $ 1 m	Technical assistance for institution building and physical and financial project implementation
	USAID	Support to project implementation in Brasov and Craiova
MUDP II	Netherlands, NLG 4.9 m	Preparation of a second phase of the programme, institution building
	Denmark	Complementary technical assistance in Brasov, water supply and waste water
	France (tentative)	Coordination of project preparation activity in Constanta
	EU-PHARE (to be agreed)	Investment support

6. Lessons Learned

Use of consultants: (i) The borrower/client should be involved right from the start in preparing and agreeing consultant terms of reference, and in consultant selection to the extent possible. (ii) The MUDP showed the advantage of hiring water operators in combination with consulting firms; water operators can talk "water company to water company", and tend to have more direct experience in corporatisation and performance improvement than consultants, whereas the latter are good at structuring outputs and preparing action plans.

Rehabilitation may be more economically, financially and environmentally beneficial than new projects: The MUDP has transformed the approach of the five cities to capital investment from an approach based on solving water supply problems by developing costly new systems and increasing production capacity, to an approach

based on improved resource use, rehabilitation and modernisation of existing facilities. Although rehabilitation work is not so politically exciting, it is more efficient where existing systems are in very poor states of repair, and where water losses are as high as 50-60%.

Environmental investments are hard to finance, as they may not result in strong revenue streams: In some Romanian cities, there is no waste water treatment plant, and an investment in a new plant would be the most effective investment from an environmental perspective. However, in many cases, these investments do not improve water utility cash flow, and are simply not affordable. A balanced approach of financing water supply investments, and assisting the water companies to improve efficiency, will enable them to build up credit-worthiness to enable financing of environmentally more beneficial investments in the future.

Difficulty of attracting donor support for the southern part of the region: Initially, it proved difficult to attract support for project activity in Romania and other countries in the southern part of the region. The Dutch Government and EU-PHARE were the main sources of financing. However, now that the MUDP is under implementation, and is seen to be effective, many other donors (USAID, Denmark, France) have initiated activities linked to the MUDP. The Dutch Government is providing a major grant to support preparation of the second phase of the MUDP. It remains difficult, nevertheless, to obtain investment support.

Involvement of Ministry of Finance: The Ministry of Finance (MoF) is the main counterpart for the MUDP, primarily because the MoF is the statutory source of financing for municipal investments (including water supply/waste water treatment), rather than other line ministries. Involvement and close cooperation with the Ministry of Finance from an early stage has been critical to the success of the project.

Complexity of implementation of a multi-city programme: The implementation of a multi-city programme is complex, and requires elaborate preparation and strong support to project implementation. MUDP implementation arrangements were defined and established as part of project preparation, well before the project was submitted for Board approval. On similar projects, we would recommend consideration of implementation arrangements very early in the project process, and a strong programme of implementation support.

GENERAL CONDITIONS AND ISSUES

3.1 Economic conditions

The economic climate in Bulgaria provides a relevant background to the current state of the environment. Since 1991, Bulgaria has faced considerable economic difficulties. Total industrial output has dropped 25 percent from 1990 to 1992. Value added in the industrial sector fell approximately 40 percent, while the declines in the agricultural and service sectors declined by 7 and 20 percent, respectively. Annual inflation was expected to reach 120 percent by the end of 1994. The population has suffered significantly during this difficult and long transition period. It is estimated that nearly 70% of the population live on the verge of poverty, as the prices of many goods have risen, while real wages have fallen. In addition, unemployment, an previously unknown phenomenon, rose from less than 1 percent to over 15 percent from 1990 to 1993.

Bulgaria's transition to a market-based economy has been slower than in other countries in Central Europe. Several reasons account for this, but Bulgaria's reliance on intra-CMEA trade was a significant factor in the speed with which the transition has been made. In 1990 up to 70 percent of its trade was with the Former Soviet Union and the CMEA significantly limited Bulgaria's access to Western markets. With limited exposure to export earnings, the Bulgarian economy was caught in terms of trade crunch as it was forced to pay market prices for fuel. Because Bulgaria has limited quality fuel resources and many of its industries are energy-intensive ensures reliance on the FSU for oil and natural gas and will further pressure the national budget. The trade deficit has been exacerbated by UN trade sanctions against neighbouring Serbia. Ultimately the rate of Leva depreciation has been accelerated by these factors.

The government has made significant progress in market liberalization and macroeconomic stabilization. In 1991, most prices were liberalized simultaneously with the introduction of a floating foreign exchange regime for the Leva. It appeared that the budget deficit was brought under control during 1991, falling from 8.5 percent of GDP to 4 percent, due to substantial cuts in government expenditures. However, budget pressures caused from decreasing revenue and increasing expenses (mainly for fuel) have caused to deficit to exceed its former level. Budget shortfalls in the past resulted in Bulgaria assuming a significant amount of debt; the foreign debt load is $12 billion and foreign commercial debt is $10 billion. In fact the country renegotiated the terms of its commercial debt after it suspended debt service in 1992; 50% of this debt was written-off as a result of the negotiations.

The sharp drop in economic activity from 1989 to 1993 was accompanied by major shifts in the composition of industrial output. The largest declines output have occurred in the iron and steel, machinery, electrical products, transport equipment and rubber industries. With the exception of power and heat generation, the overall composition of production has shifted from industries that are major air pollution sources to those that produce lower emissions per unit of output. However, this trend is expected to reverse as heavy industries begin exploiting export markets.

The decline in national income and industrial production has been accompanied by a large drop in aggregate energy consumption. From 1989 to 1993, it is estimated that consumption of primary energy fell by 44 percent; consumption of petroleum products fell by nearly 75 percent and coal by 68 percent. Overall there has been a substantial shift towards greater reliance upon nuclear power and domestic brown coal. Consumption of energy from nuclear an indigenous brown coal, which are the main fuels for heat and power generation, have fallen by only one-half. Consumption of electricity and heat has fallen less than other uses of energy due to continued state subsidization. While prices of imported petroleum and coal have been market-determined since 1991, prices of natural gas and domestic brown coal remain controlled. Price domestic brown coal in particular have been artificially kept low in order to provide cheap fuel for the thermal power sector. Despite increases in nominal electricity prices, neither the level nor the structure of tariffs encourages efficient consumption.

The recent change in the Bulgarian government is expected to have a substantial impact on the economy. The Bulgarian Socialist Party, bolstered by a new majority in recent parliamentary elections, has pledged its support for market reforms, mass privatization, and fiscal discipline.

3.2 Environmental Overview

Environmental quality has improved in general since 1990. Overall pollution levels have decreased in hot spots identified by the GoB and the World Bank. Nevertheless, true environmental reform has been delayed by the slow pace of economic reforms. Consequently, progress on complex environmental policy formation has been slower than anticipated, whiled environmental improvements have mainly resulted from the economic and industrial slow-down. Overall, official data suggest that air pollution has been reduced considerably more than water pollution. Air quality in the main hot spots has improved since 1990 and generally correspond to the estimated fall in emissions from reduced industrial activity.

Despite substantial improvement in its air quality, concentrations of pollutants remain dangerously high in several of the priority hot spot areas, including Asenovgrad-Plovdiv, Dimitrovgrad-Galabovo, Kurdzhali, Pernik, and Pirdop. Additionally, Vratza, Stara Zagora, Burgas, Pleven, and Sofia also represent areas of significant environmental health risk associated with high levels of air pollution. For Galabovo and Dimitrovgrad, worsening air quality is associated in large part to the large thermal power stations located nearby which burn local low quality high sulphur coal. These stations are a significant sources for SO_2 and particulate emissions. Increased industrial activity, which has been largely flat during the emission observation period, will likely increase as export markets are explored. Thus, emission levels of all primary air pollutants will likely increase with increased industrial output.

Water quality improved significantly in most river basins from 1990 to 1993. Discharge from agriculture, as well as industry is reflected in the improvement in water quality for the Jantra, Maritsa, and Tunja rivers. Serious concerns remain over heavy metal levels in the Arda and Upper Maritsa river basins; irrigation using water from these sources has exacerbated the problem. With the restructuring of the economy, the primary sources of water pollution will likely be small and medium sources, rather than large industrial plants.

Erosion continues to be one of the major sources of land degradation. Approximately 29 percent of the arable land is affected by water and wind erosion. Overuse of mineral fertilizers and incorrect irrigations have resulted in acidification and salinization of soil. An inventory of polluted lands in 1993 identified 19,358 ha. polluted with heavy metals, 1,913 ha. with radionuclides, 25 ha. with oil products, and 403 with acidification. Additionally, heavy metal pollution from smelter aerosol emissions are a significant problem in Kurdzhali, Pirdop, Plovdiv, Elisseina, and Pernik.

The current priorities recommended by the World Bank to the Gob are as follows:

- Reduce emissions of lead and heavy metals from metallurgy plants
- Reduce exposure to air-borne lead from the use of leaded gasoline;
- Reduce exposure to high levels of particulates and SO_2 in Asenovgrad-Plovdiv, Dimitrovgrad-Galabovo, Kurdzhali, Pernik, and Pirdop;
- Reduce exposure to high levels of specific air pollutants in Burgas, Pleven, Sofia, Vratza, Stara Zagora and Varna;
- Minimize heavy metal contamination o drinking water and food supplies;

Environmental policies identified to achieve these goals are;

- Strong incentives to encourage the use of unleaded gasoline;
- Substituting natural gas or other fuels for low quality coal and lignite used by households, local district heating boilers, and power stations. This could be achieved by creating smokeless zones, or through tax incentives;
- Promote low-cost "housekeeping measures at metallurgical and chemical facilities to reduce pollution and waste;
- Increase and maintain the real level of pollution fees and fines, especially for key pollutants.

POTENTIAL PROJECTS

District Heating Gasification, Plovdiv

The town of Plovdiv is a major industrial town which problems with emissions from its two district heating systems. The two heating companies have developed aggressive programs to extend service to areas now heated only with local boilers and furnaces which operate on poor quality fuels with no emissions controls. The cost of this extension is between $500,000 and $1.1 million, depending on the design of the system. The program has been developed to the point of detailed design, and will be ready for implementation by the end of the month.

Beyond this first step, both heating companies have plans for replacement of boilers with gas turbine combined cycle cogeneration systems. These will likely be phased in over time at a cost in excess of $40 million.

Residential Heating Fuel Conversion, Stara Zagora

Residential heating is a serious problem in Stara Zagora where there is neither a central heating company nor gas service. The bad fuel and short stacks throughout the residential areas contribute to very bad air quality. The municipality would like to convert residential, commercial, and public buildings to natural gas. They are the minority stock holders in a company formed with Overgas, a private gas engineering and distribution company to provide gas to the city. Overgas, as a for profit company, will only serve areas where they can operate profitably. Accordingly, their first priority is the industrial section of town. The barrier to movement into the residential and commercial areas is lack of committed customers due to the costs of converting the individual buildings and boilers to gas use. These costs must be borne by the building owner. Overgas has suggested the creation of a fund which would loan money at favorable rates to potential residential and commercial customers to build momentum for the gasification of the town. The fund would require about $2.4 million. This could be a combination of grants and loans.

Agrobiochim Fertilizer and Chemical Plant, Stara Zagora

The large fertilizer company outside of Stara Zagora operates a large coal fired heating plant which lacks controls for sulfur dioxide. The plant is seeking assistance in implementing a large scale flue gas desulfurization unit. The cost is beyond the scale of the USAID/EAP program, and the health impact is less than the less costly heating project located in the town.

Residential Heating Gasification, Dimitrovgrad

Dimitrovgrad, like Stara Zagora and Plovdiv, is plagued with emissions from buildings in the center of town burning wood, coal, and mazut. The solution is conversion of these units to gas. From a technical and health perspective this project is equivalent to the Stara Zagora project, but was not fully developed for presentation.

Vulkan Cement Plant, Dimitrovgrad

The national government has decided to close Vulkan in 1997 based on its adverse impact on the environment and population in Dimitrovgrad unless it can reduce its emissions to meet national concentration standards. Specifically, the plant will be allowed to operate if it installs proper emission control equipment, either through joint venture, privatization, or other means. Until that time, it will be only allowed to operate a significantly reduced capacity.

Vulkan plant management have increased sales and are concentrating their specialty cement production toward export markets, and they are convinced that the company can operate successfully once the pollution issues are resolved. To address this issue, Vulkan management contracted a German engineering firm to design a reconfiguration of the baghouse using existing facilities and implementing a new filtration system. This proposal would reduce dust emissions to acceptable levels and allow the plant to continue to operate two kilns at full capacity. The proposal is estimated to cost 70 to 80 million Leva. Since the plant has no access to capital, outside financing is essential for this project.

Neochim Fertilizer and Chemical Plant, Dimitrovgrad

The Neochim Fertilizer and Chemical Plant currently meets emissions standards. This is due in part to the catalytic controls on its ammonia production units and also in part to the reduced production. Neither the plant manager nor local environmental officials identified any environmental projects at Neochim which they felt required or were appropriate for USAID assistance.

District Heating Extension, Vratza

Vratza like, many other towns, has buildings in the center of town burning bad fuel with not controls, and emitting the exhaust to the atmosphere through short stacks. The proposed solution in Vratza is to extend the district heating system. The cost is between $400,000 and $500,000. The project, however, is intended be done in conjunctions with improvements to the central heating boilers.

District Heating Plant Improvement, Vratza

The district heating system in Vratza is operated by a single company. The boilers and distribution system are in good condition, but low quality. The company would like to convert the boilers to natural gas for $600,000 and construct steam cogenerators at for $4.1 million. The project has been carried through the conceptual design and a scheduled and budget for final design and implementation prepared. The company has developed a plan which relies on loans, and has proposed a payment schedule which they can maintain if allowed to set heating prices.

