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**Infrastructure Services
Performance Review
Environmental Management
Development in Ukraine - 1
Project
(1994-1998)**

November, 1999

CONSULTATION DRAFT

Prepared by:

Cowater International Inc.





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RE: ISP Review Environmental Management Development in Ukraine

Dear Phillip:

We are pleased to submit herewith the final report for the Infrastructure Services Performance Review of the EMDU-1 project. The report summarizes the findings of the evaluation in the context of CIDA's agency wide review of programming in the infrastructure services sector.

Overall the EMDU-1 project was very successful and has moved into its second phase.

We would be pleased to discuss any aspect of this report with you.

Thank you,

A handwritten signature in black ink, appearing to read 'Doug McRae', is written over the typed name.

Doug McRae
Water Supply Sector Project Manager
Cowater International Inc.

**Infrastructure Services Performance Review
Environmental Management Development in Ukraine
Project 1 (1994-1998)
DRAFT - Final Report**

Table of Contents

ACRONYMS AND ABBREVIATIONS	iv
EXECUTIVE SUMMARY	v
SOMMAIRE	viii
1. INTRODUCTION	1-1
1.1. PROJECT BACKGROUND.....	1-1
1.2. PURPOSE OF THE EVALUATION	1-1
1.3. EVALUATION TEAM.....	1-1
1.4. METHODOLOGY.....	1-1
1.5. LIMITATIONS	1-2
I RATIONALE	
2. DEVELOPMENT CONTEXT	2-1
2.1. HUMAN DEVELOPMENT.....	2-1
2.2. SOCIAL AND ECONOMIC INEQUALITY	2-1
2.3. THE ROLE OF GOVERNMENT	2-2
2.4. THE ROLE OF FOREIGN DONORS.....	2-2
2.5. THE ROLE OF NON-GOVERNMENTAL ORGANIZATIONS	2-4
2.6. THE ROLE OF THE PRIVATE SECTOR.....	2-4
2.7. THE INFRASTRUCTURE CONTEXT	2-5
3. CIDA'S POLICY IN UKRAINE AND THE REGION.....	3-1
3.1. CANADIAN POLICY AND PROGRAMMING PRIORITIES IN THE CEE REGION.....	3-1
3.2. CIDA'S COUNTRY POLICY AND PROGRAMMING FRAMEWORK IN UKRAINE	3-1
3.3. THE ROLE OF INFRASTRUCTURE SERVICES IN CIDA'S PROGRAMMING IN UKRAINE.....	3-2
3.4. IS PROGRAMMING LINKS WITH OTHER ODA PRIORITIES	3-2
II PROJECT DESCRIPTION	
4. PROJECT DESCRIPTION.....	4-1
4.1. PROJECT BACKGROUND.....	4-1
4.2. LOGICAL FRAMEWORK ANALYSIS.....	4-5
4.3. CHRONOLOGY OF EVENTS	4-6
4.4. DISBURSEMENTS TO DATE.....	4-6
4.5. EVALUATION, REVIEW, AUDIT AND MONITORING	4-8
4.6. BENCHMARK/BASELINE DATA	4-9
4.7. STAKEHOLDER NETWORK	4-11
III PROJECT PERFORMANCE	
5. RESULTS ACHIEVED	5-1
5.1. OVERALL ASSESSMENT OF RESULTS ACHIEVED	5-1
5.2. PURPOSE LEVEL RESULTS ACHIEVED.....	5-13

5.3.	GOAL LEVEL RESULTS ACHIEVED	5-15
5.4.	UNINTENDED RESULTS.....	5-16
5.5.	BENEFITS TO CANADA.....	5-16
5.6.	PERCEPTION OF STAKEHOLDERS ON RESULTS AND ACHIEVEMENTS	5-16
6.	DEVELOPMENT FACTORS.....	6-1
6.1.	RELEVANCE	6-1
6.2.	APPROPRIATENESS	6-2
6.3.	COST-EFFECTIVENESS.....	6-3
6.4.	SUSTAINABILITY	6-4
7.	MANAGEMENT FACTORS.....	7-1
7.1.	PARTNERSHIP/PARTICIPATION	7-1
7.2.	INNOVATION AND CREATIVITY	7-2
7.3.	APPROPRIATE HUMAN RESOURCE UTILIZATION	7-2
7.4.	PRUDENCE AND PROBITY	7-3
7.5.	INFORMED AND TIMELY ACTION.....	7-4
8.	EXTERNAL FACTORS INFLUENCING RESULTS	8-1
8.1.	SIGNIFICANT POLITICAL, ECONOMIC AND/OR SOCIAL CHANGE.....	8-1
8.2.	CLIMATIC AND GEOGRAPHIC CONDITIONS.....	8-2
8.3.	NATIONAL GOVERNMENT POLICIES AND ACTIONS	8-2
8.4.	OTHER EXTERNAL FACTORS.....	8-3
9.	OVERALL PROJECT PERFORMANCE	9-1
9.1.	OVERALL ASSESSMENT OF PERFORMANCE	9-1
9.2.	ANALYSIS OF KEY SUCCESS FACTORS	9-1
9.3.	MAJOR CONSTRAINTS	9-3
9.4.	UNIQUE MODELS AND APPROACHES	9-4
IV IS REVIEW ISSUES		
10.	IS REVIEW ISSUES.....	10-1
5.2	POVERTY REDUCTION, EQUITY AND ACCESS.....	10-1
10.1.1.	Poverty Reduction.....	10-1
10.1.2.	Enabling Environment	10-1
10.1.3.	Capacity Building	10-1
10.1.4.	Equity and Access.....	10-2
10.2.	RESULTS, EFFECTIVENESS AND EFFICIENCY	10-2
10.2.1.	Project Design and Local Context	10-2
10.2.2.	Partnership and Local Context/Knowledge	10-3
10.2.3.	Impact on Environment.....	10-3
10.3.	IMPACT ON POLICY DIALOGUE.....	10-3
10.4.	GENDER.....	10-4
10.4.1.	Project Design and Implementation.....	10-4
10.4.2.	Needs and Challenges	10-4
10.4.3.	Equity and Access.....	10-4
V LESSONS LEARNED AND RECOMMENDATIONS		
11.	LESSONS LEARNED AND RECOMMENDATIONS	11-1
11.1.	FOR POLICIES	11-1
11.2.	FOR PROJECTS	11-2

LIST OF ANNEXES

Annex A –	Results of Multi-Criteria Analysis Tool
Annex B –	Persons Contacted and Documents Consulted
Annex C –	Evaluation Matrix
Annex D –	Interview Protocols
Annex E –	Members of the Ukrainian Management Committee
Annex F –	Global Environmental Facility (GEF) and UNDP Concept Paper on the Dnipro River Basin Program
Annex G –	External Contributions to EMDU-1
Annex H –	RBM Framework for EMDU-2
Annex I –	Country Information

LIST OF TABLES

Table 2.1	Basic Facts About Ukraine
Table 4.1	Milestones in EMDU-1
Table 4.2	Project Disbursements
Table 4.3	EMDU Performance Reports
Table 5.1	Overall Assessment of Results Achieved in the EMDU Program
Table 5.2	Project Outputs
Table 5.3	Purpose-Level Results
Table 5.4	Goal Level Results
Table 6.1	Relevance of EMDU Program to Stakeholder Needs and Priorities
Table 6.2	Appropriateness of EMDU Design, Delivery and Application of Lessons
Table 6.3	Cost Effectiveness of EMDU Program
Table 6.4	Sustainability of Program Benefits after Completion of Activities
Table 7.1	Partnership and Local Participation in EMDU Program
Table 7.2	Innovation and Creativity in Achieving Results Through EMDU
Table 7.3	Appropriate Human Resources Utilization
Table 7.4	Prudence and Probity in the EMDU
Table 7.5	Informed and Timely Action in the EMDU Program
Table 9.1	EMDU Performance Evaluation

LIST OF FIGURES

Figure 4.1	Map of Ukraine
Figure 4.2	Stakeholder Network

Acronyms and Abbreviations

BEMIS	Basin Environmental Management Information System
BWQS	Baseline Water Quality Study
CEA	Canadian Executing Agency
CEE	Central and Eastern Europe (CIDA Branch)
CIDA	Canadian International Development Agency
DFAIT	Department of Foreign Affairs and International Trade (Canada)
DRF	Dnipro Renaissance Fund (Ukraine)
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EMDU	Environmental Management Development Ukraine
EMIS	Environmental Management Information System
GEF	Global Environment Facility
IBRD	International Bank for Reconstruction and Development
IDRC	International Development Research Centre (Canada)
IFI	International Financial Institution
IS	Infrastructure Services
ISPR	Infrastructure Services Performance Review (CIDA)
LFA	Logical Framework Analysis
MEPNS	Ministry of Environmental Protection and Nuclear Security (Ukraine)
NGO	Non-governmental Organization
ODA	Official Development Assistance
OCEEI	Office for Central and Eastern Europe Initiatives (IDRC)
OVI	Objectively Verifiable Indicators
PRB	Performance Review Branch (CIDA)
RBM	Results-based Management
REMIS	Regional Environmental Management Information System
TORs	Terms of Reference
UIO	Ukrainian Implementing Organization
UMA	UMA Engineering Ltd.
UMC	Ukrainian Management Committee
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WBS	Work Breakdown Structure

Executive Summary

Introduction

The purpose of this report is to summarize the findings of an evaluation of the Environmental Management Development in Ukraine (EMDU-1) program. The evaluation was one of a series of studies commissioned by CIDA's Performance Review Branch as part of an agency-wide thematic review of programming in infrastructure services. The evaluation started in March 1999, the fieldwork was carried out in April, and the final report submitted in September 1999. The data was collected through document review, key-person interviews, group interviews, and field-site visits. Eight persons in Canada and 40 persons in Ukraine were contacted for this study.

Development Context

Ukraine ranks 95th on the Human Development Index among 175 countries rated in the world. The key indicators in human development in Ukraine in 1998 include the following:

Population is 50.5 million

Literacy rate is 100% for males and 97% for females

GDP is \$2,493 per capita

Life expectancy is 65.8 years

Natural growth rate is negative at -6.2%

CIDA's programming framework in Ukraine emphasizes supporting the reform process. This includes supporting the transition to a market based economy; promoting democratic development and good governance; and increasing Canadian trade and investment links with Ukraine. Canada has supported the EMDU program and capacity building among environmental sector institutions in Ukraine since 1993.

Project Description

The first phase of the EMDU program started in 1994 and was completed in 1997. CIDA contributed \$4,829,200. The program focused on the environmental rehabilitation of Ukraine's primary water resource, the Dnipro River system, and pursued a multi-faceted approach to environmental management capacity building in relevant Ukrainian ministries, research institutions, municipal departments, educational organizations and NGOs. The Office for Central and Eastern Europe Initiatives (OCEEI) in International Development Research Centre (IDRC) implemented the program in partnership with the Ukrainian Ministry for Environmental Protection and Nuclear Safety (MEPNS), various State Committees, the National Academy of Sciences, and other research institutes and sector organizations.

The program goal was to contribute to the environmental rehabilitation of the Dnipro river system, through collaborative efforts of institutions and organizations from Ukraine, Canada, and other countries. There were four objectives:

- To strengthen the capacity of Ukrainian institutions to manage the Dnipro River system, particularly its water quality;
- To identify means of reducing water pollution in the Dnipro River, specifically in Zaporizhzhia region;
- To foster long-term collaborative links between Canadian and Ukrainian public and private sector environmental organizations; and,
- To encourage the exchange of information and experience between Ukrainian scientists and policy-makers and between these two groups and their counterparts elsewhere.

The program had two components – environmental management capacity building and water pollution control – and seven activity areas within the two components.

The EMDU-1 program was intended to contribute to the environmental rehabilitation of Ukraine's primary water resources, the Dnipro River and its basin. It began in April 1994 and ended in 1998 with an overall investment of approximately \$5.8 million. EMDU-1 consisted of two components:

Component I – Environmental Management Capacity Building

The component addressed various institutional and structural weaknesses of the Ukraine environmental protection system. It comprised training for environmental managers and technicians from MEPNS, and technical assistance in designing and developing Environmental Management Information Systems for a collection of ministry institutions at the national and regional levels. It also addressed policy and public education needs, and built financial management capacity in the DRF.

Component II – Water Pollution Control

The component aimed at reducing pollution in the Dnipro River basin by implementing demonstration projects that introduced new management practices and selected technological reform in industrial and public sources of water pollution. It focused on utilizing a Ukrainian Water Quality Baseline Study, carrying out environmental audits, promoting green technologies, and building capacity in the Zaporizhzhia MEPNS and Vodokanal agency for municipal water management and pollution control.

The EMDU program was experimental in nature and operated as a responsive fund with local management features. In EMDU-1, the program funded about 30 subprojects and included short-term, low-cost, high payoff solutions, and projects that increased communication and information sharing among the key institutions in the sector.

The EMDU program focused on capacity building in national institutions, such as MEPNS, the state committees, the National Academy of Sciences and its research institutes, and the UMC and DRF. It also adopted a regional focus on the southern

Dnipro sub-basin, more precisely on Zaporizhzhia City and oblast, and built capacity in the Zaporizhzhia MEPNS and Vodokanal agency.

Project Performance

The program performed well overall. The results achieved through EMDU include the following:

Impact – Goal level results

The impact of the program in terms of the goal is limited.

The program helped established the basis for collaboration among MEPNS and sector institutions.

The program helped established new institutions and build management capacity for rehabilitating the Dnipro river

The program helped raise the profile of environmental concerns among the Ukrainian public and selected communities.

Outcomes – Objective level results

The outcomes of the program were notable.

- The Ukrainian Management Committee (UMC) was created as the local governing and managing group in the program. It now provides strategic leadership in managing the Dnipro River system.
- The Dnipro Renaissance Fund (DRF) was created to administer financial grants to program beneficiaries. It now has a network of 12 regional offices, carries out a financial role in program, carries out environmental audits, and helped introduce environmental audit standards in legislation.
- The Ministry of Environmental Protection and Nuclear Safety (MEPNS), DRF and participating institutions have increased capacity in project management, financial management, and proposal writing.
- MEPNS, state committees and other institutions have established computer based information networks for managing the Dnipro River (BEMIS and REMIS).
- The Baseline Water Quality Study (BWQS) provided the basis for the preparation of water quality standards and methodologies in an internationally recognized format.
- In Zaporizhzhia, water loss and drinking water quality testing allowed problem areas to be identified, mediation plans implemented, tariffs revised to correspond to the actual water consumed, and the municipal water services generally improved.
- MEPNS and participating Ukrainian institutions have established relationships and in some cases partnerships with IDRC and Canadian organizations.
- The program helped develop the enabling environment by supporting the UMC and DRF, and informing the drafting of the National Plan for the Rehabilitation of the Dnipro River Basin and at least five pieces of environmental legislation.