CHIMKO Fertilizer and Chemical Plant Desulfurization, Vratza

A single stack at the CHIMKO fertilizer is responsible for half of the sulfurous emissions in Vratza, and contributes substantially to the town's poor air quality since it is located only 800

m to the south. The plant has solicited proposals from three western companies for a unit which will catalytically convert all sulfur compounds in the exhaust to H2S which can be recycled to the Claus unit. Total emissions of sulfur compounds can be reduced by 99%, effectively halving the towns emissions and cutting ambient concentrations in half except during the peak of the heating system. The plant has evaluated the options, and then prepared their own design at much lower cost. The engineers responsible for the design are very capable, having worked the in the plant's research institute which design most of the plant's process equipment. The plant also routinely fabricates units of comparable complexity. The total cost of the project is $1.2 million, but the plant, which is profitable, can provide partial financing.

Unleaded Gasoline Production at the Bourgas Refinery

Lead from non-point sources (i.e. cars and trucks) is the primary contributer of lead in Bulgaria. The most effective way to deal with this is to increase the production of unleaded gasoline at the Bourgas Refinery (the only major refinery in the country.) The World Bank has identified this as a hing priority project and it's especially interesting in that it deals with a systemic problem by attacking the source. The project cost is between $10 to $20 million.

European Bank for Reconstruction and Development (EBRD)

PPC 5/9

PPC Case Study

St Petersburg Water Sector Development Programme

1. Introduction

EBRD was requested by the city of St Petersburg and Vodokanal St Petersburg in 1992 to assist the City in selecting management options for the municipal services, and to prepare a short term selective investment programme in order to increase the efficiency of the services. The pre-feasibility study was carried out with EU funding in two sectors: water and district heating. The prefeasibility study proposed a project concept in the water sector including the financing of a phased programme for improving the water supply and waste water system in St Petersburg The financing of the programme was proposed to be partially based on utilisation of the economic potential in Vodokanal's real estate properties. As a first step it was proposed to develop part of the old central water treatment plant site to a housing, office and hotel block as a joint venture between Vodokanal (local water enterprise) and a foreign developer.

Upon completion of the pre-feasibility study Vodokanal and the Bank agreed to prepare Terms of Reference (TOR) for a full water sector feasibility study aiming at setting up investment priorities, establishing financial mechanisms to finance them and financing of short term priority investments in the sector and supporting investments. The process of developing this next phase of the project is described briefly in the following chapters.

2. Background

St Petersburg has a population of approximately five million and is the second largest city in the Russian Federation. The city's water supply is based on abstraction at several points on the River Neva, and treatment at five plants. The service suffers from two significant and interrelated problems. First, the quality of water delivered often fails to meet national and international standards. This is due to high levels of pollution in the River Neva and worn and out-dated water treatment installations and the poor quality of the distribution network.

Second, demand for water is extremely high by international standards: per capita consumption estimates range from 550-700 l/p/d, more than twice as high as the figures for comparable cities elsewhere. The capacity of the supply system is approximately 500 Ml/d less than demand.

St Petersburg is the biggest point-source of pollution in the Gulf of Finland, which is

priorities and their financing and contribute to the reduction of water consumption and sewage in the city.

The principle components of the proposed four years project are as follows:

- construction/completion of **three water supply projects**, designed to alleviate the present capacity shortage;

- **a demand management programme**, which will also help to alleviate the mismatch between demand and capacity and thus decrease the pressure for increasing further the water supply capacity;

- support to the first phase of an **asset replacement and rehabilitation programme** including water and waste water treatment plants and water reticulation and sewerage systems:

- the establishment of a **waste minimisation advisory service** within Lenkomekologia, the local environmental regulator;

- support to the establishment of a **drinking water bottling enterprise**, which will be a joint venture between Vodokanal and a private partner or partners;

- support to the establishment of a **real estate development joint venture** between Vodokanal and a private partner or partners, with the purpose of exploiting the real estate potential of the Central Water Treatment site, which in turn will make an important contribution to the financing of the water and waste water investment activities.

4. Costs/financing plan

The total costs of the water and waste water rehabilitation project are estimated to US$ 50 million.

The proposed water and waste water related components of the project would be financed (tentative financing plan) by an EBRD loan of about US$ 25 million (about 50%), foreign grants 20% and local financing (local loans, cash and labour) 30%.

The proceeds from the water and waste water revenues and possible local grants will finance the local costs. Industrial customers currently pay enough to cover Vodokanal's operational and maintenance costs. Domestic customers used to pay only a small fraction of such costs but now pay 50% of costs. This will be increased to 100% next year. Vodokanal has been "profitable" for the last three years. Vodokanal has not received budgetary allocations from the City to cover operating expenses for several years. The company can borrow without permission from the City.

Federal government guarantee for the EBRD loan will be difficult to obtain. However, both the City and Bank will raise the issue of possible sovereign guarantee

A revised project concept was therefore presented to the committee. Realising the importance of the implementation of the entire programme the Bank launched discussions with bilateral donors to get them further involved in the implementation of the programme

The initial project was divided into two parallel phases preserving the overall objective and content of the project.

The revised EBRD driven project (phase 1) will last for four years, and will make an important and rapid contribution to the restoration of piped water supplies, the provision of affordable bottled drinking water, and the strengthening of the financial position of the enterprise. It will consist of a combination of measures to improve water supply, the exploitation of Vodokanal's real estate potential, and institutional strengthening components.

The principle components of the revised project are as follows:

- construction/completion of three water supply projects, designed to alleviate the present capacity shortage;

- support to the establishment of a drinking water bottling/packaging enterprise, which will be a joint venture between Vodokanal and a private partner or partners;

- support to the establishment of a real estate development joint venture between Vodokanal and a private partner or partners, with the purpose of exploiting the real estate potential of the Central Water Treatment site.

Funding (ECU 490,000) has been sought to carry out all the necessary preparation work for the project, including project identification, detailed feasibility analysis, preparation of a project financing plan, and the normal institutional and financial analysis of the enterprise that is required in advance of EBRD lending. Four separate project preparation components have been identified:

A. Institutional Assessment Including the Assessment of the Financial Status of Vodokanal
B. Appraisal of Water Sector Short Term Capacity Relief Measures Including Financial Analysis and Financing Plan
C. Bottling/Packaging Plant Technical Assistance
D. Real Estate Development Technical Assistance

This package of preparation work is now being tendered and selection of consultants will commence end of January 1995.

The revised long-term sector development programme (phase 2) consists of the rest of original programme. This will consist of the development of a comprehensive long-term water sector development investment and financing [illegible]

investments during the preparation, and investment as part of the overall financing package.

- EBRD and Vodokanal will by mid January prepare a proposal how the co-operation between the donors and the Bank(s) could be organised for discussion at the next PPC meeting scheduled to be held in Sofia 18-20 January 1995.
- Implementation of the programme could be co-ordinated by one of the PPC Officers stationed at the EBRD.
- The overall programme will be categorised into waste water, water supply and commercial activities to enable donors to select projects of interest.
- Estimates for the total costs of the programme will be presented.
- The consultants executing the study will be expected to identify priority immediate investments that can be implemented during the study period.

7. Key Issues

The need for investments in the water sector in St Petersburg has been verified by all parties involved in the project. However, the approach to address this need differs. Some priorities and key issues are identified below.

Client:

- Priority to water supply to address capacity problems
- Establishing joint ventures to increase the capital base
- Implementing priority investments in the waste water sector through local financing including subsidies from the government of the Russian Federation
- Needs assistance from IFIs and bilateral donors
- Loan will be the major source of financing

EBRD:

- Has to respond to the needs of the client (borrower)
- Needs a committed client
- Focus on short-term priority investments, less interest in self-standing technical assistance programmes (sector studies)
- Due to difficulties for sovereign financing in Russia priority to projects with private sector co-financing or other forms of risk sharing
- Needs assistance from bilateral donors to prepare environmental projects
- High visibility project
- Lack of internal resources within the field of environment

Donors:

- Vested interest in implementing the Baltic Sea Declaration - St Petersburg is the largest source of pollution
- Focus on waste water
- Little interest in water supply
- Priority to demand management
- Focus on "environmental" components
- Unwilling to support private sector operations
- Can provide both technical assistance and investment support (in [illegible]

DISCUSSION PAPER

"LESSONS LEARNED"

for
NIS/CEE RETREAT,
Prague, the Czech Republic
January 22 - 26, 1995

Prepared by
USAID/WARSAW
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DISCUSSION PAPER FOR
AID CONFERENCE IN PRAGUE, CZECH REPUBLIC

JANUARY 22-26, 1995

1. Introduction

The first assistance activities to Poland started in the beginning of 1990 and the USAID Office in Warsaw was established in April 1990. This nearly five years' period provides a good perspective for looking back and trying to evaluate past performance and deciding what actions guaranteed strong achievements and successes and what were the failures in our performance. There is a couple of broad areas that offer insight into the office operational success and success in delivering assistance.

2. Office space, personnel quality.

Establishment of AID office was strongly facilitated by the U.S. Embassy in Warsaw, which offered vacant office space, access to telephone lines and basic office equipment to start with. We used Embassy premises for over 3 years, until the staff grew too big and expansion of office space was not possible any more. In February 1994 we relocated to commercial premisses in the center of Warsaw.

Another asset which strongly influences the success or failure in project implementation and monitoring as well as design is the quality of U.S. and local personnel. Warsaw OAR employed Poles that offered significant knowledge of local politics and economy, a lot of understanding of processes taking place in the country at that time and willingness to work according to western standards. Only two of them hold doctor's degrees, but all the rest hold university diplomas in different sciences. Support staff (secretaries, administrative staff,drivers, etc.) offer good and very good knowledge of English and skills needed to perform their tasks. Willingness to contribute to OAR's success is demonstrated through their readiness to work on overtime and on weekends (if needed) to meet the deadlines.

High USDH/PSC qualifications, knowledge and expertise as well as readiness to accept challenges of new post, different culture and different working patterns strongly contributed to stat-up of USAID operations in Poland. Bill Joslin, Melanie Chen, Chuck Aanenson, just to name a few, offered considerable knowledge in their respective fields, brought experience from their former posts and became committed in implementation of regional and local assistance projects in Poland. They also stood behind efficient office organization, recruiting of local employees and teaching procedures and AID ways of handling the office work. This expertise helped make AID/Warsaw became a visible partner to state, regional and local authorities, industry sectors and numerous other

institutions in Poland. The Warsaw Office also became a point of contact not only for USAID TDYers and contractors, but also for missions representing other U.S. assistance organizations (EPA), and departments (DOE, DOC, DOL, etc.).

Basically OAR/Warsaw was fortunate to have, at the start of its operations, location within the Embassy premises. Such office location helped with communications, facilitated flow of information. We also felt to be part of larger community. It was also a natural point of contact for USAID personnel from Washington, contractors and Polish counterparts.

The quality and commitment of personnel helped in this initial period to start monitoring of projects, determine all necessary contacts and provide additional information to project workplans and timelines.

3. Assistance portfolio

a. USAID/Warsaw office management and organization

Managerial, organizational issues and challenges to improve performance of the office require weekly staff meetings for all the staff. USAID/Warsaw has reorganized its Project Division into three sections including RHUDO; each of them conducts its own staff meetings on a more or less regular basis. These staff meetings aim at sharing information on project performance, problem areas identified as well as address other everyday issues.

For the two last years we have been organizing retreats. Retreats serve to discuss major managerial and organizational problems, identify challenges and help assess present performance of the office. Decisions and recommendations made help improve office management, adjust organization to new challenges and identify problem areas that should be focussed as priorities (space, training, salaries, etc.).

b. Project introduction

Right after creating of the AID Office in Warsaw we faced a number of assistance projects start at the same time. Some of them were country-specific, but the majority was designed as multi-national ones, responding to similar needs all over the region.

As the number of implemented projects and a number of employees was growing, it was necessary to "institutionalize" the goals and objectives of USAID/Warsaw. A list of priorities was established, taking a form of "Country Strategy". Recent document covering 1995-1997, approved by AID/Washington, specifies the following priorities of U.S. assistance in Poland:

(a). Supporting private sector development;
(b). Assisting Development of the Financial Sector;
(c). Helping Transform the Public Sector to Better Support

(d). Democratic Development and Market economy; Strengthen Institutions Essential for Sustainable Development.

AID/Warsaw has also its environmental strategy approved for implementation in January 1994. This was a long process, requiring hard work in finding out how our projects are doing, how they are perceived, etc. Another part of the job was to estimate other donor assistance goals and objectives, impact of their projects, locations and sites. The third one, the most difficult and time consuming, was to find out longer-term policies, goals and objectives of the Polish government to target U.S. assistance on the most destitute areas.

Everyday practice proves that all assistance projects designed as regional should be flexible enough to focus on local problems. The role of local employees in this process is critical, as they can initiate steps, still within the project design stage, to provide country-specific information on mostly needed assistance in particular fields. Local employees, working together with USDHs can and should identify key players, local resources and be able to justify the need for any assistance project prior to project implementation.

Each project design paper should be transparent in its construction. It should present either regional goals, objectives, timeline, workplan and procedures to implement it, or - having an input from local OAR - it should clearly address these on a local scale. In this way a regional project becomes a local one and is easier to implement and monitor. As each project provides reporting mechanism, the reports should be clear and transparent, focusing on work done, identifying potential problem areas, but also unexpected successes or speedier implementation. The reports should be shared between AID/Washington, local OARs and contractors to keep everybody informed on project status.

4. Information sharing and networking

As OARs do not act in the vacuum (they are located within the Embassy structures, have their in-country counterparts on different levels of management), it becomes important to keep them informed on assistance progress, successes, new developments and ideas of new projects. USAID/Warsaw achieved it through numerous means - the Assistance Working Group chaired by the Ambassador to inform U.S. personnel on general assistance goals and objectives, approve particular projects and project ideas and strategies and to coordinate the goals with other major assistance donors. Monthly Implementation Meetings with contractors and USAID Project Specialists serve interchange information on particular activities' successes or problems, discussion helps identify simplest and the most efficient mechanisms of dealing with issues and project implementation and identify potential overlaps. These meetings help different Project Managers coordinate their activities, share information and cooperate in adjacent problem areas.

Publishing strategy papers (both country strategy and sectoral strategies), reports on particular projects or groups of projects (Project Status Book), assistance user guides, articles in local newspapers, TV interviews, films, establishing of subject libraries, leaflets and other inexpensive promotional material are important information-sharing tools. Most of these tasks should be undertaken by OARs and some could be very efficiently performed by U.S. Project Directors or their staff, contractors or local counterparts. It is also important that local counterparts develop their own mechanisms (public, city councils' or company management meetings, press articles, TV interviews, newsletters, etc.) to communicate project goals, objectives and successes to local population, company crews to become involved in project implementation process.

The flow of information between AID/Washington and OARs is a very important, but sometimes underestimated issue. The project-related flow of information starts usually with sending over project papers and initiating project implementation. At this early stage it is essential that respective OAR employees understand the project, have provided their input to project documents and identified local counterparts. Notification of contractor's travel plans to facilitate meetings, debriefing and accompanying the contractor to initial meetings is another valid issue. It is important that the project starts as a joined effort of OAR and a contractor to show the institutional strategy. It is also profound that reports be distributed to all concerned, workplans are commented in due time as to facilitate the process. It is significant to have local counterparts trust the OAR and to have them share their concerns and problems before sending them to contractors. The USAID office should become, in absence of an in-country Project Director or Coordinator, a contact point on project implementation and monitoring. This system usually works, but sometimes communications do not exist from the very beginning, or are forced and it is an USAID office obligation to learn what is happening in the process.

5. USAID/Warsaw management of project portfolio

Poland's project portfolio was always one of the biggest in the region. All Project Officers (USDHs and PSCs) and Project Specialists (FSNs) have been assigned full responsibility of monitoring the implementation process. Their judgement is essential in determination of project sites, local counterparts and experts.

- <u>Working relationship with Washington - changes over time</u>

Cooperation with USAID/Washington Project Officers and U.S. experts is crucial to provide for tangible results of project implementation. The first tranche of assistance projects for the region and Poland was designed, funded and implemented through

USAID/Washington Project Officers. USAID/Warsaw staff was assisting them with making proper contacts, scheduling meetings and briefing them on quickly changing realities, transformation processes introduced and planned for introduction, data, project-relevant information, etc. Most projects at that time were regional ones and USAID/Warsaw wished to address through them the most crucial Poland-specific problems. This met with full understanding and cooperation of AID/Washington.

One of good examples of changing relationships is cooperation with EPA. In late 1980s EPA already established working relationships with different Polish institutions and worked with the Office of Science Counsellor. It was their contact point for already some time, when AID office was created. It took both EPA and us in OAR in Warsaw some time to understand that we run different projects, but have common goals, which proved to be a foundation for more intense cooperation. Now we share a lot of information on particular projects' performance, try to coordinate the projects and support each other. One of recent examples of such cooperation is the use of EPA staff implementing particular components of Project Silesia as lecturers at the Post-Diploma Studies for metallurgical industry at the Katowice University of technology. Post-Diploma Studies is one of ETP components.

After the Warsaw office matured and gained experience in monitoring projects, the staff is ready to take additional responsibilities in project management. We feel enough experienced to initiate designing, implementation and monitoring of Poland-specific projects meeting the most important needs in numerous potential fields. We feel confident we can perform this job in cooperation with AID/Washington.

- <u>cooperation with U.S. partners</u>

Most of assistance projects have, within their structure, assigned administrative mechanisms for fluent implementation (workplans, timelines, reporting schemes, etc.). If a project is run by a Project Director located within the country, project monitoring activities are simpler and less time consuming. Site visits, meetings with Project Director and his staff, participation in conferences called by the Project Director, meetings with local counterparts, monitoring press releases in local newspapers and media are usually sufficient to monitor a project.

If a project is implemented by experts travelling to the country on an interim basis and the Project Director is located in the U.S., local OAR staff has to perform additional tasks (such as logistics, providing country clearance) and has to monitor the project in much more scrutinized way. Every project is different and monitoring mechanisms should be devised on a project-by-project basis.

- cooperation with local counterparts

Proper selection of project sites and ways of cooperation with authorities, industry managers, members of city councils, etc. is crucial to the project success. Basically the project can not be successful, if implemented without any input from assisted country. The local authorities should identify project implementation with their own goals and should understand that the project will bring them benefits (e.g. will improve banking procedures facilitating transfer of funds, promote economy restructuring and provide mechanisms to privatize, curb pollution, improve agricultural practices, promote more conscious use of energy, etc.). The success of assistance projects is more tangible, if it is supported by local in-kind contribution to the project. Randomly these are matching funds, most often these may be local experts funded with local resources, access to meeting rooms and conference equipment, temporary office space, access to vehicles, data collection, some secretarial and interpreter services, etc. Usually funds for such expenditures are assigned within each project, but local in-kind contribution puts an additional commitment to efficiently and timely use of offered assistance. Poland's OAR experience in working on projects that may involve either state and local authorities or both is that cooperation with lower level authorities and particular industrial plants is much more effective than cooperating with state authorities or industry sectors' management. Nevertheless, these authorities should be informed about the project goals and objectives, implementation site(s) and progress made. It is also useful to have state officials (ministers, deputy ministers, company managers, etc.) speak on "mile-stone" meetings, workshops and conferences. Such activities expose the officials to implementation process, provide more local credibility and support to the project and reinforce local relationships.

- demand- or supply-driven projects

Sometimes it is necessary to re-design the project to fit better local conditions. It happens usually when a regional project is not designed to respond to local expectations or realities. The procedure that can be taken is to work closely with Project Officer to adjust the project to local demands, if these meet assistance priorities. On the other hand, involving of local participants (state, regional and local organizations, particular companies and industry sectors) into the preliminary design activities should provides grounds for better targeting of the project. E.g. the waste minimization project (by WEC) imposed such steps; presently the project is among the most efficiently implemented in Poland.

It may happen that suggested assistance project does not meet demand of the recipient country/authorities - either it is launched too early and meets unfavorable economic conditions, or it is

launched too late, after a similar project has been introduced by another assistance donor. The Capital Development Initiative Project introduced to Poland three years ago is a good example of a misfit project. Now we know that a couple of different reasons contributed to considerably small impact of the project. One set of reasons were political reasons in Poland (discussions on if and how to privatize, in which sectors foreign investments are most appropriate, what should be mechanisms, etc.). That is why the energy component of the CDI could not be successfully implemented. The environmental component of the project was more lucky, as it helped create a couple of joint ventures. Also in this case the market was very distorted, the supply of foreign companies wishing to conclude joint ventures with the Polish ones seemed to be lavish and on the other hand this sector was in the process of creation in Poland. Still another problem was insufficient and slow support from the financial component of the project.

The situation is simpler to deal with, if the project is launched too late. On the other hand, there is no good solution, if the project is launched too early, as there is always hope that local conditions will mature soon enough to accept the project and make it a success. Such an approach biases the logic of accepting of refusing the project.

- <u>coordination, relationship between particular projects</u>

Project coordination within the assistance portfolio is an effort that should be made when particular projects are advanced in their implementation. The coordination can be based on project networking to provide inputs into other projects (e.g. EAP project can benefit from demonstrations within the Waste Minimization Project or Project Silesia), or to strengthen them through exchange of training opportunities (ETP project provides training for LEM participants, EMTC supports Project Silesia, all environmental training projects might support the Radom NEAP). Some resources development projects could be strongly enhanced by economy restructuring projects (privatization, banking sector restructuring, promotion of small businesses, etc.).

If possible, USAID assistance should be coordinated with other donor activities either directly among donors, or on the particular state and local levels within assistance-receiving country to avoid overlapping, duplication or repetition of identical or similar activities.

One of USAID goals in Poland is to avoid assistance projects aiming at leaving behind bulky reports or studies. Instead, projects are oriented at implementation of the results in a tangible and sustainable way. A good example are LEM feasibility studies and training that have been offered to municipalities having strong environmental protection priorities that met project objectives. As a result, LEM assistance triggered construction of

badly needed local wastewater treatment plants [WWTPs]. The measure of success in such cases may be also the amount of local funds saved by project implementation. In case of LEM, again, the project saved about $400,000 in equipment and construction costs in Namysłów and about $600,000 in Miedźna.

The CEE assistance will decrease in the coming years and such networking of projects could bring more sustainability and successes for the same amount of money.

- credibility, critical mass

OARs should devote some of their efforts to present the project portfolio as important and helpful to the assisted country or region. The process could be started with presentations and discussions and should be immediately followed with practical assistance by U.S. experts. This process should be agreed upon with the assistance recipients and documents such as abbreviated workplans and timelines should be presented. Principles of participation of local experts should be presented to ensure smooth flow of activities.

A credible project should concentrate on meeting the agreed-upon or accepted goals. Local support and assistance can be easier stimulated, if assistance recipients identify project goals with their goals.

Assistance to larger countries, such as Poland, should take under consideration the need of creating a critical mass. We understand that the critical mass is both a number and quality of participants of different training offered by particular projects that can modify or change mentality, approaches and understanding of processes that take place. It is always very difficult to assess the critical mass in numbers. It has been proved that the critical mass (highly educated local experts, trained managers, sometimes transferred technologies) help to promote, change and sustain modern approaches and procedures after the project is brought to an end.We feel that ETP may be close to reaching this goal in Upper Silesia, especially in training of environmental businesses. ETP may also reach it in training of municipal authorities, but we all need to work hard to achieve this goal.

A dubious practice is to advertize a project and not implement it, or stop implementation half-way. The Black Triangle project by EPA could be a good example of project advertised, but not implemented in Poland. Such an approach creates a lot of frustration, especially among local and industry leaders, kills agency credibility and should be avoided as much as possible. On the other hand, the Agency's credibility can be increased, if the project offers some minor, inexpensive follow-up to local problems or offers additional assistance in a field identified during project implementation. A good example is LEM library opened in

Wrocław, LEM-supported DEMDESS training or identification of dispersed pollution sources.

6. The path to success

We share the feeling that generally in Poland we have much more successes than failures. I provided examples of some of them. We think that our success is a success of everybody that worked and works in Poland, while providing assistance. Successes of Polish institutions, agencies, municipalities and industries that decided to use our assistance to their benefit, to improve environmental conditions or generate, transmit and distribute energy are also our successes. They serve to build partnership, cooperation and understanding of complicated processes that every country struggles with.

The above discussion on project implementation in Poland during the last five years' period entitles us to formulate some practices to be followed while providing assistance. These do not necessarily guarantee full success, but they facilitate relationships and make the implementation and monitoring phases easier:

- implement projects in a well thought through sequence to provide time and opportunities to the local staff to learn the procedures and mechanisms;

- recognize present recipient-country policies and trends while designing and implementing assistance projects;

- cooperate as much as possible on project design with AID/Washington Project Officer to make sure assistance meets U.S. and local goals and objectives;

- re-do, if possible, supply-driven projects into demand-driven ones (by matching them with country priorities) to ensure smooth, potentially trouble-free and successful implementation;

- identify local counterparts that are willing to contribute to project success and have appropriate resources, priorities (political, financial, etc.) and meet pre-set criteria;

- keep country state/regional authorities informed, and - if possible - involved in project implementation and monitoring process;

- create mechanisms for disseminating project objectives, goals, accomplishments and success stories not only within the project site, but on a wider territory to provide for potential replicability;

- provide for cooperation within project portfolio to supplement projects with additional assistance (training, management or advisory services) to expand the funds and secure project successes (synergy approach);

- coordinate among project portfolio to identify already available mechanisms that could support other projects;

- spend rather more time on discussing, with local counterparts, project goals and objectives than implement the project without any advance notice;

- do not start project that is complex and of international impact, if there is no political will and policies among recipients to have it implemented. instead, divide the project into country-related activities and try to achieve international impact at the latter stage of project implementation;

7. What Poland could offer to NIS region?

OAR Warsaw gathered significant experience in assistance project implementation in the largest country in the region. We have learned sometimes curvy paths to monitor projects, provide local input, manage and supervise implementation. This experience can be utilized to the benefit of similar projects implemented in perhaps more politically unstable conditions and under much bigger economic and organizational stress of NIS countries. Our assistance could take the forms of:

- Using local Polish experts that have worked for AID assistance projects (privatization, agriculture, banking sector restructuring, energy, environment, scientific exchanges, training, health and social sector restructuring, democratic processes, small business promotion, etc.). There are no cultural or religious biases that could harm the process; furthermore, Poles speak Russian at least reasonably.

- Offering OAR knowledge, experience and practical skills in general project management and selection of project sites, initiation of project implementation and monitoring procedures, cooperation with U.S. contractors, etc. as well as understanding of project-related attitudes offered by AID local employees. This can be accomplished by either OAR/Warsaw visits to NIS AID offices or hands-on-the-job training in Warsaw;

- Familiarization trips for medium and high level industry and municipal managers, to visit project sites, meet local project counterparts (Poles holding different positions in government, industry managers, experts, etc.). This may especially beneficial in sectors of economy restructuring (banks, anti-monopoly offices, privatized companies, small businesses), agriculture, environmental protection and energy-related activities (power grid, power generating companies), etc.;

- Cooperation with other CEE and potentially NIS-located AID offices provided, that a regional office will be finally created at OAR/Warsaw.

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January 17, 1995

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MISSION STATEMENT
OF
THE OFFICE OF THE A.I.D REPRESENTATIVE IN POLAND

The Agency for International Development (A.I.D.) assists Poland to develop its own human and economic resources, promoting market economies and stable democratic political systems. The Office of the A.I.D. Representative in Poland serves the Ambassador and assists the A.I.D Regional Mission for Europe by participating in planning, designing, developing, implementing and evaluating A.I.D. projects.

The Office of the A.I.D. Representative presents Poland's public and private sector needs to the A.I.D. Regional Mission for Europe. We also monitor and provide information about project status to A.I.D. Washington and the Government of Poland, and advise on the delivery and effectiveness of projects, as well as facilitate official visits.

We facilitate the work of the grantees and the contractors by assisting and monitoring project implementation.

We serve as secretariat of the U.S. Assistance Working Group, actively encouraging cooperation, coordination and information sharing among all components of the U.S. Government in Poland.

We work with Polish organizations and Government of Poland officials to effectively implement U.S. assistance projects. We work with other donors to maximize practical coordination.

We inform the various Polish and U.S. publics of assistance efforts and successes.