- By installing water meters in Zaporizhzhia, the Vodokanal identified the level of improvement in water consumption that could be expected. They purchased additional meters and ultimately saw a major impact on the water consumption rates (16% reduction) and wastewater produced.
- The BWQS allowed the MEPNS to identify the major sources of pollution and start work towards reduction in the pollution load discharged to the river.
- IDRC and MEPNS are working together with Russia and Belarus on developing a transboundary GEF project concept for the Dnipro River basin.
- UMA, a Canadian engineering firm, is a partner with the Zaporizhzhia Vodokanal in \$30 million IBRD loan project.
- The City of Edmonton established links and exchanges information with Zaporizhzhia Vodokanal.
- During the "River Cruises" initiated as part of the BWQS, Ukraine scientists and policy makers were placed in a non-threatening environment where they could collaborate and work together.
- IDRC brought in Canadian scientists to work with and advise Ukrainian scientists, counterparts and policy makers.
- The project allowed Ukrainian policy makers and scientists to attend European conferences in Holland and elsewhere.
- The initial GEF project meetings involving Ukraine, Russia, Belarus established Ukraine (MEPNS) as a leader in the initiative with the support of UNDP, IDRC and CIDA.

Outputs – Project deliverables and results

The most impressive results are listed below. *The output-level results of the program were notable.*

- UMC was established as local program management group
- MEPNS and DRF personnel were trained in project and financial management
- BEMIS was established in HydroMet Archive in Kyiv, and REMIS was established in EcoCenter in Zaporizhzhia MEPNS
- DRF was established as a financial institution in Kyiv
- GEF project preparation took among Ukraine, Russia and Belarus,
- Public education materials, including videos and books, were produced and consumed
- BWQS established internationally recognized water quality standards and testing methodologies
- DRF personnel were trained in conducting environmental audits for industry, and three environment audits took place
- A river bank stabilization project not only controlled erosion, but helped establish a responsive approach to public works by involving local residents in decision making process
- Water purification equipment was produced and tested, and reproduced and installed in 30 hospitals, clinic, kindergartens, and primary schools in Kyiv

- Municipal water quality control by Zaporizhzhia Vodokanal helped prevent recontamination of drinking water in the distribution system.

Key Factors Explaining Project Results

The key success factors explaining results include the relevance of the program to stakeholders, the appropriate use of resources, capacities and strategies, the quality of stakeholder partnerships and local participation, and innovation and creativity in approaches to capacity development.

The program remained relevant to the needs and priorities of all major stakeholders in its implementation from 1994 to 1998. It was particularly relevant to Ukrainian leaders who developed laws, standards, decrees, and regulations in environmental management and water quality control as a result of the program. In vetting project proposals and outputs, the UMC ensured the program was consistent with sector plans and use of resources, while the responsive fund allowed implementing organizations to work on priority projects. Canadian investment in the reform process served Canada's priorities in international cooperation with Ukraine, and benefited Canadians working with Ukrainians in the sector.

The program strategy for building environmental management capacity in Ukraine involved a strategic fund with local management features, and local design and delivery of resources and services with Canadian technical support. This generated stakeholder satisfaction with, and commitment to, the intended results and methods used. IDRC's approach was to induce institutional changes through demonstrations using prototypes, dissemination of results and replication of technology. Overall, the program resources, capacities and selected strategies were sensible and sufficient to achieve the intended results.

The program employed management and programming structures to encourage shared ownership and decision making and mutual trust and benefit. Overall, the key stakeholders shared responsibility and accountability for project results, which was a key success factor. They were active in all program stages, and shared a common understanding of objectives, which was reinforced periodically in discussions between IDRC and MEPNS. The program developed a relatively high profile among sector institutions, and various Ukrainians including MEPNS leadership expressed the view that the success of EMDU was due in large part to the IDRC approach, which emphasized partnership, local leadership, and respect for Ukrainian priorities.

Policy Themes and Issues

Canada has positively influenced environmental policy in Ukraine from the start of the EMDU program to the present. Ukrainian partners in EMDU include MEPNS and other high profile government and research institutions in the sector. The program contributed to policy development at national and municipal levels. With support from IDRC and the Canadian Embassy, MEPNS and other Ukrainian partners lobbied against a presidential

decree subjecting foreign donor money to heavy taxation. The government (1) granted an exemption allowing IDRC to move funds through the Dnipro Renaissance Fund on a tax-free basis. The program (2) influenced the direction and wording of the National Plan for the Rehabilitation of the Dnipro River Basin, (3) led to municipal regulations for installing water meters in new housing in Zaporizhzhia, (4) led to standards for environmental audit standards being introduced into law, and (5) led to a presidential decree on the restructuring of information flow among state committees using EMIS.

The impact on policy dialogue is notable. The key success factors that explain the achievement of results include the relevance of the program to local stakeholders, the quality of the partnerships and participation, and innovation and creativity in the use of demonstration projects, the dissemination of results, and replication of technologies. The MEPNS-IDRC partnership has worked out well, and provided some leverage for Canadians investing in the sector.

Lessons and Recommendations

Lesson 1 – Enabling Environment

The quality of partnerships and participation and how these relationships are managed are key to strengthening enabling environments. The EMDU demonstrated that the quality of these relationships are based on the commitment of local stakeholders.

Recommendation 1

CIDA should continue to support partnership building, local ownership, and the demonstration project approach in developing the enabling environment in Ukraine.

Lesson 2 – Gender Equality

Gender results are achieved in specific country and cultural contexts when the best practices in development thinking occur. This includes local participation and ownership of the process started very early in the project.

Recommendation 2

CIDA should develop context specific strategies to promote local participation and ownership of the process for achieving results in gender equality.

Lesson 3 – EMDU Program Management Costs

The program should identify the expected return on CIDA's investment in EMDU, and estimate the impact on results of reducing CIDA's investment in program management. As this data was not available, CIDA and IDRC lacked investment data upon which to make decisions about changes to the program management structure.

Recommendation 3

CIDA should develop a methodology for estimating return on investment in management so that investment benchmarks may be developed to replace benchmarks in management costs.

Lesson 4 – Ukrainian Reform

CIDA projects in CEE countries, such as the Ukraine, must remain responsive to changing demands. The management, administrative and governing structures in post-Soviet Ukraine are undergoing a steady and fundamental change.

Recommendation 4

CIDA should continue to support EMDU-type responsive funds with local management features for use in programming that supports Ukrainian reform.

Lesson 5 – Ukrainian Management Capacity Building

The program successfully increased management capacity in targeted Ukrainian institutions, and improved information management and communications in the sector. The program was successful in this regard because capacity building was relevant to local stakeholders, took place in a context of mutual respect and trust, and employed appropriate resources and strategies in the context.

Recommendation 5

CIDA should continue to support management capacity building in Ukraine through project environments such as EMDU that create the right conditions for the process.

Lesson 6 – EMDU Demonstration Project Approach

The program results in the enabling environment, partnership building, and impact on policy dialogue, as well as project activities for water pollution control, were achieved with the support of demonstration projects, dissemination of results, and replication of technologies.

Recommendation 6

CIDA should continue to support the demonstration project approach as a means of achieving objectives for enhancing the enabling environment and influencing the policy dialogue in Ukraine.

Lesson 7 - Sustainability

Long-term investments and partnerships are necessary to achieve results in capacity building, creating an enabling environment or achieving results at the impact level.

Recommendation 7

CIDA should continue support EMDU-2 and reasonable extensions of other successful projects to allow personal trust and respect to develop between the Ukrainian and Canadian stakeholders.

Lesson 8 - Risk Management

Risks should be identified early in the project and then monitored on a regular (monthly) basis.

Recommendation 8

Identified potential risks should be monitored as the project progresses. Early recognition and a prepared course of action could help reduce the productive project time lost to correct the situation.

Conclusion

The EMDU-1 program straddled the line between an infrastructure services (IS) project and an environmental sector project. EMDU-1 made substantial contributions to developing the enabling environment and building environmental management capacity. The program also resulted in good quality relationships among Canadian and Ukrainian institutions, and had a strong influence on the policy dialogue process in the country. All stakeholders had a positive opinion of the results and achievements of the project.

IDRC's approach was responsive to the needs of the country. The Ukrainian partners valued the confidence, trust and respect shown by IDRC, CIDA and Canadian. They recognize that EMDU brought together the Ukrainian institutions in the sector, and allowed Ukrainians to participate as leaders in international fora on water quality standards and methodologies. Ukrainian Implementing Organizations could demonstrate achievements and on-going activities accomplished as a result of EMDU-1 funding.

Sommaire

Introduction

Ce rapport a pour but de résumer les conclusions d'une évaluation réalisée pour le projet de développement de la gestion environnementale en Ukraine (EMDU-1). Cette évaluation fait partie d'une série d'études exécutées à la demande de la Direction de la revue de rendement de l'ACDI, dans le cadre d'un examen thématique de la programmation des services d'infrastructure à l'échelle de l'agence. L'évaluation a débuté en mars 1999 et le travail sur le terrain a été exécuté en avril. Le rapport final a été présenté en septembre 1999. Les données ont été recueillies par le biais de l'analyse de documents, d'entrevues auprès des personnes-ressources, d'entrevues de groupe et de visites sur le terrain. La participation de huit personnes au Canada et de 40 personnes en Ukraine a été sollicitée au cours de l'étude.

Contexte de développement

Parmi les 175 pays évalués à travers le monde, l'Ukraine se situe en 95^e position selon l'indice du développement humain. Les principaux indicateurs du développement humain en Ukraine pour l'année 1998 sont les suivants :

- population de 50,5 millions d'habitants
- taux d'alphabétisation de 100 % chez les hommes et de 97% chez les femmes
- PIB de 2 493\$ par personne
- espérance de vie de 65,8 ans
- taux de croissance naturelle négatif à - 6,2 %

Les principes du projet de l'ACDI en Ukraine mettent l'accent sur le processus de la réforme. Ils comprennent le soutien de la transition vers une économie de marché, la promotion d'une gestion publique démocratique et saine et l'accroissement des liens d'échange et d'investissement entre le Canada et l'Ukraine. Le Canada soutient le projet EMDU et la mise en valeur du potentiel des institutions du secteur environnemental en Ukraine depuis 1993.

Description du projet

La première phase du projet EMDU a débuté en 1994 et s'est achevée en 1997. L'ACDI a consacré 4 829 200 \$ à la réalisation du projet. Le projet, axé sur la remise en valeur de la principale ressource hydrique d'Ukraine, le système du fleuve Dniro, a utilisé une approche à multiples facettes pour favoriser la mise en valeur du potentiel de gestion environnementale au sein des ministères, institutions de recherche, services municipaux, organisations à caractère éducatif et ONG en Ukraine. Le Bureau pour les initiatives en Europe centrale et de l'est (OCEEI), au sein du Centre de recherches pour le développement international (CRDI), a assuré la mise en œuvre du projet en partenariat avec le ministère ukrainien de la Protection de l'environnement et de la Sûreté nucléaire

(MEPNS), différents Comités d'État, la National Academy of Sciences et d'autres institutions de recherches et organismes de secteur.

Le but du projet consistait à contribuer à la remise en valeur de l'environnement du système du fleuve Dnipro, grâce aux efforts concertés des institutions et organisations de l'Ukraine, du Canada et d'autres pays. Le projet visait quatre grands objectifs:

- accroître la capacité des institutions ukrainiennes à gérer le système du fleuve Dnipro, particulièrement à l'égard de la qualité des eaux;
- identifier des méthodes de réduction de la pollution des eaux dans le fleuve Dnipro, particulièrement dans la région de Zaporizhzhia;
- favoriser l'établissement de relations à long terme entre les organismes environnementaux publics et privés du Canada et de l'Ukraine; et
- encourager les échanges d'information et d'expertise entre les scientifiques et les décideurs ukrainiens, et les scientifiques et décideurs d'autres pays.

Le projet a deux grands volets -- la remise en valeur du potentiel de gestion et le contrôle de la pollution des eaux -- touchant à sept secteurs d'activité.

Le projet EMDU-1 a été élaboré pour contribuer à la remise en valeur de l'environnement des principales ressources hydriques d'Ukraine, le fleuve Dnipro et son bassin. Lancé en avril 1994 et achevé en 1998, le projet a nécessité un investissement global d'environ 5,8 millions \$. Le projet EMDU-1 comportait deux volets:

- *Volet I - Remise en valeur du potentiel de gestion environnementale*
Ce volet portait sur différentes faiblesses institutionnelles et structurelles du système de protection de l'environnement en Ukraine. Il comportait un programme de formation du MENPS destiné aux gestionnaires et techniciens de l'environnement, et un programme de soutien technique à la conception et au développement des systèmes d'information sur la gestion de l'environnement utilisés par plusieurs organismes ministériels nationaux et régionaux. Le volet I touchait également les politiques et l'éducation du public, ainsi que le développement de la capacité de gestion financière au sein du DRF.
- *Volet II - Contrôle de la pollution des eaux*
Ce volet portait sur la réduction de la pollution des eaux dans le bassin du fleuve Dnipro par la mise en œuvre de projets-pilotes, utilisant de nouvelles pratiques de gestion et des innovations technologiques sélectionnées afin de contrôler les sources de pollution hydrique industrielles et publiques. Les grandes lignes du volet ont été fondées sur une étude de base sur la qualité des eaux en Ukraine, des consultations environnementales, la promotion des technologies vertes et la mise en valeur du potentiel du MEPNS de Zaporizhzhia et de l'agence Vodokanal pour la gestion des eaux municipales et le contrôle de la pollution.

De nature expérimentale, le projet EMDU a fonctionné à partir d'un investissement réceptif et des installations de gestion locales. EMDU-1 a permis de financer environ 30 sous-projets, dont des projets à court terme et à moindre coût, des solutions déterminantes et d'autres projets qui ont accru la communication et le partage de l'information entre les grandes institutions du secteur.

Le projet EMDU a mis l'accent sur la remise en valeur du potentiel des institutions nationales, dont le MEPNS, les Comités d'État, la National Academy of Sciences et ses instituts de recherche, l'UMC et le DRF. Il a été axé sur l'approche régionale, soit le sous-bassin Sud du Dnipro, particulièrement la ville de Zaporizhzhia et l'oblat. Le projet a permis de mettre en valeur le potentiel du MEPNS de Zaporizhzhia et de l'agence Vodokanal.

Rendement du projet

Le projet a atteint un bon rendement dans l'ensemble. Voici une description des résultats obtenus par l'entremise du projet EMDU.

Impact - Résultats en fonction du but

L'impact du projet en fonction du but initial est limité.

- Le projet a contribué à jeter les bases de la collaboration entre le MEPNS et les institutions du secteur.
- Le projet a contribué à établir de nouvelles institutions et à mettre en valeur le potentiel de réhabilitation du fleuve Dnipro.
- Le projet a contribué à accroître l'intérêt du public ukrainien et des communautés sélectionnées envers les questions environnementales.

Aboutissements - Résultats en fonction des objectifs

Les aboutissements du projet sont remarquables.

- Le Comité de gestion ukrainien (UMC) a été créé pour assumer la direction et la gestion locales du projet. Il assure aujourd'hui le leadership stratégique de la gestion du système du fleuve Dnipro.
- Le Fonds de renaissance du Dnipro (DRF) a été créé pour administrer les subventions financières remises aux bénéficiaires du projet. Le DRF regroupe 12 bureaux régionaux, joue un rôle important dans le projet au point de vue financier, organise des consultations environnementales et contribue à définir les normes environnementales à intégrer à la loi.
- Le ministère de la Protection de l'environnement et de la Sécurité nucléaire (MEPNS), le DRF et les institutions participantes œuvrent avec une énergie accrue à la gestion du projet, à la gestion financière et à l'élaboration des propositions.

- Le MEPNS, les Comités d'État et d'autres institutions ont implanté des réseaux d'information sur ordinateur pour optimiser la gestion du fleuve Dniro (BEMIS et REMIS).
- L'étude de base sur la qualité des eaux (BWQS) a permis de recueillir les données de base permettant d'élaborer, sous une forme reconnue à l'échelle internationale, les normes et les méthodologies sur la qualité des eaux.
- À Zaporizhzhia, les tests sur les pertes en eau et la qualité de l'eau potable ont permis de localiser les secteurs à problème, de mettre en œuvre les plans de médiation et de revoir les tarifs pour les faire correspondre à la consommation hydrique réelle. La qualité des services municipaux des eaux a été améliorée de façon générale.
- Le MEPNS et les institutions ukrainiennes participantes ont établi des liens et, dans certains cas, une relation de partenariat, avec le CRDI et les organismes canadiens.
- Le projet a contribué au développement d'un environnement favorable au soutien de l'UMC et du DRF, ainsi qu'à l'élaboration du Plan national pour la réhabilitation du bassin du fleuve Dniro et d'au moins cinq textes de loi sur l'environnement.
- En installant des humidimètres à Zaporizhzhia, le Vodokanal a pu évaluer le taux d'amélioration prévisible de la consommation d'eau. Le Vodokanal a acheté d'autres humidimètres et a finalement constaté un impact important sur les taux de consommation d'eau (réduction de 16 %) et sur la production des eaux usées.
- L'étude BWQS a permis au MEPNS d'identifier les principales sources de pollution et de commencer à œuvrer pour la réduction de la quantité des eaux polluées déversées dans le fleuve.
- Le CRDI et le MEPNS travaillent de concert avec la Russie et le Bélarus pour développer un projet GEF transfrontalier sur le bassin du fleuve Dniro.
- UMA, une firme d'ingénierie canadienne, a conclu une entente de partenariat avec le Vodokanal de Zaporizhzhia, incluant un prêt BIRD de 30 millions \$.
- La ville d'Edmonton entretient des relations et pratique l'échange d'information avec le Vodokanal de Zaporizhzhia.
- Pendant l'événement « River Cruises », lancé dans le cadre de l'étude BWQS, les scientifiques et les décideurs ukrainiens ont été réunis dans un environnement non menaçant, favorisant la collaboration et le travail d'équipe.
- Le CRDI a invité des scientifiques canadiens à se joindre aux scientifiques et aux décideurs ukrainiens pour les faire profiter de leur expertise.
- Le projet a permis aux décideurs et aux scientifiques ukrainiens de participer à des congrès en Europe, en Hollande notamment, et dans d'autres pays.
- Lors des premières réunions du GEF, qui ont rassemblé des représentants de l'Ukraine, de la Russie, du Bélarus, l'Ukraine (MEPNS) a été choisie comme leader des initiatives, avec le soutien du PNUD, du CRDI et de l'ACDI.

Aboutissements - Réalisations attendues et résultats

Les résultats les plus impressionnants figurent ci-dessous. *Les aboutissements du projet sont remarquables.*

- L'UMC est devenu le groupe de gestion du projet à l'échelle locale.
- Le personnel du MEPNS et du DRF a reçu une formation en gestion de projet et gestion financière.
- Le système BEMIS a été intégré aux archives de Hydromet à Kyiv et le système REMIS a été intégré à l'EcoCentre du MEPNS à Zaporizhzhia.
- Le DRF est devenu une institution financière à Kyiv.
- La préparation du projet GEF a réuni des représentants de l'Ukraine, de la Russie et du Bélarus.
- Du matériel d'information destiné au public, notamment des vidéos et des ouvrages, a été produit et distribué.
- L'étude BWQS a mené à la définition de normes et de méthodologies de test reconnues à l'échelle internationale.
- Le personnel du DRF a reçu la formation nécessaire pour mener des consultations environnementales dans l'industrie. Trois de ces consultations ont déjà eu lieu.
- Un projet de stabilisation des rivages du fleuve a permis non seulement de contrôler l'érosion, mais aussi de susciter une approche réceptive envers les travaux publics grâce à l'implication de la population locale dans le processus de prise de décision.
- Des dispositifs de purification de l'eau ont été construits, testés, reproduits et installés dans 30 hôpitaux, cliniques, garderies et écoles primaires à Kyiv.
- Le contrôle de la qualité des eaux municipales effectué par le Vodokanal de Zaporizhzhia a contribué à prévenir la recontamination de l'eau potable dans le réseau de distribution d'eau.

Grands facteurs d'influence sur les résultats du projet

Les grands facteurs qui ont contribué à la réussite du projet sont la pertinence du projet aux yeux des intervenants, l'utilisation appropriée des ressources, des capacités et stratégies, la qualité des liens de partenariat entre les intervenants et les participants locaux, ainsi que le sens de l'innovation et la créativité des approches utilisées pour la remise en valeur du potentiel.

Le projet a conservé son caractère utile en fonction des besoins et priorités des grands intervenants du début à la fin, soit de 1994 à 1998. Il était particulièrement utile pour les leaders ukrainiens en leur fournissant les bases nécessaires pour élaborer des lois, des normes, des décrets et des règlements sur la gestion environnementale et le contrôle de la qualité des eaux. Lors de la préparation des propositions et des aboutissements du projet, l'UMC s'est assuré que le projet était adéquat compte tenu des plans de secteur et de

l'utilisation des ressources. Le financement réceptif a permis aux organismes responsables de la mise en œuvre d'axer leurs efforts sur les projets les plus importants. L'investissement canadien dans le processus de réforme a servi les priorités du Canada en matière de coopération internationale avec l'Ukraine et a été profitable pour les Canadiens travaillant avec les Ukrainiens dans ce secteur.

La stratégie du projet, en ce qui a trait à la mise en valeur du potentiel de gestion environnementale en Ukraine, a utilisé l'investissement stratégique dans les installations de gestion locales, ainsi que la conception et l'approvisionnement locaux des ressources et des services avec le soutien technique du Canada. Ceci a assuré la satisfaction et l'engagement des intervenants envers les réalisations attendues et les méthodes utilisées. L'approche du CRDI a consisté à encourager des changements institutionnels par l'entremise de projets-pilotes utilisant des prototypes, la dissémination des résultats et la réplication des technologies. Dans l'ensemble, les ressources, les capacités et les stratégies sélectionnées pour le projet ont été adéquates et suffisantes pour atteindre les objectifs prévus.

Le projet a utilisé des structures de gestion et de programmation incitant à une responsabilisation et aux prises de décision partagées, à la confiance et aux bénéfices mutuels. De façon générale, les grands intervenants ont partagé les responsabilités et les engagements à l'égard des résultats du projet, ce qui a été un des grands facteurs de sa réussite. Ils ont été actifs à toutes les phases du projet et sont parvenus à une compréhension mutuelle des objectifs, régulièrement renforcée lors des discussions entre le CRDI et le MEPNS. Le projet a permis de développer une présence relativement importante parmi les institutions sectorielles et de nombreux Ukrainiens, notamment parmi la direction du MEPNS, ont exprimé le point de vue que le succès du projet EMDU a découlé en grande partie de l'approche utilisée par le CRDI, qui a mis l'accent sur le partenariat, le leadership local et le respect des priorités des Ukrainiens.

Thèmes et enjeux politiques

Le Canada a exercé une influence positive sur la politique environnementale en Ukraine depuis le lancement du projet EMDU jusqu'à aujourd'hui. Les partenaires ukrainiens du projet EMDU incluent le MEPNS et d'autres instances gouvernementales et institutions de recherche importantes du secteur. Le projet a contribué à l'élaboration de la politique à l'échelle nationale et régionale. Avec le soutien du CRDI et de l'Ambassade du Canada, le MEPNS et d'autres partenaires ukrainiens ont fait pression contre un décret présidentiel qui avait pour effet d'assujettir les subventions étrangères à une lourde taxation. Le gouvernement (1) a accordé une exemption qui a permis au CRDI de transférer des fonds détaxés par l'entremise du Fonds de renaissance du Dnipro. Le projet (2) a influencé la direction et l'élaboration du Plan national de réhabilitation du bassin du fleuve Dnipro, (3) mené à la définition de règlements municipaux sur l'installation des humidimètres dans les nouveaux logements de Zaporizhzhia, (4) mené à l'élaboration de normes sur la conduite des consultations environnementales, normes qui seront intégrées à la loi, et (5) mené à la promulgation d'un décret présidentiel sur la restructuration de l'échange d'information entre les Comités d'État qui utilisent EMIS.

L'impact du projet sur le plan politique est remarquable. Les facteurs-clés de l'attente des résultats prévus sont la pertinence du programme aux yeux des intervenants locaux, la qualité des relations de partenariat et de la participation, l'innovation et la créativité dans l'utilisation de projets-pilotes, la dissémination des résultats et la réplication des technologies. Le lien de partenariat entre le MEPNS et le CRDI a été bénéfique et continuera d'avoir des retombées positives pour les Canadiens qui investissent dans le secteur.

Leçons et recommandations

Leçon 1 - Environnement favorable

La qualité des relations de partenariat et de participation, et la façon dont ces relations sont gérées, sont les clés de la création d'un environnement favorable. Le projet EMDU a permis de démontrer que la qualité de ces relations est fondée sur l'engagement des intervenants locaux.

Recommandation 1

L'ACDI doit continuer à soutenir la création de relations de partenariat, à susciter l'engagement à l'échelle locale et à utiliser l'approche du projet-pilote pour favoriser l'établissement d'un environnement favorable en Ukraine.

Leçon 2 - Égalité des sexes

Les rapports d'égalité entre les sexes peuvent être établis dans des pays et des contextes culturels spécifiques par l'approche consistant à utiliser les meilleures pratiques de développement. Ceci requiert la participation et la responsabilisation à l'échelle locale, et doit être entrepris dès le début du projet.

Recommandation 2

L'ACDI doit développer des stratégies spécifiques selon le contexte pour promouvoir la participation et la responsabilisation locales à l'égard du projet pour atteindre ses objectifs en ce qui a trait à l'égalité des sexes.

Leçon 3 - Coûts de gestion du projet EMDU

Le projet EMDU doit comprendre l'évaluation du rendement attendu sur l'investissement de l'ACDI et de l'impact que peut avoir la diminution de l'investissement de l'ACDI dans la gestion du projet sur les résultats prévus. Ces données n'étant pas disponibles, l'ACDI et le CRDI ont manqué d'information d'investissement, information sur laquelle les deux organisations auraient pu s'appuyer pour prendre des décisions à l'égard des changements à apporter à la structure du projet.

Recommandation 3

L'ACDI doit développer une méthodologie permettant d'évaluer le rendement attendu sur l'investissement de façon à ce que des données repères d'investissement remplacent les données repères des coûts de gestion.



Leçon 4 - Réforme en Ukraine

Les projets de l'ACDI dans les pays de la CEE, dont l'Ukraine, doivent tenir compte des demandes changeantes. Les structures de gestion, d'administration et de régie dans l'Ukraine post-soviétique continuent de changer selon un rythme constant et fondamental.

Recommandation 4

L'ACDI doit continuer à soutenir des fonds réceptifs du type EMDU en misant sur les installations de gestion locales pour contribuer à la réforme en Ukraine.

Leçon 5 - Mise en valeur du potentiel de la gestion en Ukraine

Le projet a contribué avec succès à la mise en valeur du potentiel de gestion dans les institutions ukrainiennes visées. Il a augmenté la qualité de la gestion de l'information et des communications dans ce secteur. Le projet a été une réussite à cet égard parce que la mise en valeur du potentiel de gestion était importante aux yeux des intervenants locaux. Le projet a été réalisé dans un climat de confiance et de respect mutuels; il a utilisé les ressources et les stratégies appropriées compte tenu du contexte.

Recommandation 5

L'ACDI doit continuer de soutenir la mise en valeur du potentiel de gestion en Ukraine en créant des environnements de travail comme celui du projet EMDU, qui favorise l'établissement de conditions favorisantes.

Leçon 6 - Approche des projets-pilotes EMDU

Les résultats du projet, dont la création d'un environnement favorable, l'établissement de relations de partenariat et l'impact sur les décisions politiques, de même que le volet du projet consacré au contrôle de pollution des eaux, ont pu être atteints grâce à l'approche constituant à utiliser des projets-pilotes, à disséminer les résultats et à reproduire les technologies.

Recommandation 6

L'ACDI doit continuer à soutenir l'approche des projets-pilotes, qui constituent une stratégie efficace pour atteindre les objectifs prévus, en ce qui a trait notamment à un environnement favorable et à une influence positive sur les décisions politiques en Ukraine.

Leçon 7 - Viabilité

Les investissements et les relations de partenariats à long terme sont nécessaires pour parvenir à la mise en valeur du potentiel de gestion, à la création d'un environnement favorable ou à l'atteinte de l'impact désiré.

Recommandation 7

L'ACDI doit continuer à soutenir le projet EMDU-2 et la prolongation raisonnable d'autres projets réussis afin de favoriser l'émergence de la confiance et du respect mutuels entre les intervenants ukrainiens et canadiens.

Leçon 8 - Gestion des risques

Les risques doivent être identifiés au début du projet et surveillés sur une base régulière (mensuelle).

Recommandation 8

Les risques éventuels identifiés doivent être surveillés au fur et à mesure du déroulement du projet. Si cela est fait de façon précoce, l'identification des risques éventuels et l'élaboration des mesures à prendre peuvent contribuer à réduire les pertes de temps reliées à la correction de la situation.