In assisting the further development of Poland, the Office of the A.I.D Representative strives to adhere to the highest ethical and professional standards in the pursuit of excellence.

STRATEGY

UNITED STATES ASSISTANCE

TO POLAND

1995-1997

Warsaw, 1994

STRATEGY
UNITED STATES ASSISTANCE TO POLAND
1995-1997

THE IMPORTANCE OF POLAND

The success of Poland's democratic and market-oriented reforms is critical to ern and U.S. policy towards Central and Eastern Europe (CEE) and the New pendent States (NIS). The problems Poland has faced and is facing are common l the CEE and NIS countries. How Poland does in its struggle to put in place d-based democracy and a functioning free market, with full respect for human s, is extremely important to U.S. policy. Poland has become the first former rally-planned economy to end its recession and return to growth with its ocracy intact. Poland is succeeding in the transformation process; it is critical he U.S. to continue its support for this transformation until Poland's success is utable in all important aspects.

Poland's achievement has great significance, demonstrating to other countries it can be done. This means that shortfalls must be understood in terms of ific factors, permitting concentration on those specifics, secure in the knowledge success is happening in many areas and that specific problems are just that, er than being indicative of broader systemic issues. It also means that there is eed to choose in principle between democracy and deep, thorough economic rm, because at least one country wrestling with the same basic set of problems--nd--is succeeding in the dual transformation process.

Poland is the largest Central and East European State--its population being e than that of the Czech Republic, Slovakia, Hungary and Bulgaria combined--ranks behind only its eastern neighbors of Russia and Ukraine. This size luces complexity and limits the political appeal of easy solutions. Poland is not perfect model--no country is. Yet Poland's economic and democratic sformation will provide stability not only for its 40 million people, but will export ility and hope to the entire region.

The struggle is far from over--the 1994 balance sheet on the transformation ess has both debits and credits, but Poland is on the right track. With targeted stance, the U.S. Government can aid Poland's transformation towards a full ocracy and a functioning free market.

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OVERVIEW

Four years ago, Poland was the first CEE country to embrace bold policies of democratic and economic reform towards a free-market economy. By the end of 1993, Poland was the first country in the region that demonstrated unmistakable signs of sustained economic recovery. In 1993, Poland had an impressive output growth in excess of four percent. The very healthy expansion in the private sector has more than compensated for the decline in public sector activity. The private sector now accounts for over one half of GDP.

Democratic Maturity

As Poland is reforming its economy, democracy is also maturing. The Poland political scene has now so settled that only six parties are represented in Parliament following the September 1993 election, whereas 29 parties were represented in Parliament in 1991. The September 1993 election moved Poland's developing democracy a long way toward maturity, forcing politicians of all persuasions to acknowledge that the public expects the democratic system to focus on solving Poland's economic and social problems rather than on maneuvering among political factions. The election also made clear the public's desire for government action to more effectively and equitably use social benefits to ease the pain of the transition to the free-market system, while continuing to seek economic stability and growth.

The new government formed by the Democratic Left Alliance (SLD) and Polish Peasant Party (PSL) has made clear that it does not plan any dramatic departures in economic and social policy. Economic integration with the West remains a major priority, as does modernization and marketization of the economy. Yet the new government faces considerable pressures, even exacerbated as a result of the election campaign, to more effectively target social benefits, i.e., to continue with Poland's democratic and market-oriented reforms "but with a human face".

Private Sector Development

Poland's transformation to a free-market economy has been dramatic, building upon the entrepreneurial spirit, struggle, and ingenuity of the Poles. The private sector, cornerstone of the market economy, is firmly in place. Yet, even though now producing more than 50% of the GDP, the private sector envelops only selected cities or pockets of growth. Marketing and distributions systems remain weak, uncompetitive with world markets, nor able to break into the eastern markets. Particularly uncompetitive are state owned enterprises--enterprises needing reform, restructuring, and privatization. Newly restructured companies lack the expertise to follow restructuring with solid management, new accounting systems, strategic

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planning and human resource development. They remain a drain on the state budget. Meanwhile, entrepreneurs of small and medium businesses cry for capital in the form of loans or equity investment.

The restructuring of industry to adapt to the new conditions of a market economy, a necessary accompaniment to macroeconomic stabilization, has proceeded more slowly than expected. Many state-owned enterprises continue to operate at a loss and well below full capacity; efforts to privatize them have encountered numerous snags, including a widespread perception in society that the privatization process is susceptible to unfair exploitation by investors. The law of common privatization pass Parliament in April 1993, and in October 1993, the present coalition Parliament endorsed the mass privatization program. The early 1994 resignations of Finance Ministry officials raised the question of Poland's commitment to continue privatization at the current rate, but the present government answered the question with the full endorsement of recent appointees, all of whom called for more transparency and a stronger role in privatization.

Development of Financial Infrastructure

Until recently, foreign and even domestic investors have remained hesitant because of Poland's debt and because the laws and regulatory framework are still not in place. Poland, twice the size of the Czech Republic, has attracted only a fraction of the direct investment its southern neighbor has won. The problem has been that because Poland was negotiating its large foreign debt burden, increased during the Communist era, foreign investors, particularly commercial banks, have been reluctant to lend new funds to Poland. Investors wanting to raise money for projects in Poland thus have had few sources to tap: their own cash, severely constrained Polish banks, international development organizations such as the EBRD and IBRD, or the few Western banks willing to lend to Poland, but at top rates for money. However, in April 1994, Poland successfully negotiated the second part of its debt forgiveness via the London Club cutting Poland's $13 billion in outstanding commercial bank debt by approximately 45%. This accord, which will need at least six month's more work to finalize, should begin a new chapter for Poland, bringing the nation into the global financial community, allowing an already blossoming economy to grow further and faster through new investments and credits.

However, the regulatory framework and financial sector infrastructure only weakly support the blossoming market economy and investment. The drafting and implementation of laws essential to a market economy still remain unfinished--laws involving collateral and liens, insolvency, public procurement, leasing, competition advocacy and anti-monopoly, advertising and consumer protection, white collar crime, and administrative and compliance improvements, particularly rules for domestic and foreign investors.

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Although the new debt refinancing may result in foreign banks becoming bullish on Poland spurring Polish banks to modernize faster and become more customer-oriented, the infrastructure requires developing appropriate regulations and systems, and importantly, supervision. In 1993, legislation was enacted for the financial restructuring of banks--implementation is now critical. The expansion and strengthening of rural and alternative financial institutions are necessary to serve the variety of savers and develop capital In addition, investment banking capabilities are required to accelerate privatization and structure financial transactions.

— Although the new Polish stock exchange continues to be one of CEE's most profitable for investors, Poland's primary and secondary securities markets require appropriate legal and regulatory infrastructure and investor education and protection.

Transforming Public Institutions

As new funding sources emerge and strengthened Polish banks offer creative new financing vehicles, physical infrastructure projects may now be able to tap international financial markets. National and municipal financing of housing and highway construction, the environment--including drinking water and sewage, utilities and telecommunications, may become a reality with the further development of the nation's financial infrastructure.

Public finance remains one of the most critical features of the current economic situation. Poorly designed social programs and the burden of increasing claims are particularly worrisome. Success in reforming the social benefits system will have major impact on the degree to which society as a whole perceives the democratic, free-market system to be effective.

The new government is fully committed to bringing the public administration and social benefits systems up to European Union standards. A professional civil service competently and impartially implementing democratically agreed upon policies is increasingly needed to ensure the long range success of the broad economic and social reforms now underway in Poland. Strengthening the policy and planning capacity within the government ministries and the civil servants through in-service training are becoming critical. In addition, high priority needs to be placed upon local government, supporting the decentralization of public sector responsibilities and the establishment of the necessary fiscal arrangements to finance the delivery of services at the local self-government level. Economically, decentralization is critical because it links the purchasers of services (taxpayers) more directly with the provider of services, thereby improving the accountability, relevance, and economic efficiency of the provision of public sector services. Also local government provides opportunities for broader participation in government, and thus education in democratic practices.

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Strengthening Institutions Essential for Sustainable Democracy

With a deteriorating social welfare system, the fragmented political structure, and a host of issues unaddressed by government, Polish non-governmental organizations and citizen groups are needed to fill the gaps. Poles in general are frustrated by a situation over which they feel they have little control. Political apathy is a reality which is likely to grow unless citizens begin to feel a deeper sense of involvement and participation in the process of change. The lack of independence, experience, training and coordination severely inhibit the effectiveness of non-governmental organizations. High priority is placed upon strengthening active and effective citizen participation in Poland.

Although the Polish media have made tremendous strides toward independence and professionalism, much remains to be done in improving the performance of the press and in the acceptance of an independent press by officials and the public.

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U.S. COMMITMENT

The U.S. Government is committed to Poland and its people in Poland's transformation to a democratic, free-market society. U.S. assistance is most helpful when **focused and targeted on urgent problems** which must be solved for Poland to develop a strong market economy while strengthening its democratic institutions. The United States will not dissipate limited resources by trying to address every problem. Rather U.S. assistance is carefully focused on vital objectives in economic restructuring and in helping Poland develop an enduring, resilient democracy.

The U.S. Government is the largest bilateral donor providing assistance in the form of technical expertise, training and capital. The U.S. Agency for International Development is tasked with the responsibility of coordinating U.S. assistance, developing a synergy among the U.S. agencies and assistance implementors so assistance is efficient, yet has the greatest multiplier effect.

The U.S. Government is **coordinating its assistance activities with other major donors and lenders** in order to increase opportunities to maximize the impact of assistance. The U.S. Agency for International Development (USAID), which has the predominant role in providing U.S. assistance, will continue to take an increasingly active role in coordinating its assistance activities with other donors, i.e., the World Bank, the European Bank for Reconstruction and Development, the European Union, and other members of the G-24, leveraging and providing assistance where the U.S. has the appropriate expertise.

The U.S. Government will continue to **focus its assistance upon reform which can be replicated** in other parts of Poland. These pilot programs and models of transformation can be implemented with much less start-up costs, taking advantage of lessons learned.
An additional focus of U.S. assistance will be working with Poland to invite decision makers of other countries within Central and Eastern Europe and the New Independent States to Poland. These countries undergoing democratic and market reform can discuss and glean from Poland the lessons, difficulties, and successes of transformation, benefitting all involved.

Working with Poland, the U.S. Government is **increasingly focusing its assistance upon the lesser developed areas of Poland, providing assistance to the regional and local areas** which have heavily borne the burden of and been neglected by the democratic and market transformation.

To assist Poland in its transformation to a democratic, free-market society, the U.S. assistance strategy (FY1995-1997) places highest priority on the following objectives:

(1) **Supporting Private Sector Development,**

(2) **Assisting Development of the Financial Sector,**

(3) **Helping Transform the Public Sector to Better Support Democratic Development and a Market Economy, and**

(4) **Strengthening Institutions Essential for Sustainable Democracy.**

* * *

SUPPORTING PRIVATE SECTOR DEVELOPMENT

The private sector has developed very rapidly in Poland. There remain problems however, and "supporting private sector development" continues to be one of highest priority in the U.S. Assistance Strategy for Poland.

The updated strategy for promoting private sector development throughout Poland focusses primarily upon small and medium scale enterprises as the target for support, while it aims to reduce the numerous constraints limiting private sector investment and growth, help accelerate the pace of completing privatization transactions, and improve Polish entrepreneurial and private sector capacity.

The strategy aims to increase its focus on the regions of Poland, outside the

main pockets of growth. USAID shall maximize the assistance to private enterprises utilizing experts of U.S. NGOs or volunteer organizations, which reduces costs yet provides high quality technical and managerial expertise. Though funding of the Polish American Enterprise Fund has been completed, the PAEF will remain fully active in investments and loans. This will be complemented by directing funds to small equity investments and to micro-loans, both priorities of the GOP. The strategy will increase efforts to promote and accelerate the privatization and restructuring of state owned enterprises through teams at the Ministry of Privatization and through regional assistance. The strategy continues to focus upon reducing barriers limiting private sector investment and growth, however, fewer programs will be directed exclusively toward this purpose, and the remaining ones will phase out in FY96.

Approximately 26 percent of the FY95 budget is directed to the priority of strengthening private sector development.

Assisting Entrepreneurs

U.S. Assistance will:

- Provide capital investments and loans to commercially viable businesses, primarily through resources already committed to the Polish American Enterprise Fund;

- Provide additional capital and technical assistance for equity investments in commercially viable enterprises, and for small- or micro-loans to entrepreneurs (the focus between financial mechanisms to support small entrepreneurs and our work supporting financial systems per se will be intensified each year);

- Strengthen enterprises, especially on a regional basis, by making available resident business services for small and medium-sized enterprises, in areas such as formulating business and marketing strategies, loan proposals, and on-line resource assistance information for the Polish private sector; and,

- Promote U.S. trade and investment in Poland by providing grants for feasibility and marketing studies to U.S. investors particularly those entering the energy, environment, telecommunications, transportation, and agro-business infrastructure markets; and, by identifying Polish companies looking for U.S. business partners and making their interests known to the American business community.

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Privatization and Restructuring

U.S. assistance will:

- Promote and accelerate the pace of privatization with particular attention to:

  -- assisting in the development of financial mechanisms to support the privatization of the large number of Poland's state-owned enterprises involved in the Mass Privatization and Capital Privatization Programs;

  -- assisting the Ministry of Privatization and other institutions (national, regional, and urban) responsible for promoting the privatization process;

  -- assisting the Warsaw Stock Exchange with a separate central clearance and settlement facility to serve the Mass Privatization Program;

  -- assisting through grass-roots level training of government officials, workers' councils, trade unions and company management regarding the long term benefits of privatization;

  -- assisting the development of legal and regulatory framework and environment conducive to the growth and maintenance of newly privatized companies; and,

  -- assisting to ensure that long-term environmental considerations are integrated into the privatization process and that firms meet international environmental standards.

- Provide technical assistance in the restructuring and privatization of key sectors through:

  -- expertise in housing market and municipal service delivery; and,

  -- expertise in telecommunications, transport, energy, and environment.