Conclusion

EMDU-1 a été à la fois un projet sur les services d'infrastructure (SI) et un projet du secteur environnemental. EMDU-1 a apporté une contribution considérable au développement d'un environnement favorable et à la mise en valeur du potentiel de gestion. Le projet a également permis d'établir de bonnes relations entre les institutions canadiennes et ukrainiennes. Il a exercé une influence positive sur les processus d'établissement des politiques dans le pays. Tous les intervenants ont exprimé une opinion positive sur les résultats et les aboutissements du projet.

L'approche utilisée par le CRDI a été fondée sur les besoins du pays. Les partenaires ukrainiens ont apprécié la confiance et le respect démontrés par le CRDI, l'ACDI et les Canadiens. Ils reconnaissent l'apport du projet EMDU dans le rapprochement des institutions ukrainiennes du secteur. Ils ont aussi apprécié que les Ukrainiens aient été invités à participer à titre de leaders dans un forum international sur les normes et méthodologies liées à la qualité des eaux. Les organismes ukrainiens de mise en œuvre peuvent faire la démonstration des réalisations et des activités continues qui ont été rendues possibles grâce à l'investissement du projet EMDU-1.

1. Introduction

1.1. Project Background

The Government of Canada has provided financial assistance to Ukraine beginning in 1993. CIDA contributed \$4,829,200 to the Environmental Management Development in Ukraine (EMDU) program in the first phase from 1994 to 1997. The program focused on the environmental rehabilitation of Ukraine's primary water resource, the Dnipro River system, and pursued a multi-faceted approach to environmental management capacity building in relevant Ukrainian ministries, research institutions, municipal departments, educational organizations and NGOs. The Office for Central and Eastern Europe Initiatives (OCEEI) in the International Development Research Centre (IDRC) implemented the program in partnership with the Ukrainian Ministry for Environmental Protection and Nuclear Safety (MEPNS), various State Committees, the National Academy of Sciences, and other research institutes and sector organizations.

The EMDU program began a second phase in 1998. At this point, EMDU became known as EMDU-1 and the second phase became EMDU-2.

1.2. Purpose of the Evaluation

The purpose of the evaluation was to assess the outcomes of the Environmental Management Development in Ukraine (EMDU). The evaluation was one of a series of studies commissioned by CIDA's Performance Review Branch as part of an agency-wide thematic review of programming in infrastructure services.

The evaluation was also intended to provide information on program performance and results to EMDU stakeholders in CIDA's Central and Eastern Europe (CEE) Branch and the implementing agencies. This was the first external evaluation of EMDU, and the final evaluation report was submitted to CIDA in June 1999.

1.3. Evaluation Team

The Cowater evaluation team consisted of two consultants: Mr Doug McRae, the team leader and specialist in water/wastewater and water resources, and Mr Peter Bracegirdle, a senior evaluator.

1.4. Methodology

The evaluation was designed to produce information on performance and results in the management and implementation of the EMDU-1. The evaluation issues addressed were those contained in CIDA's *Framework of Results and Key Success Factors* and outlined in the ISPR Terms of Reference (TORs). The evaluators were guided in their approach by the Review's *Evaluation Methodology Workbook*.



The basic approach was to review the full range of project documents, and interview the key project stakeholders in Canada and Ukraine. The idea was to examine project performance and results in strengthening environmental management in MEPNS, and the results achieved by Ukrainian government departments, research institutions, educational organizations, and NGOs in implementing the EMDU-1 projects in Kyiv and Zaporizhzhia.

The evaluation lasted four months and took place in two phases. Phase One, the *Desk Review*, was designed to produce an evaluation Work Plan that contained information on program background and results, the evaluation methodology, and the issues raised in documents and interviews. To complete the work plan, the evaluators reviewed the essential project documentation and reports, developed the evaluation methods, data management tools, and data collection instruments, interviewed eight project stakeholders in Canada, including CIDA staff and monitors, and IDRC personnel, and prepared the work plan for Phase Two of the evaluation

Phase Two, the *Field Mission*, was designed to produce the evaluation report. To complete this work, the evaluators

made site visits to 17 organizations in Ukraine, and interviewed 40 project stakeholders in MEPNS and selected Ukrainian Implementing Organizations (UIO) in Kyiv and Zaporizhzhia, as well as the Canadian Embassy, selected donor agencies, and the IDRC program office in Kyiv, reviewed further documentation on the program and development context, analyzed the data and identified evaluation findings, prepared a draft report and shared the evaluation findings and data, and incorporated the stakeholders' feedback into a final evaluation report.

1.5. Limitations

EMDU-1 started under DFAIT and was later transferred to CIDA. The program did not comply with CIDA's Results Based Management policies, and performance indicators for the achievement of results at the output, purpose and goal levels were not established. The evaluation could not measure actual results against expected results as stated in a program logical framework analysis (LFA). Instead, we examined the results achieved in 15 of the sub-projects which formed the EMDU program, and assessed performance against reasonable expectations.

I RATIONALE

2. Development Context

2.1. Human Development

In 1995, Ukraine was ranked 54th of 174 countries in the UNDP Human Development Index. Within three years, the country had slipped to 95th position in the UN ranking but has started to stabilize. When the economy tumbled, Ukrainian standards of living fell with it. The economic situation facing government departments and research institution in the environmental sector was a major constraint to achieving results through the EMDU program. Table 2.1 presents statistical data on indicators of human development in Ukraine.

Table 2.1 - Basic Facts about Ukraine

Indicators	Statistical Data		
UNDP Human Development Index	1995: 54 of 174 countries	1998: 95 out of 175 countries	1999: 91 out of 174 countries
Population and Growth Rate	50,125,108 (July 1998 est.)	Natural Growth Rate -6.2% (1998 est.)	
Life expectancy at birth	Total pop.: 68.8 yr.	• Male: 63.8 years • Female: 73.7 years	
Birth Rate and Fertility Rate	9.53 births/1,000 population (1998 est.)	1.35 children born/woman (1998 est.)	
Population Density and Distribution	Persons/sq. km (1994 est.)	• Rural population: 32% • Urban population: 68%	
Literacy Rate	Total population: 99% (1997)	• Male: 100% • Female: 97%	

Sources: CIA Fact Book, Ukraine; UNDP Human Development Index 1993, 1994, 1998 and 1999.

2.2. Social and Economic Inequality

As noted previously, Ukraine was ranked 91 out of 174 countries evaluated. The real GDP is \$2190.00 per capita annually with 63% below the established poverty line of \$14.40 per day. The GDP growth is still negative at -3.2% per year (1997 data). The average rate of change was -8.3% between 1975 & 1997. The country has a large percentage of its population that could be classified as poor and whose income is based on agriculture. The power is held in the hands of a small group at the top end of the economic scale.

Women share more or less, equal opportunities at the junior levels. As they marry and have families, of necessity, their focus changes to providing for their family not on their outside careers. The economic situation in Ukraine makes this is fulltime and time consuming job leaving little time for careers in the corporate world.



2.3. The Role of Government

The Ukrainian Ministry of Environmental Protection and Nuclear Safety (MEPNS) is the central government institution in the environmental sector, and the Ukrainian partner in the EMDU program. In collaboration with sector research institutes, the ministry developed the National Plan for the Rehabilitation of the Dnipro River Basin in 1992-94. The plan brought a focus to the research and management activities related to the river. The ministry and institutes also work together in the Ukrainian Management Committee, which select projects for EMDU funding. Through MEPNS and the UMC, EMDU-1 programming was linked to the National Plan.

The Ukrainian government's commitment to improving environmental conditions should be seen in the context of other domestic needs and problems. The government faces stronger pressure to invest scarce resources in other economic and social activities to address the more immediate hardships facing Ukrainians. As much as the Ukraine government tries to improve environmental conditions, the pressure of economic needs tends to shape overall thinking and activity.

Ukraine, Russia and Belarus – the three Dnipro riparian countries – are preparing for implementing a joint Strategic Action Program for the Dnipro River Basin. They are seeking financing through the UN's Global Environment Facility (GEF) program. The Ukraine government has revised the National Plan to reflect transboundary concerns, and presented IDRC as a preferred implementing organization for the GEF project. The injection of GEF funds into managing the Dnipro River Basin should yield many needed results, and enhance Canada's ongoing investments in the Ukrainian environment.

2.4. The Role of Foreign Donors

As domestic resources have become scarcer, the foreign donor community has taken on a larger role in Ukrainian development. In 1994, Ukraine received about \$220 million in official development assistance, which comprised 0.4% of the gross domestic product, or the same relative amount as Thailand.

The World Bank, the European Union, UNDP and bilateral donor agencies such as USAID are active in the environmental sector in the country. Most donors have projects with MEPNS. UNDP has formed a donor working group for the sector, and the World Bank, EBRD, USAID and UNDP show interest in further co-operation with EMDU and other programming. The GEF project proposal has enhanced the level of communication between UNDP, IDRC and CIDA. Canada enjoys a high profile in the sector through the EMDU program.

The World Bank report, *Ukraine – Suggested Priorities for Environmental Protection and Natural Resource Management* (1998) describes the existing institutional base for environmental management. It suggests ways to strengthen the institutional and regulatory framework, and goes into some depth about water regulatory programs. It

focuses on environmental issues related to industry, and discusses the electric power industry and the legacy of Chernobyl.

Selected Water and Environmental Management Projects in the Ukraine:

Project: Ukraine – Municipal Water and Wastewater Project (Odessa and Lviv)

Donors: World Bank, SIDA

Sector: Urban water

Budget: \$24.0 million USD

Description:

The project (in preparation) will focus on institutional reorganization and strengthening of water and wastewater enterprises in Odessa and Lviv, investments in water and wastewater infrastructure, engineering services and environmental activities.

Project: Ukraine – Hydropower Rehabilitation and System Control Project

Donor: World Bank

Sector: Hydro Electric Power

Budget:

Description:

The project (in preparation) aims to improve the efficiency, reliability, safety and environmental performance of hydropower plants, and increase hydropower generation capacity in the Ukraine. It involves implementing rehabilitation programs for the Dnipro I and II hydropower plants and the Kyiv pump storage plant, as well as the Kakhovka hydropower station, and the Kyiv, Kanev, Kremenchug and Dniprodzerzhinsk hydropower plants.

Project: Environmental Management Development in Ukraine – Phase II
Donor: CIDA
Sector: Environmental Management
Budget: \$4,208,000

Description:

The three-year program (1997-2000) supports Ukraine in its efforts to clean up the Dnipro River through changes in practices and technology used at the municipal level and in industry, while insuring co-ordination at the national level. It focuses on improved management and technology in municipal water supply and sewer utilities, research into current landfill and recycling practices, environmental audits for management and technological changes for cleaner production in industries, and building links between national and local government bodies.

Project: Rehabilitation of Hydro Power Plants - Phase II
Donor: CIDA
Sector: Power
Budget: CIDA Contribution: \$2,701,198

Description:

The two-year project (1996-98) assists the Dnipro Hydro Energo Company (DHE) and the National Dispatch Centre (NDC) to complete the procurement phase and prepare their personnel to execute the implementation phase of the World Bank Hydropower Rehabilitation and System Control Project in Ukraine.

2.5. The Role of Non-Governmental Organizations

The Dnipro Renaissance Fund (DRF) is a local NGO that was created in 1995 through the efforts of MEPNS and other research institutions involved in EMDU programming. The DRF was designed to administer donor funding to Ukrainian organizations and institutes. It has since opened 12 regional offices in Ukraine, and it conducts environmental audits in Kyiv and Zaporizhzhia for the program. The results of the program through the DRF were significant.

The program also worked with Green TV Studio, which produced three videos on the Dnipro River that were shown on Ukrainian television and in schools and community centres. The number of NGOs is growing, and NGOs are playing an increasing role in the environmental sector. The line between NGO and government is sometimes blurred.

2.6. The Role of the Private Sector

The program was targeted at private sector enterprises through the Environmental Audit and Green Technology activities. In the end, the private sector did not play a significant role in the program, even though the DRF carried out environmental audits in three industries. The private sector in the Ukraine is underdeveloped and experiencing money problems.

2.7. The Infrastructure Context

Basic physical infrastructure services exist in Ukraine in the water sector. The institutional development and management of the organizations responsible for delivering those services were the area(s) that were targeted for assistance. The main issues were lack of communication and co-ordination between institutions and agencies and overlapping responsibilities resulting in a waste of effort and resources. Some sections of physical infrastructure were also in need of repair and upgrading.

3. CIDA's Policy in Ukraine and the Region

3.1. Canadian Policy and Programming Priorities in the CEE Region

The CEE program mission is to support democratic development and economic liberalization in Central and Eastern Europe and the former Soviet Union by building mutually beneficial partnerships. The program objectives are to assist the transition to market economies, to facilitate Canadian trade and investment links with the region, and to encourage good governance, democracy and adherence to international norms. These priorities are consistent with Canadian foreign policy objectives in the region.

The guiding principle in the CEE program is supporting the reform process leading to democratic government and a market economy. The program therefore works in partnership with an array of local institutions. The program tends to support small, quick and administratively light projects, and sustainability is measured in terms of how projects continue to advance the dynamics of reform after they have ended.

3.2. CIDA's Country Policy and Programming Framework in Ukraine

CIDA released its programming strategy for Ukraine in January 1997. The document confirms that Canada's policy objectives for the CEE region (as stated above) continue to guide CIDA's strategy, programming policy, and project selection in Ukraine. Since 1993, Ukraine programming has received over one-third of the total value of the Canadian co-operation program with countries of the former Soviet Union, and nearly twenty per cent of all assistance provided to countries in Central and Eastern Europe.

As with the CEE program generally, CIDA places emphasis on projects that have a significant positive impact on the process of reform in Ukraine. CIDA supports projects that give rise directly to additional reform, or that increase the capacity of institutions and organizations to take advantage of opportunities created by reforms begun elsewhere. The program gives the energy sector a high priority in Ukraine. CIDA continues to adhere to the priorities set by the G-7 in its multilateral initiatives, including initiatives related to the closure of the Chernobyl nuclear power plant.

The CIDA programming strategy in Ukraine is intended to achieve results that promote reform. In the short-term and medium-term, this could mean that Ukrainian institutions adopt new legislation, regulations, or policies that directly promote reform, or contribute to improving the enabling environment. It could also mean that Ukrainian public agencies and departments adopt rules and practices that provide for greater transparency, accountability, and equity in dealing with citizens. Similarly, CIDA is trying to help autonomous community organizations in Ukraine play a greater role in shaping decisions that affect them, and help Ukrainian institutions strengthen the role of women in decision making and their access to resources. At the same time, the program is meant to support Canadian companies develop long-term trading and/or investment relationships with Ukrainian partners, and obtain contracts related to loans provided by IFIs.