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Removing Barriers and Improving the Business Climate

U.S. Assistance will:

- Assist the reform and implementation of the legal and regulatory framework to promote a free market and reduce impediments to investment through:

  -- technical assistance in such key legal and regulatory fields as anti-monopoly and competition policy, contracts and commercial law;

  -- technical assistance to relevant ministries and local governments on realistic energy pricing to both producers and consumers and on costing environmental consequences;

  -- technical assistance to national and local governments on business support programs and on cost recovery oriented project planning; and,

  -- technical assistance to relevant ministries, industry, and unions on labor/management relations.

- Provide policy and technical advice to relevant ministries and local governments on key productive sectors including:

  -- private housing construction management and real estate market development;

  -- energy and environment efficiency and regulation;

  -- land and infrastructure development supporting business growth; and,

  -- food agricultural production, distribution, and marketing systems which encourage efficiency and reward high quality.

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ASSISTING DEVELOPMENT OF THE FINANCIAL SECTOR

The banking system and financial infrastructure remain serious barriers to economic growth. "Assisting the development of the financial sector" has increasingly become a high priority of the U.S. Assistance Strategy for Poland.

The strategy for assisting the development of the financial sector focusses primarily upon the banking industry and other financial institutions such as credit unions and rural cooperative banks. Development of the financial sector also includes assistance to the Ministry of Finance in the area of debt negotiation, in which Poland recently had unprecedented success. The Government of Poland has requested that we continue assistance in these critical areas, increasingly fund bank supervision, restructuring and privatization of the banking industry, and assist in developing Poland's capital market by strengthening the primary and secondary securities market. The Government of Poland has asked that U.S. assistance be focused upon strengthening a market-based mortgage and construction lending system, in which already much has been accomplished.

Approximately 20 percent of the FY95 budget is directed to the priority of assisting the development of the financial sector.

U.S. assistance will:

- Help recapitalize and restructure a select number of commercial banks through the reprogramming of $200 million in Stabilization Fund resources, deployed in conjunction with other donors and IBRD structural adjustment loans.

- Strengthen the capacity of the National Bank of Poland to implement a sound regulatory and supervisory environment for the banking sector, (e.g., inspection procedures, strategic planning, troubled bank resolution);

- Assist the banking industry in responding to their role in a capital market environment, i.e., by strengthening the mechanisms for facilitating market development, linkages between capital markets and privatization, portfolio and investment management;

- Strengthen and restructure rural financial institutions (cooperative banks), and establish and strengthen financial institutions (savings and loans, credit unions) for consumers and small savers;

- Accelerate the development of Poland's capital market by

strengthening the primary and secondary securities market through assistance to the Polish Securities Commission and Warsaw Stock Exchange on legal, regulatory, and investor education and protection (e.g., separation of the National Depository, common back office, over-the-counter market, commodities market, mutual funds, venture capital); and,

- Strengthen a market-based mortgage and construction lending system and policies by providing capital through a Housing Guaranty loan which complements IBRD and EBRD loans, and by technical assistance and training in mortgage institutions and banks at the primary and secondary level.

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HELPING TRANSFORM THE PUBLIC SECTOR TO BETTER SUPPORT DEMOCRATIC DEVELOPMENT AND A MARKET ECONOMY

The strategy for helping transform the public sector has become one of the highest priorities of U.S. assistance to Poland. Although "public sector" encompasses a broad array of activities, U.S. assistance has specific and strategic targets mutually agreed to with the Government of Poland. One of the prime foci of public sector transformation, and a new focus for the U.S. Assistance Strategy, is assistance to aid national and local governments reform the pension and social benefits programs and arrest the explosive deficits of social security funds. Another focus is to assist the national and local governments to reform the health care system, which includes strengthening private health care systems.

The Strategy continues to give attention to strengthening the financial and institutional responsibilities and capabilities of the municipalities and regional administrations, and increasingly addresses improving the capacity of public administration at the central and regional levels. Strengthening the capacity of the central and local governments to mobilize financial resources to implement cost recovery systems for housing related services and physical infrastructure will be a major effort of the U.S. Assistance Strategy during the next few years.

An additional aspect of this priority is to assist the transformation of the public universities. During the past three years, U.S. assistance has centered upon the Polish universities that carry out management training for entrepreneurs and students. During the next three years the U.S. strategy will emphasize university development and capacity building, strengthening the universities to manage, offer and deliver programs and courses relevant to a market economy.

Much of the efforts in public sector transformation will be carried out in conjunction with the World Bank and other donors in order to maximize our assistance.

Approximately 44 percent of the FY95 budget is directed to the priority of helping transform the public sector.

Reforming Public Institutions

U.S. assistance will:

- Strengthen the financial and institutional capacity of the national, regional, and local governments to carry out their responsibilities;
- Assist the central government to decentralize authority and establish an appropriate framework for central-local fiscal relations;
- Assist local governments to mobilize financial resources and to implement systems of cost recovery for housing related services and physical infrastructure; and,
- Strengthen self-sustaining management training institutions which deliver quality degree and short-course management training.

Reforming the Social Welfare System

U.S. assistance will:

- Assist the national and local governments to restructure, develop and implement appropriate social benefits support mechanisms; and,
- Assist the national and local governments in their health care reform.

Strengthening the Tax System

U.S. assistance will:

- Provide technical assistance and training in tax policy and tax administration to establish and sustain tax systems at the national and local levels which are more efficient, equitable and support of a democratic, free market economy.

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STRENGTHENING INSTITUTIONS ESSENTIAL FOR SUSTAINABLE DEMOCRACY

Poland needs no assistance in national and local elections of civilian representative governments, as it is the model and a leader of full, free democratic elections for the entire ENI Region. From this standpoint, we salute Poland for all it has accomplished in this regard.

The strategy for strengthening institutions essential for sustainable democracy aims to assist citizens to rely upon their own active participation via organized fora and as individuals rather than continuing to rely upon the hoped for beneficence of central government, and to strengthen professional and independent media, legal and judiciary systems which provide checks and balances to the governments.

Approximately ten percent of the FY95 budget is directed to the priority of assisting the development of institutions essential for sustainable democracy.

U.S. assistance will:

- assist development of citizen participation and responsiveness at local, regional and national levels, through assistance to Polish non-governmental organizations (NGOs) in developing a viable constituency and effectively communicating the needs to the governments;

- strengthen an independent, democratic and objective media which understands its public responsibilities;

- assist the legal and judicial system to deal with economic and organized crime found in an open, free market economy; and,

- assist the design and delivery of civic education and social science education, and other activities which encourage dialogue between citizens and their elected and appointed officials.

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USAID POLAND

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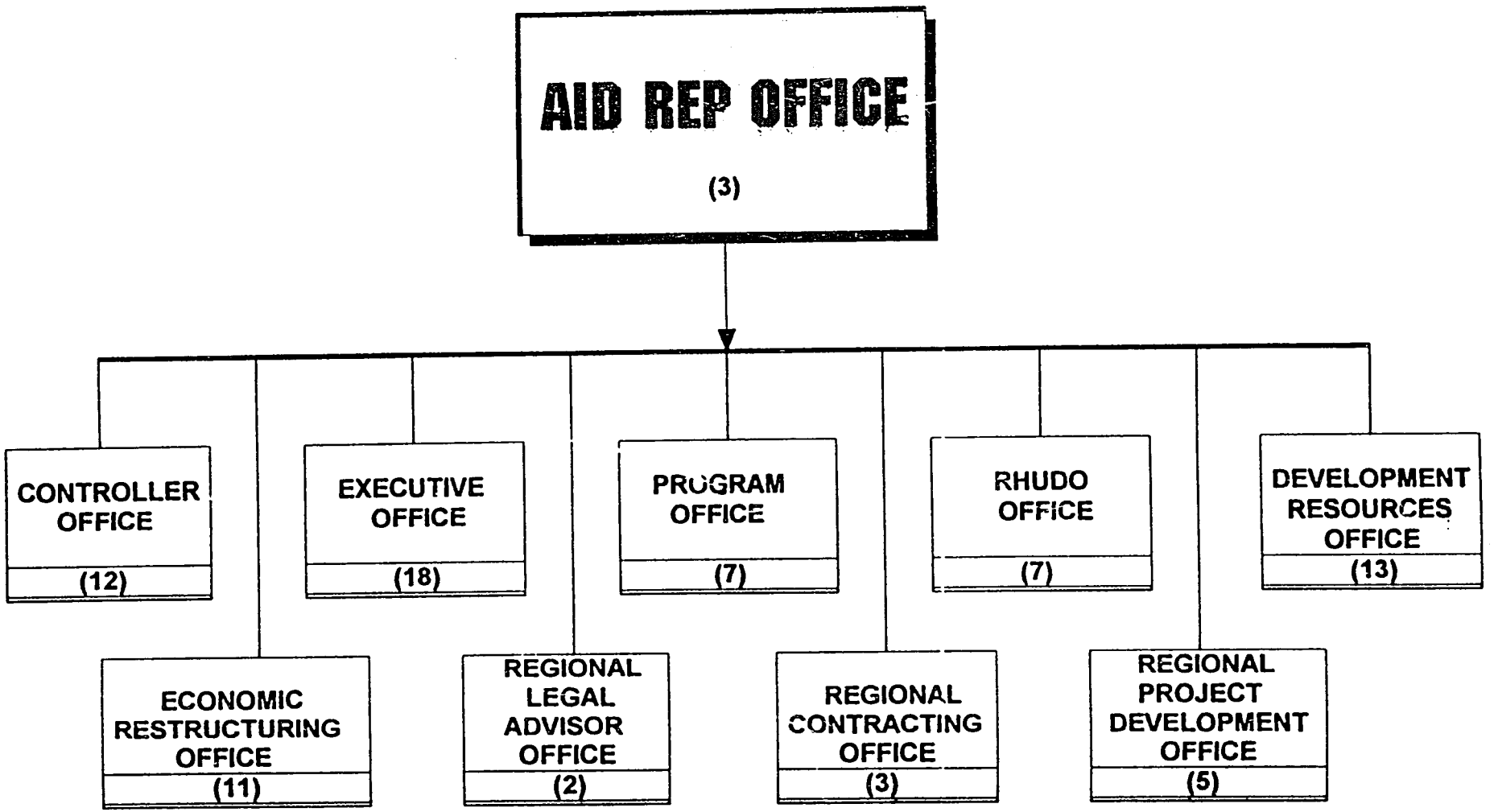