3.3. The Role of Infrastructure Services in CIDA's Programming in Ukraine

CIDA's draft policy on Infrastructure Services (February 1999) is an umbrella policy for the four economic infrastructure sectors (Water, Irrigation & Sanitation, Energy, Information & Communication Technologies, and Transport). Infrastructure is built to provide a flow of services. The services are clean and accessible water, reliable and affordable energy, communication and information services, and good roads and ports. They promote social and economic development, expand trade and investment opportunities, safeguard health, improve the quality of life, and reduce poverty.

The Ukraine program strategy emphasizes the energy sector and nuclear safety, and lists EMDU as an energy sector project. Most of the program, however, provides support to governance, reform and democratic development. For the purposes of this review we have viewed the EMDU 1 project as a water project.

3.4. IS Programming Links with Other ODA Priorities

The EMDU 1 project has IS programming links with other ODA priorities. The primary links are:

- *Environment* – Improving capacity to promote environmentally sustainable infrastructure services.
- *Human rights, democracy, and good governance* – Enhancing the institutional and human capacity of public sector agencies charged with infrastructure sector responsibilities.

Since most CEE program countries do not qualify as ODA recipients, traditional development policy priorities do not apply directly to them. However, the program works closely with CIDA's Policy Branch to establish coherence with overall CIDA priorities. EMDU-1 promoted the transition to a market-based economy in Ukraine, but in an environmentally sensitive manner. It strengthened governance, particularly at the oblast and municipal levels through a reform of municipal utility services.

II PROJECT DESCRIPTION

4. Project Description

4.1. Project Background

The EMDU-1 program was intended to contribute to the environmental rehabilitation of Ukraine's primary water resources, the Dnipro River and its basin. It began in April 1994 and ended in 1998 with an overall investment of approximately \$5.8 million including \$4.8 million from CIDA. The balance was contributed by numerous persons and organizations as noted in Annex G.

EMDU-1 consisted of two components:

- *Component I – Environmental Management Capacity Building*
The component addressed various institutional and structural weaknesses of the Ukraine environmental protection system. It comprised training for environmental managers and technicians from MEPNS, and technical assistance in designing and developing Environmental Management Information Systems for a collection of ministry institutions at the national and regional levels. It also addressed policy and public education needs, and built financial management capacity in the DRF.
- *Component II – Water Pollution Control*
The component aimed at reducing pollution in the Dnipro River basin by implementing demonstration projects that introduced new management practices and selected technological reform in industrial and public sources of water pollution. It focused on utilizing a Ukrainian Water Quality Baseline Study, carrying out environmental audits, promoting green technologies, and building capacity in the

¹ A second phase to the EMDU program has now been approved (EMDU-2). It began in July 1997 and is scheduled to be complete in October 2000. CIDA's contribution to EMDU-2 is \$4,208,000. This four year program will be undertaken by IDRC's OCEEI group, the Ministry of Environmental Protection and Nuclear Safety and other Ukrainian institutions. EMDU-2 will focus on improving management and low-cost technological upgrades of municipal water supply and sewer utilities, research into current landfill and recycling practices, environmental audits of selected industries leading to management and technological changes and cleaner production, dissemination of research, and building links between national and local government bodies. RMB framework for EMDU-2 is included in Annex H.

Zaporizhzhia MEPNS and Vodokanal agency for municipal water management and pollution control.

The EMDU program was experimental in nature and operated as a responsive fund with local management features. In EMDU-1, the program received about 100 proposals for project support, and funded about 30 sub-projects within the two components. Criteria included short-term, low-cost, high payoff solutions, and projects that increased communication and information sharing among the key institutions in the sector. The Ukrainian Management Committee, which consisted of 16 representatives from

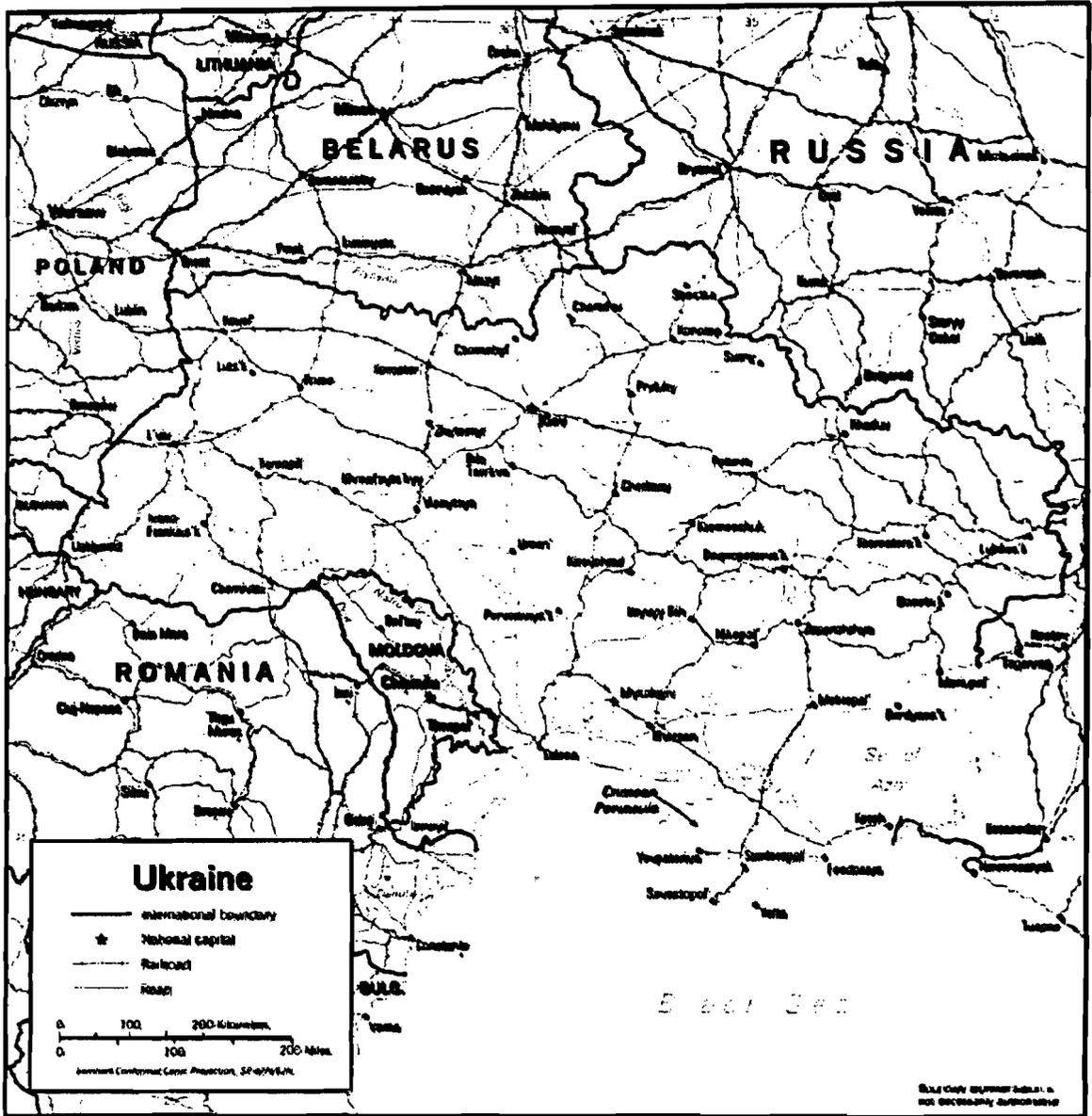


Figure 4.1 – Map of Ukraine

MEPNS and environmental state committees and research institutes, recommended projects for support within a policy framework provided by the National Plan. The basic strategy was building Ukrainian environmental management capacity, getting the key people in the sector working together toward common goals, and creating leverage through high payoff solutions.

The EMDU program focused on capacity building in national institutions, such as MEPNS, the state committees, the National Academy of Sciences and its research institutes, and the UMC and DRF. It also adopted a regional focus on the southern Dnipro sub-basin, more precisely on Zaporizhzhia City and oblast, and built capacity in the Zaporizhzhia MEPNS and Vodokanal agency.

4.2. Logical Framework Analysis

The EMDU-1 program was designed and planned when the Department of Foreign Affairs and International Trade (DFAIT) administered Canadian development assistance to Central and Eastern Europe. DFAIT did not require IDRC to prepare an LFA for use in planning, implementing and monitoring EMDU-1.

However, the Contribution Agreement (March 1994) contains some of the information typically included in a project LFA. This includes statements of the program goal and objectives, and the level of resources allocated to various programming components. But it does not provide other LFA-type information such as statements of expected outputs, outcomes and impact, performance indicators, means of verification, and programming assumptions. The agreement does not articulate the logical links in development between the output, outcome, and impact levels.

As stated in the Contribution Agreement, the **program goal** is to contribute to the environmental rehabilitation of the Dnipro River system through the collaborative efforts of Ukrainian and Canadian institutions and organizations.

The program objectives were modified slightly mid-way through EMDU-1 in order to reflect the program more accurately. The **objectives** were:

1. To strengthen the capacity of Ukrainian institutions to manage the Dnipro river system, particularly its water quality.
2. To identify means of reducing water pollution in the Dnipro River, specifically in Zaporizhzhia region.
3. To foster long-term collaborative links between Canadian and Ukrainian public and private sector environmental organizations.
4. To encourage the exchange of information and experience between Ukrainian scientists and policy-makers and between these two groups and their counterparts elsewhere.

4.3. Chronology of Events

The following table describes the project management and programming milestones in EMDU-1. The milestones that are important in terms of the results achieved in EMDU include the creation of the UMC and DRF, the Baseline Water Quality Study, the water meters project in Zaporizhzhia, and the signing of the Memorandum of Grant Conditions which represents the partnership that developed between IDRC and MEPNS.

Table 4.1 – Milestones in EMDU-1

Date	Milestone	Milestone Description / Significance
1993 September	EMDU Program Proposal submitted	IDRC submits EMDU program proposal to Bureau of Assistance to Central and Eastern Europe, DFAIT.
	Letter of Intent signed	IDRC and MEP and State Committee for Water Resources sign agreement on EMDU programming framework.
1994 March	EMDU Contribution Agreement signed	DFAIT and IDRC sign a Contribution Agreement for \$4.3 million EMDU on March 30. The program begins on April 1.
June	Memorandum of Grant Conditions signed	IDRC and MEP sign MGC on June 24, 1994. This sets the management framework with the Contribution Agreement.
	Ukrainian Management Committee formed	Representatives from MEPNS, state committees, the National Academy of Sciences formed UMC for local management.
September	Expedition for Baseline Water Quality Study	MEPNS, National Academy of Sciences, and other Ukrainian institutes collect data during a 1-month expedition of Dnipro.
1995 June	Bureau moved to CIDA	Bureau for Assistance to Central and Eastern Europe moves to CIDA, which forms Central and Eastern Europe Branch.
	Dnipro Renaissance Fund created	The program helps create the Dnipro Renaissance Fund, a local NGO, which administers the financing of most local activities.
	Water meters project milestone	Edmonton donates 1,400 water meters to Zaporizhzhia. The project leads to more use of meters and savings on water bills.
December	Gender analysis and strategy paper completed	Canadian consultants produce gender studies, which cause some confusion among Canadian and Ukrainian partners.
1996 October	EMDU Contribution Agreement extended	CIDA approves IDRC's request for a six-month extension to EMDU-1 worth \$450,000 on October 25, 1996.
1997 January	CIDA's Programming Strategy for Ukraine	CIDA CEE Branch releases document on its programming strategy for Ukraine.
1998	Final EMDU-1 Conference takes place	A final conference for participants among the 12 core recipient institutions takes place in Yalta and brings closure to EMDU-1.
November	Riverbank stabilization project completed	A park is opened along the Dnipro, completing the green technology project after a one-year delay in implementation.
1999 July	EMDU-1 evaluation completed	The evaluation report on EMDU-1 is submitted.

The milestones that represent areas of program performance that did not meet expectations include the gender studies, the Green Technology project in riverbank stabilization, and the \$450,000 extension to EMDU, which reflects the relatively high costs of IDRC's program management.

4.4. Disbursements to Date

EMDU-1 disbursements are presented in Table 4.2. The planned numbers are from the Contribution Agreement and the actual numbers from IDRC final report. The table

highlights the relatively high management costs to the program, and the movement of funds across programming line items. The variances are described as follows:

1. The program began slowly and programming disbursements stopped for a 6-month period in the first year. The management costs were ongoing during the delay.
2. The DRF was created to administer finances to local recipients. The DRF needed capacity building, which increased spending in Policy and Public Education activity.
3. In addition to supporting the DRF, the GEF project work took place in the Policy and Public Education (PPE) activity, which again raised actual spending in this line item.
4. The program disbursed an additional \$235,000 - twice the planned amount for the WQBS.
5. The DRF took on the role of conducting environmental audits, which provided an opportunity for capacity building in local supply-side organization. The spending in the Environmental Audits activity was \$100,000 more than planned.
6. Two of four projects in the Green Technology activity failed to develop as anticipated. Spending was \$473,000 less than planned or only 30% of initial budget.
7. Management costs were 25% higher than planned, consuming 37% of CIDA budget.
8. The overall cost of the \$4.3 million program increased by \$450,000 (11%) to \$4.8 million with the extension to the Contribution Agreement in October 1996.
9. The \$450,000 extension roughly equals the extra money spent on management and administration charges, and the information systems in the EMIS activity.
10. The \$473,000 surplus from the Green Technology activity budget roughly equals the extra money spent in the HRD, PPE, WQBS, and Environmental Audits activities.