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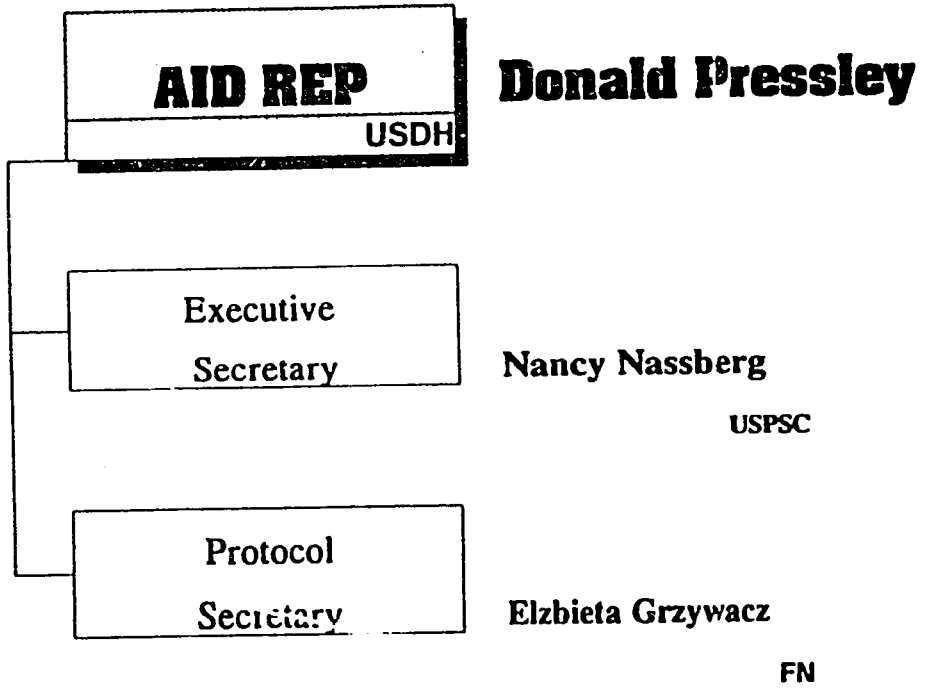
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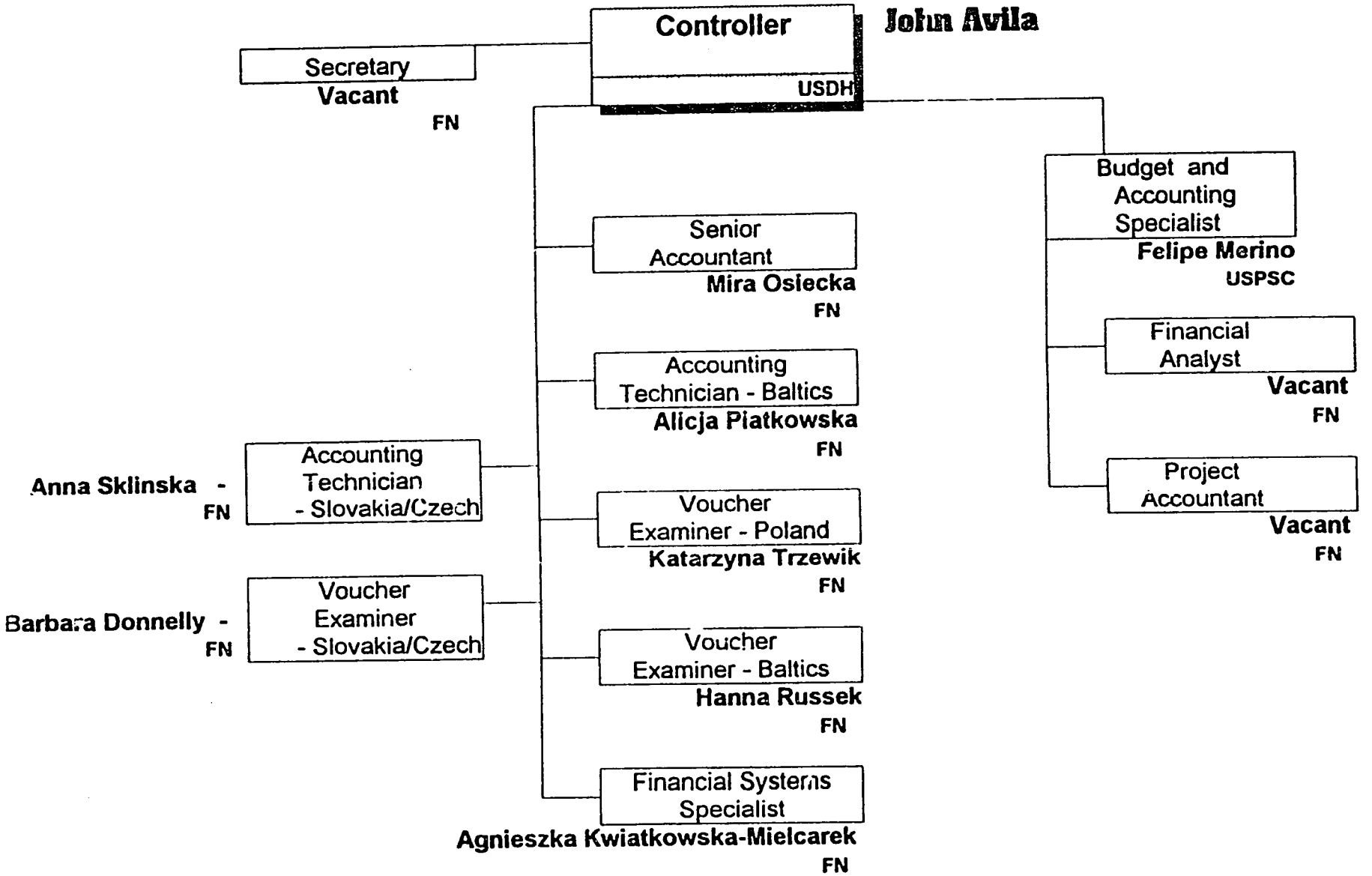
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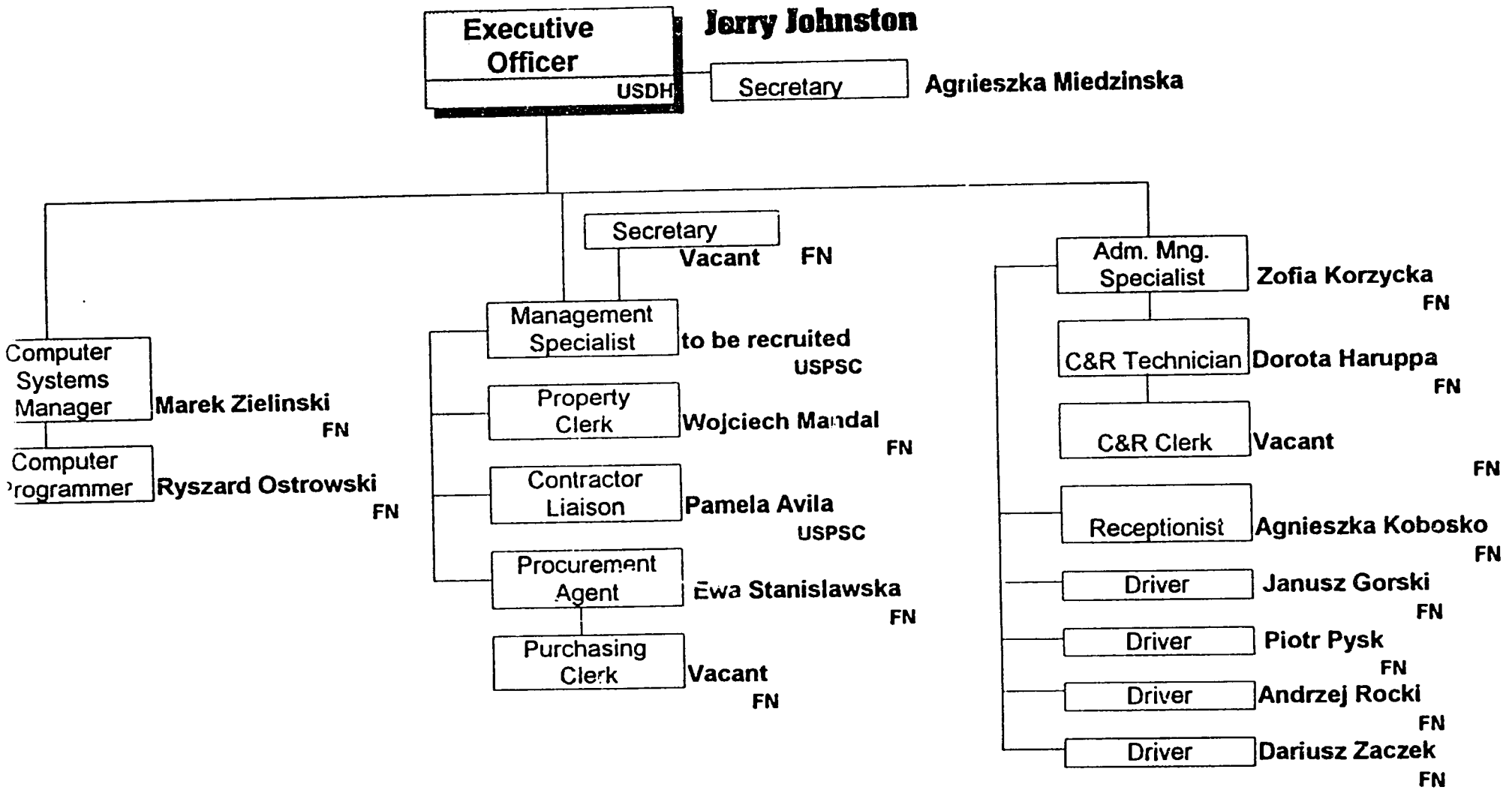
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Management Specialist
to be recruited
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Wojciech Mandal
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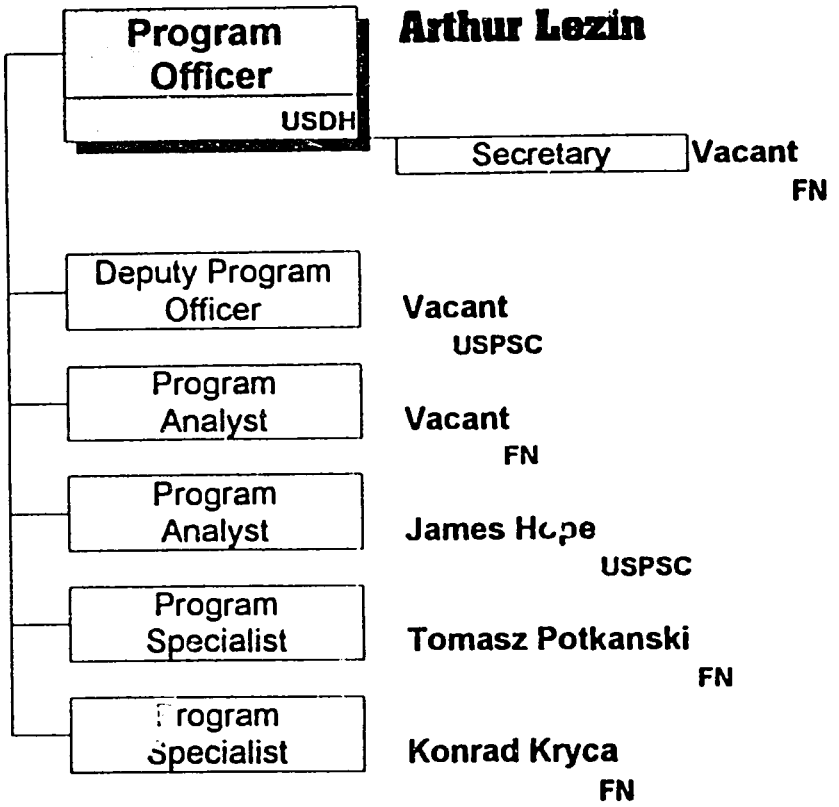
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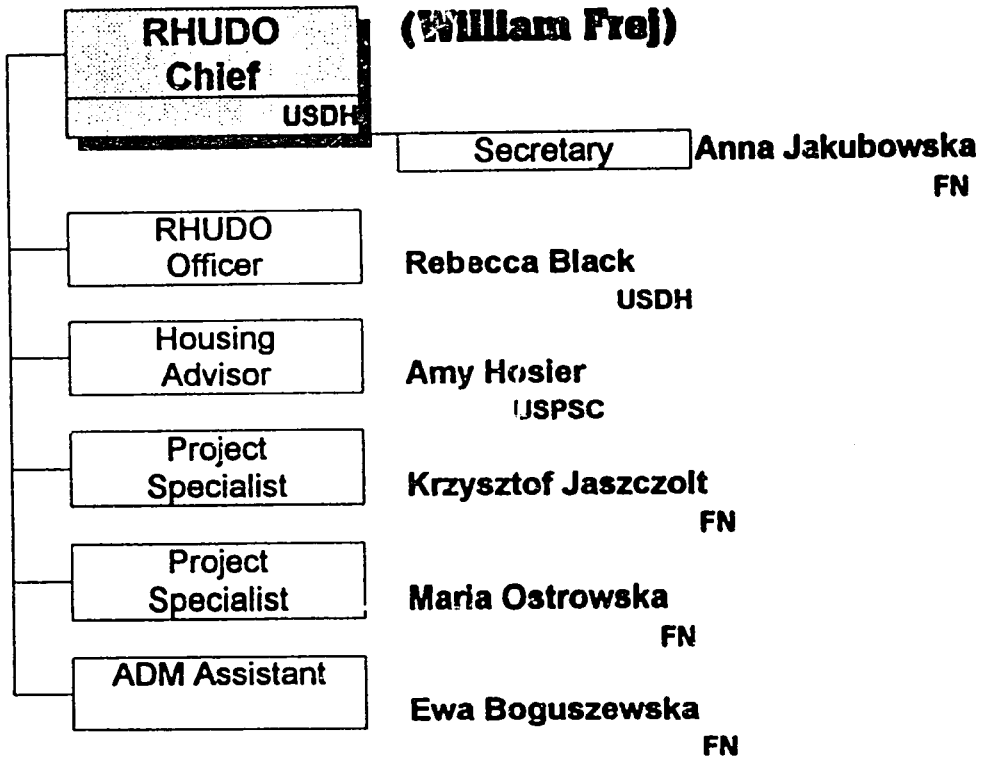
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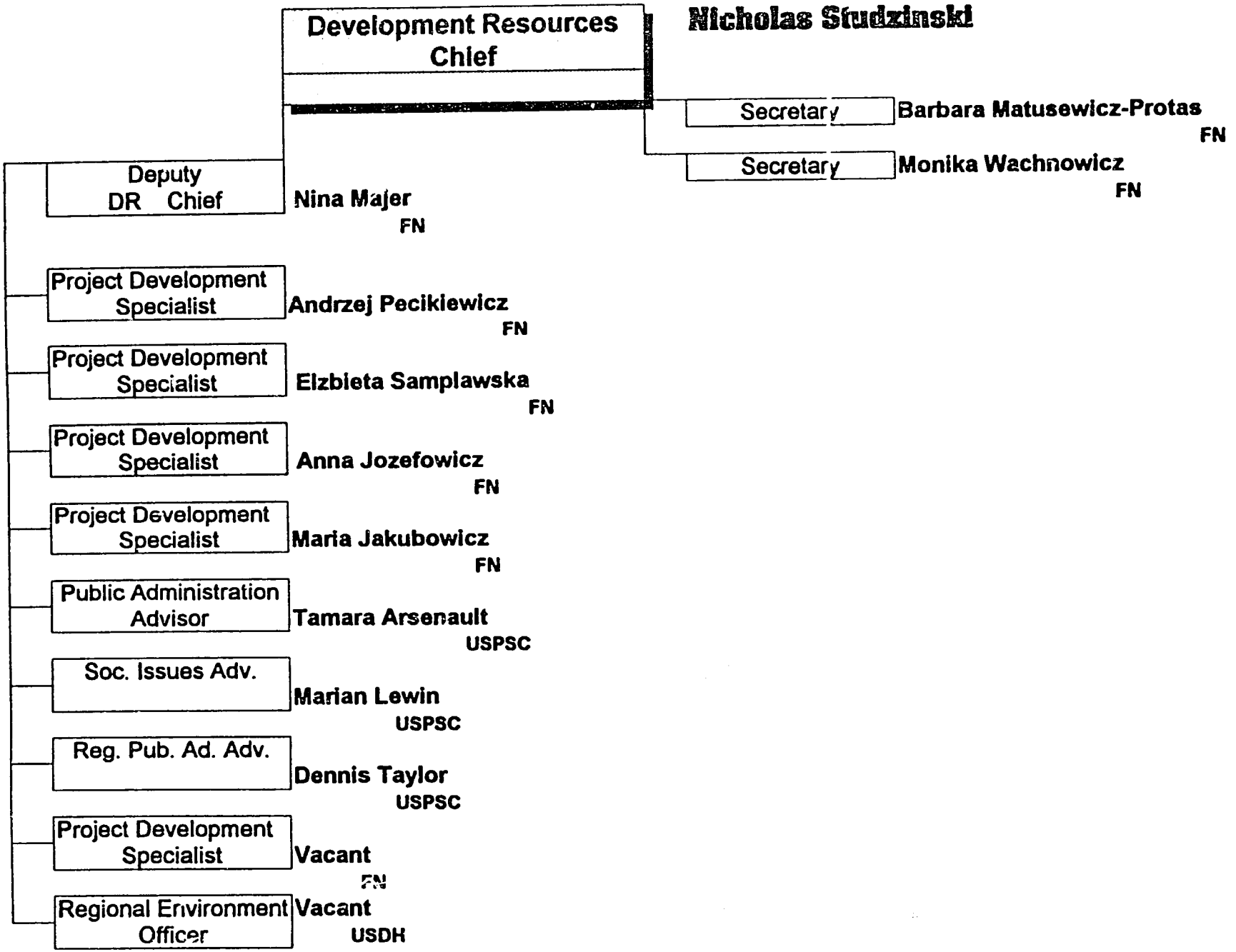
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Marian Lewin
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Reg. Pub. Ad. Adv.
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Regional Environment Officer
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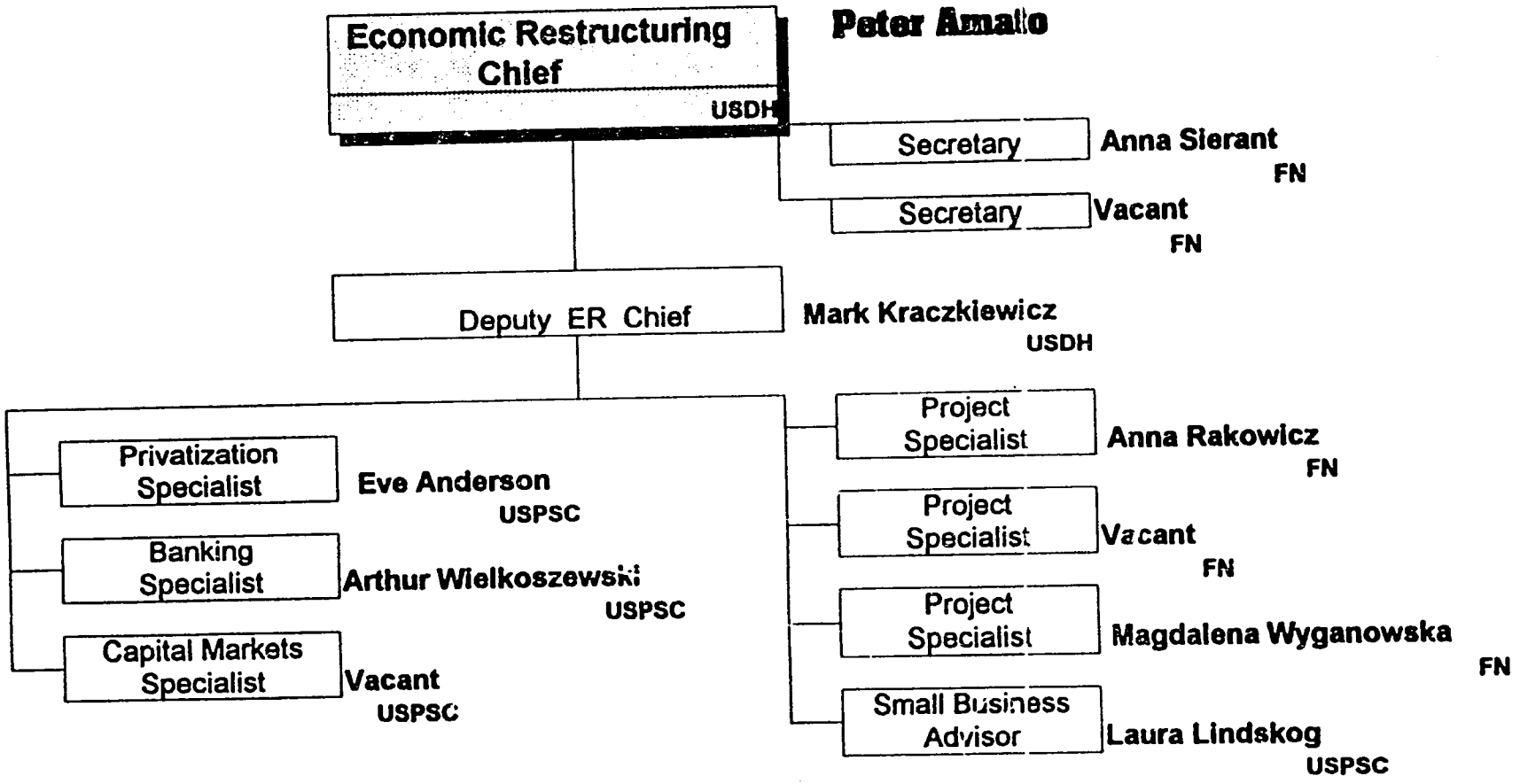
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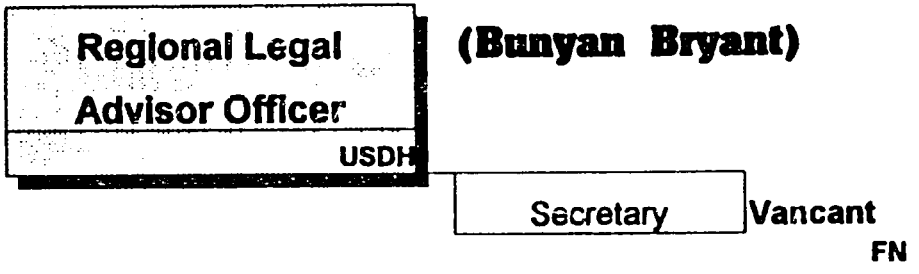
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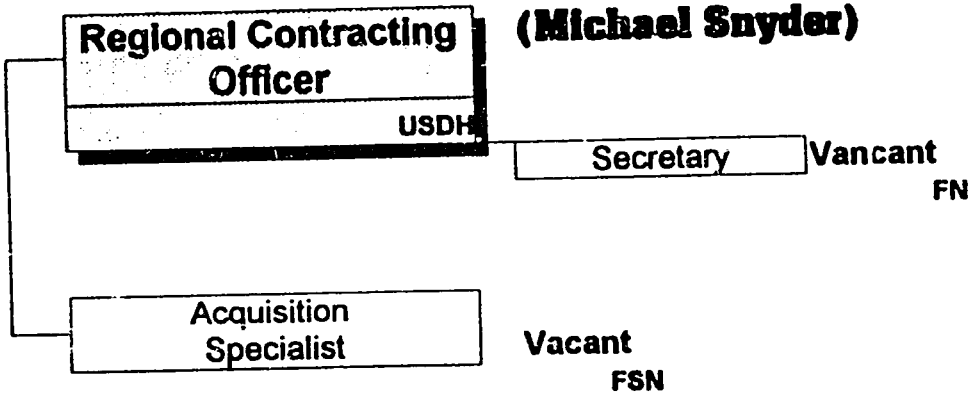
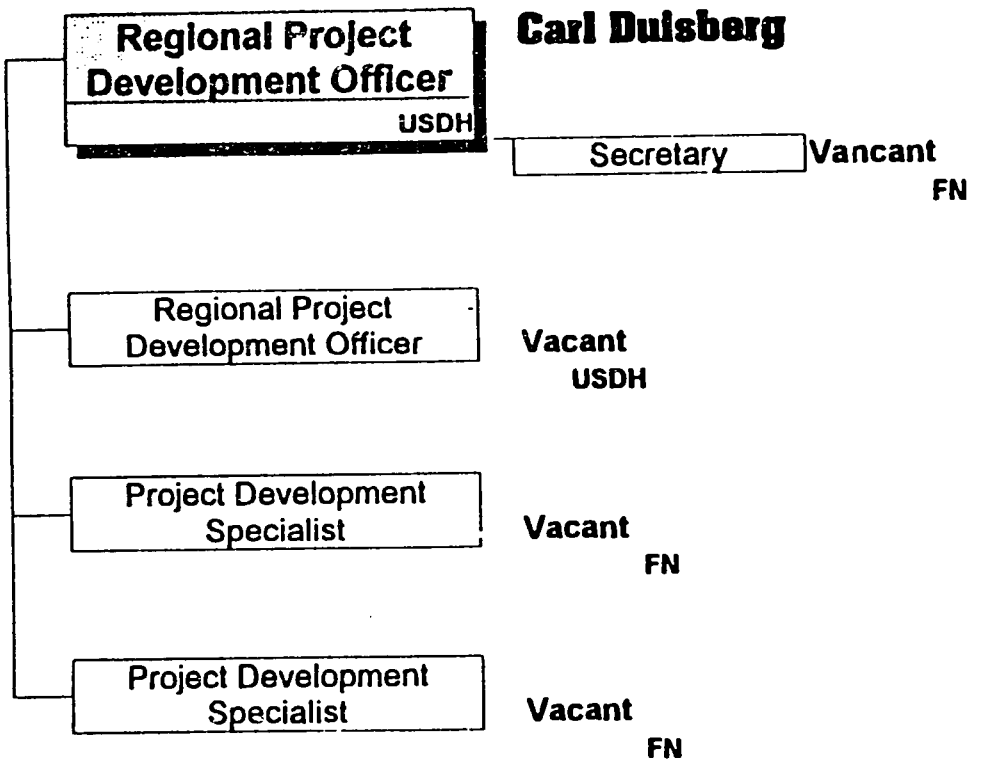