Table 4.2 - Project Disbursements

Program Activity	CIDA Disbursements				Explanation Of Variance
	Planned	Actual	Variance	%	
Component 1					
Human Resources Development	369,500	398,304	+28,804	+8%	See 10.
EMIS	656,000	749,200	+93,200	+14%	See 9.
Policy and Public Education	229,300	395,948	+166,648	+73%	See 2, 3 and 10.
<i>Management Capacity Building</i>	<i>1,254,800</i>	<i>1,543,452</i>	<i>+288,652</i>	<i>+23%</i>	
Component 2					
Water Quality Baseline Studies	233,400	468,144	+234,744	+100%	See 4 and 10.
Environmental Audits	385,600	491,915	+106,315	+28%	See 5 and 10.
Green Technology	672,000	198,734	-473,266	-70%	See 6 and 10.
Municipal Water Poll. Control	323,736	321,033	-2,703	-1%	
<i>Water Pollution Control</i>	<i>1,614,736</i>	<i>1,479,826</i>	<i>-134,910</i>	<i>-8%</i>	
Program Management					
Management/Technical Assist.	1,056,100	1,366,904	+310,804	+29%	See 1, 7 and 9.
Administrative Charges	392,564	439,018	+46,454	+12%	See 1, 7 and 9
<i>Management</i>	<i>1,448,664</i>	<i>1,805,922</i>	<i>+357,258</i>	<i>+25%</i>	
Total EMDU Budget	4,318,200	4,829,200			
Extension	450,000				See 1, 8 and 9.
New Total	4,768,200	4,829,200	+61,000	+1%	

4.5. Evaluation, Review, Audit and Monitoring

The program established appropriate processes and systems for monitoring program activities and deliverables. IDRC monitored performance with its Ukrainian partners, and reported to CIDA as per the Contribution Agreement. CIDA hired a technical monitor to report on program progress, and provide advice. As described in Table 4.3, CIDA received sufficient information from these internal and external monitors.

Table 4.3 – EMDU Performance Reports

Name of Report	Frequency	Type of Information
IDRC financial reports	Quarterly	Planned versus actual spending, explanation of variance, revised budget projections.
IDRC progress reports	Every six months	Program objectives, constraints, opportunities, activities, outputs, accomplishments, and budget. The outputs and outcomes of activities are reported by WBS category. Planned activities for next reporting period.
IDRC EMDU Final Report	Once	Program objectives, constraints, opportunities, activities, accomplishments, lessons, and budget. The outputs and outcomes of activities are reported by WBS category.
Program Monitor's quarterly reports and annual review	Quarterly	Progress on program activities in current quarter, work plan for next quarter, report on SC meetings, financial information, rate of disbursements.
Program Monitor's mission reports	About three annually	Program context in Ukraine, management, and activities.
Kyiv Office report	Monthly	Information on the coordination activities, services rendered to project visitors, training delivered, and number of women participating directly in project activities.
CIDA IS Sector Review	Special	Development context, stakeholders context, results achieved, key result factors, external factors, IS review issues, gender issues, and lessons.

The IDRC reports are available on line, which suggests a positive attitude toward making information available. Unfortunately, results-based information was not available for EMDU-1, as the reporting tended to reflect the WBS, which is activity-based.

4.6. Benchmark/Baseline Data

The program lacked adequate benchmark or baseline data for measuring performance in the achievement of results. As noted, the managers did not develop an LFA for EMDU-1, which would have provided a framework for the benchmark or baseline data. The data collected in the Baseline Water Quality Study has served special purposes in subsequent activities in the program. But the study, which could provide baseline data for measuring program impact in the future, was not used in performance monitoring and reporting to CIDA in EMDU-1.

4.7. Stakeholder Network

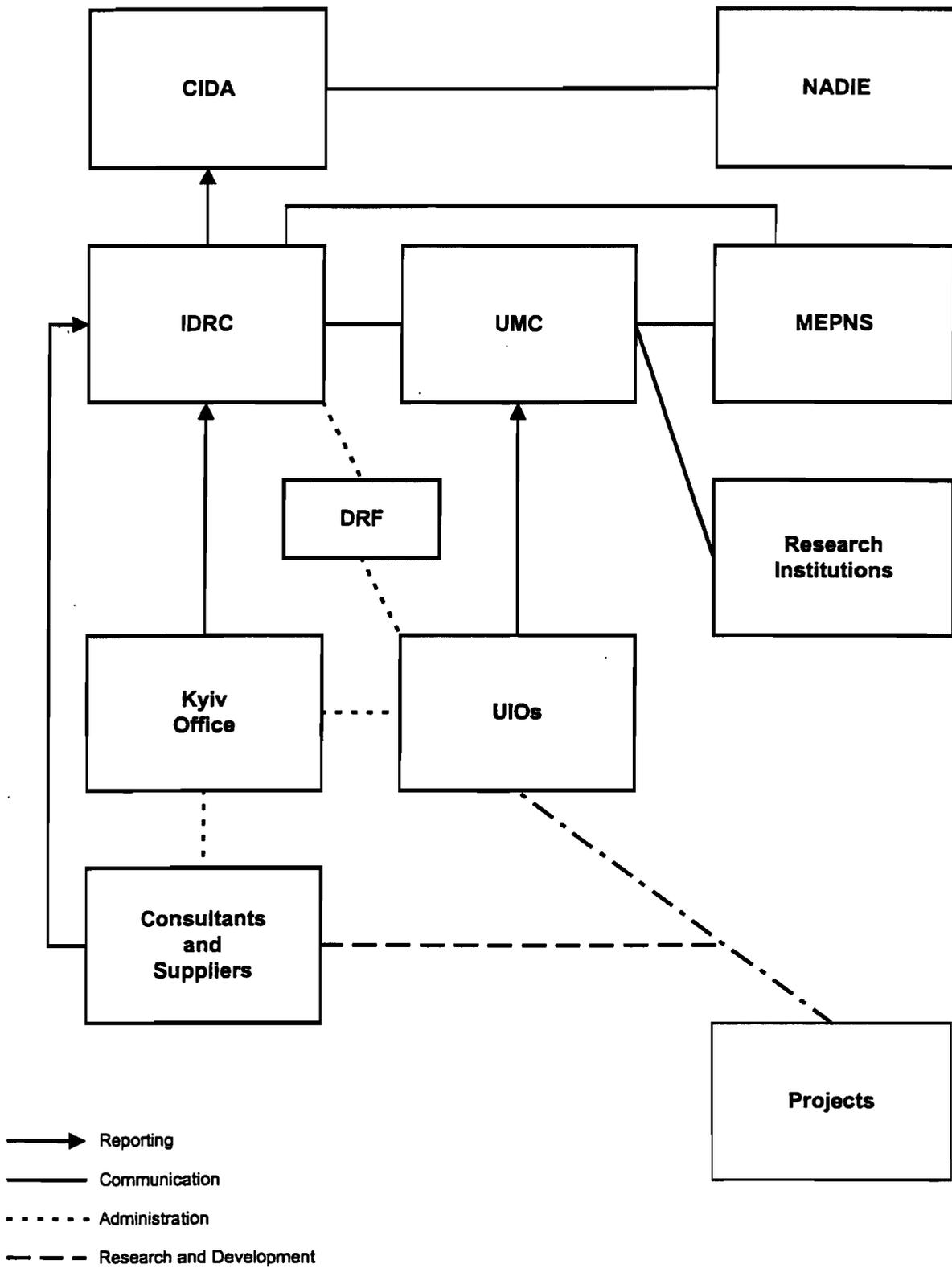


Figure 4.2: Stakeholder Network

III PROJECT PERFORMANCE

5. Results Achieved

This chapter describes the results achieved in the EMDU program. The performance information is presented in a series of five matrices that examine output-level results, outcomes, impact, unintended results, and benefits to Canada. The information in each matrix is arranged by macro-level results, institutional results, and community results.

5.1. Overall Assessment of Results Achieved

The program was designed to build environmental management capacity, identify means of reducing water pollution, and foster collaboration and information exchange primarily among Ukrainian institutions. The program worked with MEPNS and about 12 key institutions; it supported 30 'projects' or short-term interventions often focused on deliverables. EMDU provided training and technical assistance, supported policy processes, funded research and publications, developed technology and prototypes, designed management systems, provided equipment and materials, and funded workshops and conferences. Unfortunately, the program did not establish performance indicators for the achievement of results at the output, purpose and goal levels, nor articulate the logical links between these levels. The evaluation could not measure actual results against expected results as stated in an LFA. Instead, we examined the results achieved in about 15 projects, and assessed performance against reasonable expectations.

The overall assessment of the results achieved through the EMDU program is positive. The results at the output- and purpose-level were notable, and results in capacity building and the enabling environment were significant. At the same time, however, the impact of the program was limited, and the impact on the environment, gender equity, and access was negligible. Impact on the Environment as a result of EMDU-1 is likely to improve somewhat over time but gender equity, and access issues will need more effort before any lasting results are evident. Table 5.1 describes the rating of results in the various result areas.

Table 5.1 Overall Assessment of Results Achieved in the EMDU Program

Type of Result	Result Rating			
	Significant	Notable	Limited	Negligible
1. RBM Framework Issues				
EMDU Program Outputs (see section 5.2)		X		
EMDU Program Outcomes (5.3)		X		
EMDU Program Impact (5.4)			X	
2. IS Review Issues				
Poverty Reduction (10.1.1)			X	
Enabling Environment (10.1.2)	X			
Capacity building (10.1.3)	X			
Equity and Access (10.1.4)			X	
Partnership and Local Context/Knowledge (10.2.2)		X		
Impact on Environment (10.2.3)				X
Impact on Policy Dialogue (10.3)		X		
Gender Equity and Access (10.4.3)				X

The most impressive results of the program include the following:

1. *The IDRC-MEPNS partnership* – MEPNS is an active partner with IDRC in program management. Through the partnership, IDRC has some leverage in the sector, and supports MEPNS through capacity building, and in the GEF project proposal with Russia and Belarus.
2. *Ukrainian Municipal Committee* – The program helped establish the UMC, which plays a management role in the program and sector. The UMC performs well, though further support is needed. The UMC coordinates the implementation of the National Plan for the Rehabilitation of the Dnipro River. It has grown in national profile.
3. *Dnipro Renaissance Fund* – The DRF was established to administer program funds to local recipients. It has built a network of 12 regional offices, and conducted three environmental audits in EMDU with plans for 10 in EMDU-2. It has influenced draft legislation for environmental audit standards. The DRF is the model for the GEF project.
4. *Baseline Water Quality Study* – Ukrainian institutes collected data in 1-month expedition of Dnipro. BWQS created a framework for future cooperation among institutions, and about eight EMDU projects grew from BWQS results. The study provides a model for similar research in the GEF project proposal.
5. *Zaporizhzhia Municipal Water Control* – The Vodokanal installed 1,400 water meters in residential buildings, which resulted in a ‘substantial’ reduction in usage. So they installed water meters in all commercial buildings and most residential buildings in the city. They have since dropped plans for building a new treatment plant, and brought in municipal regulations requiring all new buildings to install water meters.

The program performance did not meet expectations in the following areas:

1. *Gender Equity and Access* – The program failed to successfully integrate gender considerations into the design and implementation. It supported two gender studies, but the outcome of this work fell short of expectations.
2. *Green Technologies Activity* – The program planned four research and demonstration projects in using green technologies. In the end, two projects were completed after experiencing long delays, while the others stopped short of successful completion.
3. *Canadian Program Management Costs* – The program management costs consumed 37% of the \$4.8 million budget. They were 25% more than planned. The results of the program were notable, but their value was diminished by the relatively high cost of IDRC program management.

Outputs Achieved

Table 5.2 - Project Outputs

<i>i. Environmental Management Capacity Building Component [WBS 9100]</i>			
WBS 9110 – Human Resources Development (Planned: \$369,500 Actual: \$398,304)			
<i>Planned Outputs</i>	Macro-Level Results	Institutional Results	Community Results
<p>The objective of the activity was to provide Ukrainian environmental professionals with short-term training in key areas of environmental management. The training was accomplished through workshops, seminars and on-the-job training programs. The planned outputs include about 250 Ukrainian environmental policy-makers, managers and technicians receiving training.</p>	<p>EMDU set up the Ukrainian Management Committee, which was comprised of sector leaders from MEPNS and research institutes. Initially, UMC was made up of people 'with the right titles' who promoted project proposals from their institutions, acting as a 'Task Force' without a clear mandate. In time, UMC brought in people 'with the right knowledge' and adopted a decision-making mandate for providing strategic leadership in selecting EMDU projects. UMC is still 'program oriented' more than 'management oriented.'</p> <p>The UMC members began sharing information that previously they would sell to each other. UMC helped design institutional restructuring according to Presidential Decree that addresses information sharing among institutions working in environmental sector.</p> <p>UMC developed national profile among oblast MEPNS. UMC is now the body that coordinates work on the National Plan for Rehabilitation of the Dnipro.</p>	<p>EMDU provided basic training for MEPNS and DRF staff in project management and accounting. MEPNS created training unit, and EMDU provided training for staff, and provided computers, equipment, manuals, online facility, etc. The training unit delivered courses for MEPNS and industry leaders.</p> <p>MEPNS produced seven Strategy Papers with proposals for future work on the Dnipro.</p> <p>UMC institutes are better writing proposals now. At start of EMDU, they had one international grant (project) between them. Now they have ten.</p> <p>EMDU produced gender assessment and gender strategy. These were unpopular activities with UMC. The gender analyses proved futile in addressing gender issues in program.</p> <p>Beet Sugar Refinery workshop successfully brought the Ukraine sugar industry into contact and exchange with Canadian specialists. They produced book entitled <i>Efficiency and Waste Management in Beet Sugar Production</i>.</p>	



WBS 9120 – Environmental Management Information System (Planned: \$656,000 Actual: \$749,200)

Planned Project Outputs	Macro-Level Results	Institutional Results	Community Results
<p>EMIS The objective was to support Ukrainian efforts in developing an environmental management information system for the Dnipro River basin. The planned outputs included: an EMIS system design; the installation of a pilot EMIS system at MEPNS; the creation of an on-line database serving all agencies with management responsibility for the Dnipro; the establishment of a consultative committee for better coordinated river basin management; and trained management and information personnel.</p>	<p>The EMDU program funded the preparation of a detailed proposal of legal agreement concerning exchange of data in electronic format among all Ukrainian institutions. In early 1999, a Presidential Decree was issued that reorganized the reporting structure among main BEMIS system users, shifting three state committees under MEPNS authority.</p>	<p>EMDU funded needs assessment for EMIS, a technical report on the system, and a design for its implementation. Management and technical personnel were trained, manuals developed, sample software applications tested. The Basin EMIS was installed in the State HydroMet Archive in Kyiv, and MEPNS, State Municipal Cmte, State Geological Cmte, State Water Management Cmte, State Hydrometeorology Cmte, and HydroMet Archive use the BEMIS. Data come to HydroMet Archive from 19 oblasts.</p> <p>HydroMet Archive has LAN and 16 workstations (up from nine before EMDU) with updated equipment. They now get 80% of their new data in electronic form. The system is working, though they face obstacles. They are able to restore some hard copy data in electronic form, but the conversion is often problematic, and 95% of their data is in hard copy. BEMIS lacks a system coordinator who can ensure that information is meaningful to users. Budget reductions have caused a shortage of technical specialists in HydroMet Archive, and prohibitive costs of internet connection mean system is not on-line.</p>	
<p>REMIS The objective was also to support Ukrainian efforts in developing an environmental management information system for the Dnipro River basin. The planned outputs included: a pilot REMIS system tested in MEPNS office in Zaporizhzhia; an on-line environmental database; managers and technicians trained; and closer linkage between enforcement, research and</p>	<p>REMIS helped Zaporizhzhia gain mention in Presidential Decree as a model for addressing environmental concerns in economic development activities.</p> <p>Zaporizhzhia MEPNS has been involved in enforcement activities for environment protection.</p>	<p>A regional EMIS was tested and installed in Zaporizhzhia as a result of EMDU program. The REMIS was tested there because of location downstream on Dnipro, and because Zaporizhzhia MEPNS had been developing its information systems since 1991. REMIS has lower Dnipro River sub-basin as focus, and the same set of users as BEMIS, but at the local level and including Zaporizhzhia Vodokanal.</p> <p>Ecocenter, a state-owned enterprise operating in</p>	

<p>information divisions of the MEPNS.</p>		<p>the Zaporizhzhia MEPNS since 1991, has a mandate to administer and develop the system. The EMDU project gave a push to other EMIS projects in MEPNS. They applied REMIS model and lessons in setting up and running another ministry system for the monitoring of radiation levels around the Zaporizhzhia nuclear power station. The Europeans have invested in system through TACIS. MEPNS and the Zaporizhzhia Vodokanal have used REMIS to attract foreign investment as in the EBRD loan. Oblast authorities in the upper and middle regions of the Dnipro River have requested similar REMIS. REMIS is not currently available on-line.</p>	
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WBS 9130 – Policy and Public Education (Planned: \$229,300 Actual: \$395,948)

Planned Project Outputs	Macro-Level Results	Institutional Results	Community Results
<p>The Dnipro Rehabilitation Plan The objective of the activity is to development and assist with implementation of environmental policies that take into account of limited resources and changing conditions. The planned outputs included ten policy-makers trained; cost benefit analysis for improving performance at Vodokanal; and studies at industrial plant and water treatment agency level that support Plan for Dnipro.</p>	<p>The creation of DRF is a policy achievement that has had impact on the enabling environment in Ukraine.</p> <p>Ukraine, Russia and Belarus will prepare for implementing a Strategic Action Program for the Dnipro River Basin. Coordinating EMDU-2 and GEF resources can enhance both programs, as planned EMDU-2 activities are closely in line with those in the GEF. The addition to the project list of a centre to handle transboundary river information, for example, will do just that.</p>	<p>EMDU helped create the DRF as a mechanism to disburse project funds to local recipients. DRF now models itself on French River Basin Agency, especially in terms of its proposed legislative authority and available financial resources.</p> <p>EMDU helped DRF build links with MEPNS. They now have ministerial support, and oblast and municipal government support in many instances.</p> <p>DRF has regional networks of offices and volunteers in 12 oblasts in Ukraine to disburse funds to local recipients. They plan to set up offices in Russia and Belarus. They have set up Association of Environmental Entrepreneurship in Zaporizhzhia.</p> <p>DRF provides financial management services to EMDU as well as carrying out environmental audits. They also provide financial management services to some local banks.</p> <p>EMDU published book entitled <i>Economics and Ecology of Dnipro Water Resources</i>.</p>	
<p>Public Education The objective was to assist the MEPNS and Ukrainian NGOs to produce environmental education materials. The activity would develop print and audio-visual materials to educate and involve the public in environmental issues relating to the Dnipro River. The planned outputs included a public education strategy; five brochures produced and distributed; a documentary on the environmental</p>	<p>The Ukraine education ministry has recently adopted environmental studies in national curricula. The video materials tested in EMDU project have supported the process of teaching more environmental studies courses in Ukraine schools.</p> <p>Environmental legislation in Ukraine was systematized and</p>	<p>Through EMDU, the Ministry produced its first MEPNS telephone directory.</p> <p>Green Studio TV began video-recording events from start of EMDU, including signing of MOU between IDRC and MEPNS. Green TV benefited from their experience working with international groups. They gained financial benefit from raising the profile of environmental issues, reporting that more funding was made available for Green TV work.</p>	<p>EMDU helped produce and distribute seven brochures for NGOs, schools, and government bodies on sound environmental practices.</p> <p>EMDU helped publish 7,000 copies of a book entitled <i>Dnipro: the Artery of Life</i>.</p> <p>The Green Studio TV project produced five videos on</p>

<p>condition of the Dnipro River; and 2-3 videos for television.</p>	<p>published as a collection for use by MEPNS, NGOs and other stakeholder in Ukraine ecology.</p>		<p>Dnipro for Ukrainian TV and for use in schools and community centres. The videos played on Ukrainian, European and Canadian TV. The video materials were tested and installed in five schools in towns along the Dnipro, but the prohibitive cost of video equipment prevented the education ministry from using the materials in other schools. The Ukraine Water Management Association has helped distribute videos to their members.</p>
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<i>ii. Water Pollution Control Component [WBS 9200]</i>			
<i>WBS 9210 – Baseline Water Quality Study (Planned: \$233,400 Actual: \$468,144)</i>			
<i>Planned Outputs</i>	<i>Macro-Level Results</i>	<i>Institutional Results</i>	<i>Community Results</i>
<p>The objective of the activity was to create a reliable database on water quality in the Dnipro River. The study would help identify the worst polluted sections of the river, the sources and type of the pollution, and health risks. The planned outputs included reliable, accurate data on water quality in the Dnipro; ten Ukrainian scientists trained in sampling and analysis; detailed water quality report for MEPNS; and identification of major polluters.</p>	<p>The Ukraine government identified the rehabilitation of the Dnipro as its highest environmental priority. In 1993, consensus was reached among World Bank, USAID, USEPA, IDRC and Ukrainians, about need for survey. The BWQS identified priority areas and created a framework for future cooperation among MEPNS, National Academy of Sciences, oblast authorities along Dnipro, and other national and local institutes. The results were reported in the National Plan for Dnipro River Preservation, which established Ukraine funding priorities for Dnipro. They were also used in a document prepared to support talks with UNDP on GEF project. Russia and Belarus will undertake similar river expedition for BWQS in anticipated GEF project.</p>	<p>MEPNS, National Academy of Sciences, and other Ukrainian institutes collected data in 1-month ship and mobile laboratory expedition of Dnipro. It identified types and levels of pollution, including chemical, biological and sediment analyses. The BWQS was completed in 1994 and published as hardcover report. Ukrainian institutions begin working more closely together, and adopting international standards in their work. BWQS identified Zaporizhzhia region and southern Dnipro sub-basin as priority. Zaporizhzhia institutions produced report on results of current water quality control in region. About eight EMDU projects were conceived and planned using results of BWQS.</p>	<p>The Dnipro expedition was high profile among Ukrainian public. It showed public the importance of international cooperation. Ukrainian communities experienced results of EMDU projects that grew from results of BWQS, including installing 1,000 water meters in Zaporizhzhia, stabilizing the riverbank for two communities along the Dnipro, and conducting environmental audits in three industries (see results for WBS 9240, 9230, and 9220 respectively).</p>

<i>WBS 9220 – Environmental Audits (Planned: \$385,600 Actual: \$491,915)</i>			
<i>Planned Outputs</i>	Macro-Level Results	Institutional Results	Community Results
<p>The objective was to conduct environmental audits on three enterprises in the agro-industry sector. The planned outputs included three audits with action plans on food processing/animal production enterprises; training in audit procedures and quality management for people involved in audits in government departments and enterprises; a measurable reduction in water pollution upon implementation of action plans; three case studies for training courses.</p>	<p>MEPNS asked DRF to critique some draft standards for environmental audits, which they wanted included in clause to the law on environmental protection. DRF gave a paper with recommendations for changes to clauses for environmental audits, and around giving oblast money to enterprises for follow-up. Zaporizhzhia oblast allocated \$500,000 from 1999 budget for environmental audits.</p> <p>In 1999, State Committee for Standards approved three sets of guidelines for environmental auditing to fulfil provisions of law 'On State Program of Privatization.' These guidelines grew directly from EMDU experience.</p>	<p>DRF personnel trained in carrying out environmental audits for EMDU. They carried out audits at four facilities in food processing industry, and two facilities in light textile industry. They tested and adjusted environmental audit methodology while carrying out audits. They produced 1500 copies of two manuals on environmental audits. MEPNS endorsed these materials for use by specialists.</p>	<p>At least two industries implemented low cost recommendations at their own expense, despite initial reticence. MEPNS reported that industries cut down environmental expenses at audited facilities by up to 70%.</p> <p>DRF created NGO called Interregional Center for Environmental Audit Center with UMC support. The Center expects to complete environmental audits in 10 enterprises in Zaporizhzhia under EMDU-2.</p>



<i>WBS 9230 – Green Technologies (Planned: \$672,000 Actual: \$198,734)</i>			
<i>Project Outputs</i>	Macro-Level	Institutional Results	Community Results
<p>The objective was to conduct 2-4 research and demonstration projects to introduce low-cost, high impact technologies aimed at reducing negative environmental impacts. The planned outputs included reductions in toxicity and amount of effluent from enterprises; demonstration of industrial pollution control processes through technological innovation; and training for managers and engineers.</p>		<p>UMC did not accept results from study on environmental industries in Eastern Europe, and planned Kyiv trade show.</p> <p>Implementation of environmentally clean fertilizers for agricultural production through the Ramial Chipped Wood industry increased knowledge of ecologically safe fertilizers and a decrease in chemicals going into small rivers.</p>	<p>The shoreline demonstration project focused on riverbank stabilization. The Dnipro Basin Water Management Association got approval from oblast ministry for constructing two stabilization zones along five km of Dnipro near Kanev. But local farmers prevented them from doing the work. They talked with local farmers and officials for a year to settle the issue. They redesigned park area to ensure that people and cows had access to the river. They distributed Green TV videos and equipment in local schools, and got school children to plant trees. The project was completed and the park opened in November 1998.</p> <p>DBWMA made technical recommendations for constructing stabilization zones in a published booklet. They began at local council in the next stabilization zone project in Kozinka River south of Kyiv. The community has asked for a beach.</p>

WBS 9240 – Municipal Water Pollution Control (Planned: \$323,736 Actual: \$321,033)

<i>Planned Outputs</i>	Macro-Level Results	Institutional Results	Community Results
<p>The objective was to support measures that would assist in developing the self-sufficiency of the Zaporizhzhia Vodokanal agency and water treatment plant to provide safe drinking water and adequate treatment of sewage pumped into the Dnipro. The planned outputs included a review of Vodokanal agency; implementation of action plan leading to improved potable water quality and reduction of pollutants into Dnipro River; and opportunities to replicate improvements in technology and management practices at other municipal water treatment plants.</p>	<p>The results of the water meter pilot project led to a Zaporizhzhia municipal decree that all new residential buildings must have water meters installed during construction.</p> <p>Zaporizhzhia municipality changed its regulations around repairing water pipes. Before they scheduled repairs, now they make repairs according to needs.</p> <p>Three Ukrainian municipalities – Lviv, Kharkov, and Dnepropetrousk – are adopting Zaporizhzhia lessons in legislation and implementation procedures.</p>	<p>Five Zaporizhzhia Vodokanal water engineers received training in use of leak detection equipment in Zaporizhzhia. The leak detection equipment was installed and used. They developed a GIS for mapping water pipe systems in Zaporizhzhia, now they have electronic maps. They have equipment for sonic leak detection. They are detecting fewer and fewer leaks, from about 100 per day in 1995 to 20 per day today.</p> <p>Danish Environmental Protection Agency is investing US \$500,000 in system, in mapping capacity and equipment.</p> <p>The Zaporizhzhia Vodokanal changed its future plans as a result of water meter project. Before 1994, they planned to build more water treatment plants, they planned 530,000 cubic meters per day usage and wanted to increase treatment capacity, this would impact distribution channels etc. but consumption has dropped so new capacity is not needed. They bill differently now and they are close to receiving a US \$30 million IBRD loan for drinking water quality improvement (working with the Canadian firm UMA) which includes US \$1 million for water meter system.</p>	<p>The EMDU funded the building of a model for tap water treatment equipment for use in kindergartens, schools, clinics and hospitals in Kyiv. The municipal authorities funded production and the equipment was installed in 30 locations. There is no funding for producing and installing equipment in more schools and hospitals.</p> <p>The City of Edmonton donated 1,400 water meters, which were installed in residential buildings in Zaporizhzhia. Analysis of data revealed that water consumption in residential dwellings was substantially less than billed for on 'average flat rate'. The municipal budget included line item for installing more water meters. Now all industrial enterprises and commercial businesses, and 80% of residential buildings in Zaporizhzhia have water meters. Since 1994, water consumption in Zaporizhzhia has dropped from 430,000 cubic meters of water per day to 360,000 at present.</p>



5.2. Purpose Level Results Achieved

Purpose level results have been measured against the EMDU-1 Program recast objectives. They are presented in the following table.