Regional Contracting Officer
USDH
(Michael Snyder)
Secretary
Vancant
FN
Acquisition Specialist
Vacant
FSN


Regional Project Development Officer
USDH
Carl Duisberg
Secretary
Vancant
FN
Regional Project Development Officer
Vacant
USDH
Project Development Specialist
Vacant
FN
Project Development Specialist
Vacant
FN

EXO; 11/8/94

AID/WARSAW

RECAP BY OFFICE

OFFICE	USDH AUTH	USDH OB	USPSC AUTH	USPSC OB	FSN AUTH	FSN OB	TOTAL AUTH	TOTAL OB
AIDREP	1	1	1	1	1	1	3	3
EXO	1	1	2	1	15	13	18	15
CONT	1	1	1	1	10	7	12	9
PROGRAM	1	1	2	1	4	2	7	4
ER	2	2	4	3	5	3	11	8
DR	2	1	3	3	8	7	13	11
RHUDO	2	1	1	-	4	3	7	4
RPDO	2	1	-	-	3	-	5	1
RLAO	1	-	-	-	1	-	2	-
RCO	1	-	-	-	2	-	3	-
TOTAL	14	9	14	10	53	36	81	55

:1/9/95

APPENDIX D
BASIC PRINCIPLES OF IMPACT INDICATORS

Performance Indicators Serve as Barometers of Program Performance...

. . . and the Quality of the Indicators You Use Matters!

Criteria: Indicators are unidimensional

Poor Example	Good Example
- value of investment and revenues of export firms	- value of investment of export firms - value of revenues of export firms
- literacy and primary school enrollment rates	- primary school enrollment rate - literacy rate

Criteria: Indicators are Framed in Operational Terms

Poor Example	Good Example
# of successful export firms	#/% of export firms experiencing an annual increase in revenues of at least 5%

PRACTICAL

- Quality data are currently available
- Data can be procured on a regular and timely basis
- Primary date collection, when necessary, is feasible and cost effective

DISAGGREGATING PEOPLE LEVEL INDICATORS

Depending on the nature of an objective, it may be important to disaggregate people level indicators by:

Sex: USAID is expected by Congress to track the degree to which women and men benefit from foreign assistance programs.

Age: Health and population programs often have reason to disaggregate benficiaries by age group

Ethnic Group: Certain economic programs are expected to reach disadvantaged subgroups within a population

Location: In some programs it is important to know whether rural families received a fair share of a program's benefits

PROXY INDICATOR

An indirect indicator used to measure performance when data for a better, more direct indicator are not available or feasible to collect at regular intervals.

E.g. Lower farmgate prices as an indirect measure of increased agricultural productivity

Declining insurance claims as a measure of safer car designs

Carpet wear and tear as a measure of exhibit popularity at a museum

Declining freight rates as a measure of an increasingly competitive industry

F: SHAREALL MFRWKSHO.P PERFINDI.OVE

PERFORMANCE TARGET (EXPECTED RESULT)

The intended results to be achieved within specific timeframes and against which actual results are compared and assessed.

SETTING PERFORMANCE TARGETS

QUANTITY:	How much of a change is expected?
QUALITY:	How good do the results have to be?
TIMELINESS:	When do we expect the objective to be achieved?
GROUPS/ LOCATIONS:	Who do we expect to benefit or where do we expect the results to occur?

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ESTABLISHING TIME TARGETS

When we set time targets, we are making projections.

Time targets should not be "guesses" -- particularly when the art of projecting performance is reasonably well developed.

Key aids in establishing time targets include:

- **Experts:**
  - -- What guidance do technical experts in the field offer?
- **Historical trend data:**
  - -- How fast has progress occurred in the past?
  - -- What was the rate of progress in the absence of the goods and services we will be providing?
- **External reference points:**
  - -- What has been the pace of progress in other situations where the kind of interventions we are contemplating were introduced?
- **Constraints:**
  - -- What will limit the rate of progress? At the outside, how fast can performance improve?

PERFORMANCE BASELINE

The point or level from which performance indicators will measure change.

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CRITERIA FOR THE SELECTION OF PERFORMANCE INDICATORS[1]

In selecting indicators, strategic objective working groups should ask themselves what specific results they are trying to achieve under the strategic objective. In theory, the strategic objective is a precise result, but sometimes Missions have chosen as objectives somewhat broad statements, and they need to be more specific about what they are trying to achieve in order to measure progress. For example, one fairly common and very broad program outcome is "improved management of a host country institution." It is very difficult to measure improved management without detailing the kinds of improvements expected. Seldom is a Mission tackling all aspects of an institution's management. A Mission usually focuses on a few aspects that it thinks make the greatest difference to improved performance. In order to develop indicators, then, those aspects must be specified.

It is often difficult to find a single indicator that can by itself measure progress toward an objective. Consequently, Missions tend to choose several indicators to measure different aspects of progress that together give a more complete picture. However, the more indicators a Mission chooses to measure, the more time that must be devoted to measurement and analysis. This can complicate the system to such an extent that it does not get implemented at all. It is an important judgment call for Missions as to the amount of information required to manage well and to determine progress. The Bureau cautions against a proliferation of indicators and will be sympathetic to less than perfect measures, as long as Missions explain their measurement

[1]This material was developed by Lynn Carter, Management Systems International

problems.

a. **The indicators should measure progress toward strategic objectives, program outcomes and sub-outcomes as directly as possible.** The indicators should not be at lower level than the objective (i.e., numbers trained as a measure of "improved management") or at a higher level (i.e., income or employment as measures of increased non-traditional exports). Looking at the second example, the most straightforward measure is the value and/or volume of exports. Changes in income or employment are actually higher-order results that might come about from a substantial increase in exports. These higher order results can be reflected on the objective tree at the sub-goal level, if an increase in exports is a strategic objective, but it confuses logic to use them as indicators for the s.o. There may be times when Missions need to use proxies that are above or below the level of the objective, but these should be clearly labelled as such and the rationale explained. Indicators selected for strategic objectives should to the extent possible express people-level impact or some sense of the effect on people's lives, but not if the objective is not phrased in terms of impact on people.

b. **Those indicators selected should be grounded in both accepted practice and in theory, and should have significance for a wide audience.** In other words, both a proponent and a skeptic of the program should agree that the indicator is a valid measure of whether the objective has been met.

c. **The indicators should enable cost-effective measurement.** They should strike a balance between what can be measured and what should be measured. There is no point in selecting indicators that are theoretically elegant but too costly to measure. Indicators must be selected in conjunction with a review of data sources since data quality is critical. There should be consistency from year to year in the source and data collection methodology. In cases where the data are bad or too expensive to collect, proxy indicators will have to be selected. When possible, select indicators that will permit reliance on existing secondary sources of data, as long as those sources are considered to be relatively reliable.

d. **The indicators permit verification of measurement accuracy, reliability and thoroughness.** In other words, others could replicate the process in order to check on measurement quality.

e. **The Agency requires annual reporting on program performance.** Strategic Objective indicators might rely on data resulting from annual national reporting but alternatively might rely on periodic surveys (i.e., contraceptive prevalence surveys, Demographic and Health Surveys) which are undertaken only at

longer intervals. In addition, at the Strategic Objective level, it may take more than one year to produce results that will show up in changing numbers. When choosing indicators for Strategic Objectives that will not produce data annually, some attempt should be made to pair those indicators with proxy indicators that will permit more frequent measurement. Most program outcome level indicators should be measurable annually. In some cases, change will not occur that quickly or it is not practical to do annual measurement. It would be useful then to pair the indicator that cannot be measured annually with a proxy indicator that will permit annual measurement. This pairing then gives planners some information on whether progress is being made in achieving a particular outcome.

f. **Indicators do not always have to be quantitative.** They can be qualitative. It is possible to use as indicators a critical events agenda or policy reform matrix (events that have to happen for an objective to be met along with dates for when they must take place) or rating scales that show organization strength. Political liberalization or democratization are areas where AID is making heavy use of rating scales because it is difficult to come up with quantitative indicators that measure progress.

g. **Quantitative measures should be expressed not just in terms of a numerator (i.e., an absolute number) but should include the denominator whenever possible, because it is the denominator that indicates the size of the problem being tackled.** It is usually better, therefore, to specify measurement in terms of (for example) ratios or percentages rather than absolute numbers. For example, reporting on jobs created or numbers settled in improved housing does not give a reader or planner much sense of what the extent of the accomplishment was because it does not say anything about the dimensions of the problem. In setting targets, Missions need to think about the fact that the denominator as well as the numerator may change over time.

h. **When selecting more than one indicator to measure progress toward an objective, it is important to think about the relationship between those indicators.** For example, if the numbers start to move in the anticipated direction for one indicator and in the opposite direction to what was anticipated for the second indicator, what does that tell planners about progress? Too many indicators selected to measure progress toward the same objective might confuse more than enlighten. The relationship between the indicators should be explained - do they all have to be achieved for the objective to be met? Is one the real indicator, which cannot be reported upon annually, and the others proxies, which are less adequate measures but are capable of being reported upon annually? It is also important to keep the performance information system simple and to try to get by with as few key indicators as possible.

i. **When appropriate to the strategy in place, it may be important to disaggregate data by gender or according to other population characteristics that appear to be important (i.e., rural-urban).** Gender disaggregation can help Missions and the Bureau assess the ways in which both sexes participate and benefit.

2. Setting Baseline Data and Targets

Once the indicators are final, planners need to select the year for which baseline data will be recorded. It is useful if baseline data for the year that the strategy begins can be recorded but this will not always be possible. In the instance that it is not possible, the baseline year should be the most recent past year for which the relevant information exists. If the baseline year falls too many years before the start of the strategy, there will be difficulties in gauging what portion of the progress might be related to current USAID efforts.

Once baseline data are acquired, targets need to be set in terms of what progress the planners expect to achieve over the period of the strategy. It can be tricky to set targets because, to do this planners need a feel for historical patterns (how the numbers have moved over time), and such data may not exist in adequate quantity or quality in some countries. Access to data, even when it does exist, can also be problematic. Even when time series data do exist, there have been instances of Missions setting targets well below the trend and, while there may be reasons for doing so, it might also be suggestive of an overly casual approach to target setting. If time series data of reasonable quality are available, Missions should use them for future projections.

There is a tendency in Missions to straightline targets (i.e., if the indicator is expected to increase by 10%, the Mission shows annual increases of 2%). This may or may not be appropriate. Missions should think through when their interventions will start to have an impact and whether that impact will be heavier in some areas than in others. For example, if Mission resources help introduce and expand availability of the IUDs, as part of a family planning program, then there might be very heavy impact the first few years, while unmet demand for a longer term method is met, and then the impact might drop and level off. The project to program linkage analysis table in Annex A can help Missions in setting targets.

EXAMPLES ILLUSTRATING THE CRITERIA IN USE FOR ASSESSING THE QUALITY OF INDICATORS

Sometimes indicator choices will represent compromises, and that in some sectors where data are of poor quality and/or scanty, it will not be possible to meet all the criteria laid out below. Some of the indicators presented as "weak examples" below may be the highest quality indicator that a Mission can use, given its data circumstances.

A. **Criterion:** the indicator measures progress as directly as possible. It is not pegged higher or lower than the objective itself.

Good examples:

Contraceptive Prevalence Rate is a direct measure of a strategic objective of "Increased Use of Contraceptive Methods."

Proportion of SMEs obtaining loans and volume of credit are direct measures of a program outcome of "Increased access by SMEs to business financing."

Value and volume of non-traditional exports is a direct measure of "Increased non-traditional exports."

Total Fertility Rate is a direct measure of a strategic objective of "Reduced fertility."

Weak examples:

Numbers trained is not a direct measure of strategic objectives or program outcomes that relate to improve service delivery quality or improved public sector management.

Numbers employed is not a direct measure of increased exports but is a higher order result.

In the first weak example, the indicator (numbers trained) measures outputs and not the higher level objective which relates to quality or improved management. A Mission with such an objective needs to test the link between numbers trained and the actual changes it is seeking.

The second weak example represents a problem that is not uncommon - Missions do sometimes match higher-level indicators to

lower-level objectives. Missions sometimes do this to show people-level impact, even though the objective is not a people-level objective. Sometimes data are not available and cannot readily be collected for an indicator that is a direct measure of the objective but the Mission can get data for a higher-level indicator. While the second reason is perhaps more legitimate than the first, both confound the logic of the performance measurement plan. Let's take the indicator of numbers employed to measure progress toward an objective of increased exports:

Hierarchy of Objectives	Indicators to Measure Progress
Broad-Based Economic Growth	1) Real GDP growth rate; 2) real per capita income growth rate; 3) percent population living below the absolute poverty level
Increased Private Sector Employment	What do we measure here if we measured employment below????
Increased Private Sector Exports	Numbers employed
1) Policy Reform; 2) Increased Private Investment; 3) Improved Exporter Marketing Capabilities	1) Policy Reform scorecard; 2) private investment as percentage of total investment; 3) Number of US-local firm partnership arrangements

B. Criterion: <u>The indicator is grounded in theory and accepted practice - both a proponent and a skeptic of the program will agree that the indicator is a valid measure of success</u>

Good Examples: Private exports as a percentage of total exports and private investment as a percentage of total investment are both non-controversial measures of a strategic objective of "Increased private investment and trade."

Infant and under-five mortality are both accepted indicators for measuring objectives tied to "improved health of children under five."

Weak Examples: AID-funded Food for Work roads constructed is an indicator that very few would accept as measuring progress toward a strategic objective of "Increased voice and choice in local and national government."

C. Criterion: <u>The indicator shows the dimensions of the problem by including both a numerator and a denominator</u>

Good examples:

Percent of SMEs accessing credit

Percent of age-eligible children enrolled in primary school

Percent of households with reliable access to potable water

Immunization Rate

Percent of pharmacies selling contraceptives

Weak examples:

Number of SMEs accessing credit

Numbers of children enrolled in primary school

Number of households with reliable access to potable water

Number of children immunized

Number of pharmacies selling contraceptives

The good examples are to be preferred because they tell us about the size of the problem and AID's contribution to solving that problem. Sometimes, however, it is more appropriate to present a straight number than a percentage or ratio. For example, in the last good example, it is preferable to measure the percentage of all pharmacies selling contraceptives. If, however, the Mission's strategy calls for establishing <u>new</u> retail outlets selling contraceptives, then a straight count is called for. There will also be instances when the base is so small that giving a percentage would be misleading and it is more honest to report a straight number. For example, if a small Mission is working in family planning in only one province and it wants to report on improvements in service delivery quality in that

province, it would be somewhat misleading to report that 90 % of the facilities provided quality services when there were only five facilities in the whole province, even though this might be literally true.

D. Criterion: <u>program outcome indicators can be reported upon annually</u>

Ideally, PRISM would like annual reporting at the strategic objective level, but it is generally recognized that many s.o. indicators do not lend themselves to this. Some, however, do. Annual reporting at the program outcome level is very important, particularly when the strategic objective indicators are not susceptible to annual reporting. Both the Mission and AID/W require timely data for planning and management.

Good examples:

Couple Years of Protection for a program outcome of "increased access to FP services." CYP can generally be compiled annually from Ministry of Health service delivery statistics and also sometimes from pharmacy wholesaler records.

Number of registration letters issued to first time business owners is an indicator for a p.o. of "increased SME business formation." Data for this indicator can be obtained easily from the relevant government agency on an annual basis.

Percent of diarrheal disease cases provided with ORS is one indicator measuring progress toward a p.o. of "Increased use of effective MCH/FP services." It cannot be reported upon annually because it relies on a once-every-four-years Demographic and Health Survey, so the Mission choosing this indicator has chosen to supplement it with a proxy indicator of Number of new diarrhea cases provided with ORS rehydration therapy at a Ministry of Health facility, for which data can be collected annually via Ministry statistics.

This last example represents a good compromise. Missions should not toss out a good indicator because data cannot be collected annually but rather should try to supplement that

indicator with a reasonable proxy indicator that measures some aspect of progress.

E. Criterion: <u>the indicator permits cost-effective measurement</u>

It may not be practical or possible to collect the data for some theoretically elegant indicators. For example, some Missions have chosen to use proxy indicators in place of maternal mortality rate to measure progress toward improved maternal health, because a population census is really required to capture MMR and the interval between censuses is too long to fit neatly with most Mission strategy periods. Not even the Demographic and Health Survey has a large enough sample to accurately calculate MMR, except perhaps in countries with very high maternal mortality. Most Missions are very conscious of the staff time and monetary cost issues involved in primary data collection and analysis and so choose proxy indicators when ever the costs appear to be unreasonably high. Missions may in fact sometimes be too ready to choose proxy indicators. Sometimes the expense is justified by the quality of data produced for planning and management. Demographic and Health Surveys currently cost around $500,000, but the cost is justified by the quantity and quality of information produced.

F. Criterion: <u>a consistent source and data collection methodology are used to produce data for the indicator over time</u>

It would be unwise to rely on different data sources or different data collection methodologies since these may produce different results. Then a Mission would end up with numbers over time that are not comparable and show no consistent trend. One example here is data collection for Mission X's indicator of percentage of target population completely vaccinated, measuring a program outcome of increased use of more effective MCH services. The Demographic and Health Survey will produce the highest quality data for this indicator. However, only two surveys will be done during the strategy period and, since the indicator shows progress toward a program outcome, there is a need for annual data. The concerned Mission chose to supplement the DHS data with annual Ministry of Health calculations, feeling that these calculations were of reasonable quality. In order not to jumble the two sources, which could produce different calculations, the Missions will report both percentages throughout time, for those years when both are available, and will analyze any discrepancies. This is a good compromise.

G. **Criterion:** <u>the indicator is disaggregated by gender (or other significant characteristics) when appropriate</u>

The Agency is very concerned to learn about the impact that AID interventions have on females. Performance indicators should measure the impact of AID strategies and the results that USAID Missions hope to achieve. Therefore, gender disaggregation is most appropriate when the USAID Mission has conducted a gender analysis and determined that differential strategies and different targets are appropriate. For example, if a Mission trying to strengthen micro and small enterprises recognizes that female owners form a not insignificant share of total owners of these enterprises, then it may need slightly different tactics to incorporate female owners into its activities. The Mission should then set targets and measure how successful that incorporation has been. Increasing primary school enrollments is another objective where the strategy to enroll girls may be different from the strategy to enroll boys, and a Mission would want to measure the success of both strategies.

There are other examples where gender analysis is critical to crafting good strategies but where the results might not be directly reflected in gender disaggregated data. For example, factoring into strategies female reluctance to be seen by male health workers and women's desire for separate female-only spaces in clinics may help increase the contraceptive prevalence rate, but it would be inappropriate to disaggregate the rate by gender because the percentages would be meaningless. Gender analysis might also be critical to developing a strategy for increasing the supply of potable water in rural areas, but one would measure in the end population with access to potable water. Disaggregating this indicator by gender would not tell us anything useful.

There are also areas in which gender is largely or totally irrelevant. Improvements in the telecommunications system do not seem to require any consideration of gender since women's relationship to telephones is much the same as men's.

If Missions have developed separate strategies to address other significant divisions, such as rural-urban, they may want to show the progress of those different strategies by disaggregating data according to those divisions.