Table 5.3 Purpose-Level Results

Planned	Outcomes		
Program Objectives	Macro-Level Results	Institutional Results	Community Results
To strengthen the capacity of Ukrainian institutions to manage the Dnipro River system, particularly its water quality	<p>UMC provides strategic leadership in managing the Dnipro River system</p> <p>DRF created as legal entity for administering local disbursements in sector</p> <p>Results of BWQS reported in Ukrainian National Plan for Dnipro River Preservation</p>	<p>MEPNS increases capacity to manage projects, finances</p> <p>Establishment of computer based information networks for managing the Dnipro River (BEMIS and REMIS)</p> <p>EMDU institutions have received ten international grants (projects) from other funders since program began. They had one at the start.</p> <p>DRF has a regional network of offices and volunteers in 12 oblasts, and built links with MEPNS and oblast MEPNS.</p>	<p>Ukrainian community groups, school children in particular, develop a better understanding of the ecological issues related to the Dnipro River.</p>
To identify means of reducing water pollution in the Dnipro River, specifically in Zaporizhzhia region	<p>Zaporizhzhia municipal decree on installing water meters in new buildings</p> <p>Standards for environmental audits introduced into Ukrainian law</p> <p>Presidential decree issued in 1999 that reorganized reporting structure among BEMIS users for data on</p>	<p>The results of the Environmental Audits have allowed factory management to recognize cost savings by lowering supplied water costs and the cost of wastewater treatment. Funds have been freed for other purposes.</p> <p>Advances in water loss control and improved management of municipal</p>	<p>The Environmental Audits identified means to reduce their wastewater output in two industries with audits of up to ten more now planned.</p> <p>The installation of water meters in Zaporizhzhia has resulted in the public's increased awareness of their water use and wastewater generation. This has resulted in a significant decrease in</p>

	<p>Dnipro</p> <p>Ukraine, Russia and Belarus designed Action Plan for GEF project with IDRC support</p>	<p>water supply and sewer utilities has allowed resources to be spent in improving the treatment processes rather than building bigger treatment plants & pipes.</p>	<p>water consumption and the resulting wastewater discharge.</p>
<p>To foster long-term collaborative links between Canadian and Ukrainian public and private sector environmental organizations</p>	<p>IDRC and MEPNS work together with Russia and Belarus to help build a transboundary GEF project concept for the Dnipro River basin.</p>	<p>UMA's work with the Zaporizhzhia Vodokanal in \$30 million IBRD loan project.</p>	
<p>To encourage the exchange of information and experience between Ukrainian scientists and policy-makers and between these two groups and their counterparts elsewhere</p>	<p>UMC was established with representation from all the major institutions involved in the Sector</p> <p>The collaboration between IDRC and the Ministry and other Ukrainian institutions involved in the Dnipro River has led to the IDRC being recommended by the UNDP as a key implementing agency for the GEF.</p>	<p>The 30 EMDU-1 projects involving about 12 institutions was an overall learning process and information exchange.</p> <p>BWQS "forced" the key decision-makers from the leading institutions involved with the Dnipro River to sit together on a boat for several days and focus on their mutual issues. This was the starting point for recognition, collaboration, and information exchange between the main stakeholders.</p> <p>Ukrainian institutions were exposed to international standards which resulted in the drafting of their own standards specific to the Ukraine.</p>	



5.3. Goal Level Results Achieved

Table 5.4 - Goal Level Results

Planned	Impacts		
Program Goal	Macro-Level	Institutional Level	Community
To contribute to the environmental rehabilitation of the Dnipro river system, through collaborative efforts of institutions and organizations from Ukraine, Canada, and other countries.	The program helped establish the basis for collaboration among MEPNS and sector institutions.	The program helped establish new institutions and build management capacity for rehabilitating the Dnipro river	The program helped raise the profile of environmental concerns among the Ukrainian public and selected communities.

5.4. Unintended Results

The Dnipro Renaissance Fund (DRF) is a Kyiv-based NGO with regional network of offices and volunteers in 12 oblasts. The DRF was created as a legal entity for administering local disbursements in the sector. The need for this group's services was completely unforeseen at the start of the project. As tax problems associated with bringing dollars into Ukraine to fund project activities emerged, the DRF was created to get around the government financial "road blocks". They have since expanded their role in EMDU and have become a major success story. The DRF provides financial management services to EMDU and conducts environmental audits for industry. DRF has built links with MEPNS and oblast MEPNS.

5.5. Benefits to Canada

Canadian Consultants to Project -

A significant portion of the money spent in the EMDU-1 program was spent on Canadians and in Canada in the form of Canadian management expenditures and consultants.

IDRC and MEPNS -

IDRC and MEPNS are working together to develop the GEF project concept. IDRC participated in environmental policy making and the planning process in three Dnipro River countries. It is considered likely that IDRC will win the competitive call to manage the GEF project.

UMA and Zaporizhzhia Vodokanal -

UMA Engineering, an Edmonton-based firm, was involved in water conservation, water and sewer system rehabilitation and water metering work with Zaporizhzhia Vodokanal. They are part of Vodokanal proposal for US \$30 million IBRD loan. UMA expects to earn up to \$2 million through their work with Zaporizhzhia Vodokanal.

City of Edmonton and Zaporizhzhia -

The City of Edmonton Water and Sanitation Department has established links and provided courses to the Zaporizhzhia Vodokanal staff.

AGRA Earth & Environmental and DRF -

AEE were methodology experts in environmental audits and worked with the DRF to develop this service for Ukrainian industry. AEE sought the opportunity to support further expansion into Central European market.

5.6. Perception of Stakeholders on Results and Achievements

All stakeholders have a positive view of the results and achievements of the program.

CIDA Hull – CIDA representatives were generally pleased with the results of the program, although they noted some of the concerns they raised during implementation. In particular, they were concerned with IDRC management costs, a lack of gender considerations in the program, the delays in start-up and the generally slow implementation rate, and some omissions in information in IDRC reporting. Overall, CIDA was satisfied with the quality of results achieved in the program, and many results were not envisioned at the start of the project.

CIDA Kyiv – CIDA representatives in Ukraine saw the EMDU program as contributing to the overall strategy CIDA had established for supporting reform in Ukraine. EMDU was responsive to the needs of the country. The program had a strong influence on the policy environment, and policy dialogue with the Ukrainian government in the country. It put environmental issues on the local agenda, and started the ministry and scientific community working together.

IDRC Ottawa – IDRC representatives recognized that progress had been slow at first but were very satisfied with the final results. They took considerable work to establish the communication and cooperation required among sector institutions, before the program could move ahead under local management. The management philosophy in the Ukraine is quite different from what Canadians are used to, and these differences provide serious challenges to capacity building.

MEPNS – The ministry representatives consider the EMDU program as a benchmark for other donor initiatives. They like the level of control they have over the program funding. They recognize that EMDU first brought the Ukrainian institutions together and allowed Ukrainians to act as leaders in the international forum on water quality standards and methodologies. They appreciate the Canadian specialists, who came as 'partners' to work with the local scientists. They strongly support IDRC as the implementing agency for the GEF project with Russia and Belarus on the Dnipro River basin. The Minister has been a strong and long-time supporter of the program.

Ukrainian Implementing Organizations – The representatives of sector institutions were pleased with the program and the support that they had received. They all eagerly demonstrated the work accomplished with EMDU funding and the on-going activities that resulted from the initial support.

6. Development Factors

This section describes the development factors contributing to the achievement of results in the EMDU program. The key success factors include the relevance of the program to stakeholders (section 6.1) and the appropriate use of resources, capacities and strategies (section 6.2).

6.1. Relevance

The program was designed in 1992-93 in response to the general conditions and needs of the Ukraine in environmental management, and Ukrainian plans and priorities in the management and rehabilitation of the Dnipro River Basin. It was intended to support Canadian foreign policy goals in the region, and derive benefit to Canadians working with Ukrainians in the sector.

The program remained relevant to the needs and priorities of all major stakeholders in its implementation from 1994 to 1998. Table 6.1 describes these needs and priorities, and assesses their consistency with program results. *Overall, the EMDU program was consistent with development conditions and stakeholder needs, and the relevance of the program to stakeholders was a key success factor in the achievement of results.*

Table 6.1 Relevance of EMDU Program to Stakeholder Needs and Priorities

Stakeholders	Needs and Priorities	Rating	Comment
Ukrainian Government	Environmental policy reform, sector management capacity, economic development for people, and good international relations	Somewhat Consistent	Closely linked to policy and plans for rehabilitation of Dnipro River Basin, but perceived need is economic and environment often plays second fiddle to it for resources.
Ukrainian Implementing Organizations	Support for people and projects, institutional support, profile and communications, and relations with organizations abroad	Consistent	EMDU operated as responsive fund that met some of these needs for 12 organizations in environmental sector.
CIDA	Canadian foreign aid policy objectives, priorities and CEE programs, including support Ukrainian reform effort	Consistent	EMDU supported reform, environment, and infrastructure services – all CIDA priority areas. EMDU affected the reforms in Ukrainian legislation in environment. Less success with gender.
Canadian Government	Canadian foreign policy, including potential benefits to Canada	Consistent	EMDU program has a good profile in Ukraine environment sector. Canadian and Ukrainian groups are strengthening relations, and partnering in some initiatives. IDRC with MEPNS in GEF project; UMA with Zaporizhzhia Vodokanal in EBRD loan project.
Other foreign donors	Other foreign donors addressing the same needs or problems	Consistent	Good level of co-operation among international donors in sector. USAID has co-operated in EMDU conferences; UNDP is working with IDRC and CIDA in GEF project proposal; Danish EPA has also invested in water meters project with Zaporizhzhia Vodokanal.

The program was particularly relevant to Ukrainian leaders who developed laws, standards, decrees, and regulations in environmental management and water quality control as a result of the program. In vetting project proposals and outputs, the UMC ensured the program was consistent with sector plans and use of resources, while the responsive fund allowed implementing organizations to work on priority projects, and strengthen relations with Canadians and others abroad. Canadian investment in the reform process served Canada's priorities in international co-operation with Ukraine, and benefited Canadians working with Ukrainians in the sector.

6.2. Appropriateness

IDRC's approach was to induce institutional changes through demonstrations using prototypes and the dissemination of ensuing results. Through the EMDU program, new institutions like the UMC and DRF were developed in the sector, and new legislation and regulations were introduced for reducing water pollution. Table 6.2 describes the appropriateness of the design and delivery of EMDU resources and services, and the application of lessons learned. *Overall, the program resources, capacities and selected strategies were sensible and sufficient to achieve the intended results, which was a key success factor in the program.*

Table 6.2 Appropriateness of EMDU Design, Delivery and Application of Lessons

Indicator	Criteria	Rating	Comment
Stakeholder Satisfaction	Ukrainian and Canadian satisfaction with and commitment to intended results and methods to achieve them	Somewhat satisfied/ with active support	Good level of satisfaction with program results among all stakeholders. Ukrainian partners are committed to achieving results in methods promoted in program. Some Canadians were not satisfied with gender results, and management costs.
Canadian capacity	Canada's capacity to provide goods and services required to achieve intended results	Full capacity to supply	EMDU operated as responsive fund, which required Canadians to meet specific demand for services. Through its network, IDRC provided experts, specialists and managers as required.
Design and Delivery of resources and services	Resources and services designed and delivered in manner that effectively responds to conditions, risks, needs, problems identified	Generally effective design and delivery	EMDU involved local design and delivery of projects, with Canadian coaching and technical assistance. Many Canadians were praised in Ukraine for their work.
Application of lessons	Application of lessons from development experience	Timely use of lessons learned	EMDU encouraged replication of practices and technology. It involved research institutes and other learning centre. Generally, lessons were applied as evidenced in results at macro and institutional levels.

The program strategy for building environmental management capacity in Ukraine involved a strategic fund with local management features, and local design and delivery

of resources and services with Canadian technical support. This generated stakeholder satisfaction with, and commitment to, the intended results and methods used, although some Canadian stakeholders were not satisfied with the strategy and results of the gender equity initiatives.

6.3. Cost-Effectiveness

The EMDU program achieved a good number of results in strengthening environmental management capacity, and some in reducing water pollution. It provided good value for the money CIDA invested in institutional capacity building and macro-level results. While cost-effectiveness was not considered a key success factor in achievement of results, *the generally positive performance in EMDU suggests that the relationship between program costs and results was reasonable*

Table 6.3 Cost-Effectiveness of EMDU Program

Indicator	Criteria	Rating	Comment
Relevant Benchmarks	Comparison of costs of relevant benchmarks, taking into consideration results achieved.	Results achieved exceed planned	IDRC management and administration costs represented 37% of total budget, which is high especially for responsive fund. Nevertheless, results achieved were significant, and offered CIDA good value for its money.
Actual to Planned Expenditures	Actual expenditures correspond to planned expenditures or significant variances fully justified	Correspond somewhat, significant variances not fully justified	Overall expenditures were 9% higher than planned. Actual expenditures in six of seven activity areas differed from planned expenditures. IDRC reports did not fully justify variances, which were seen as inevitable in fund of this kind.

At the same time, the program management costs were relatively high at 37% of the \$4.8 million budget. EMDU also required a \$450,000 extension (almost 9% of budget) for completion. Two factors in the development context contributed to higher management costs: (1) EMDU was initiated shortly after independence in a country that was trying to build their own government and institutional structure. It took time for IDRC to learn what approach to take to stimulate the Ukrainian system, and for the Ukrainians to understand the Western management approach. (2) Ukraine introduced a sizeable tax on the funds going to the institutes executing EMDU projects. The program experienced a lengthy delay (roughly six months) while IDRC and CIDA lobbied the government to remove the prohibitive tax. The Dnipro Renaissance Fund (DRF) was established in order to solve this problem.

The EMDU program offered good value for CIDA's money in the following instances:

- The program produced a few important macro-level results, and some important institutional results, which support CIDA's reform agenda in Ukraine program.

- It produced a large number of tangible outputs including activities like the BWQS. The outputs created leverage and sometimes resulted in replication and use by Ukrainians in other contexts.
- It produced some unexpected results, most notably in the creation and development of the DRF. This led to results at macro-, institutional and community levels.
- It attracted an estimated \$1,000,000 in in-kind contributions from other Canadian government departments, mostly in salaries for Canadian experts.

The program could provide further value in the following instances:

- The program should result in a Canadian firm, UMA, receiving contracts worth an estimated \$2,000,000 working with the Zaporizhzhia Vodokanal on an IBRD loan project. This supports CIDA objectives/expected results for programming in Ukraine.
- It could result in a transboundary GEF project involving Russia, Belarus and Ukraine in Dnipro River Basin management and rehabilitation. IDRC is being considered as the implementing organization for the project. This would provide CIDA with a return on their investment in IDRC programming capacity in Ukraine and CEE.

At the same time, the program provided less value for money in the following instances:

- The program management costs represented 37% of overall EMDU costs. This was higher than expected by CIDA. In this perspective, the results achieved in the project were relatively expensive.
- The program received an extension worth \$450,000, which represents almost 9% of budget for the 3-year program. Two-thirds of the extension covered increases in the program management costs.
- The economic conditions in Ukraine prevented some replication and use of project outputs from being fully realized. A shortage of resources prevented Ukrainians from making full use of materials, equipment and systems developed in public education, water purification, and EMIS activities.
- Some expected in kind contributions from other bilateral donors did not materialize. CIDA had considered the contribution of another donor agency in its decision to fund the EMDU program.

6.4. Sustainability

The program increased the capacity of Ukrainian institutions to manage the Dnipro River system and identify means of reducing water pollution in the river, specifically in the Zaporizhzhia region. Table 6.4 describes the features that will likely affect the sustainability of program benefits, including stakeholder commitment, financial commitment, institutional capacity, and the enabling environment. *Overall, the program benefits to environmental management capacity are likely to continue, although they will be mitigated by a shortage of financial resources in the participating institutions.*

Table 6.4 Sustainability of Program Benefits after Completion of Activities

Indicator	Criteria	Rating	Comment
Stakeholder commitment	Stakeholders take charge of program activities	Stakeholders take full lead in activities	Local stakeholders took charge of program activities through ministry leadership, UMC structure, creation of DRF, and responsive fund mechanism.
Commitment of Financial Resources	Commitment of sufficient financial resources to maintain program benefits	Financial sustainability integrated into design with partial success	Local institutions lack financial resources to maintain some benefits, especially in reducing water pollution. They rely on donor and IFI money, which is available in EMDU-2, IBRD loan, and potentially in the GEF project.
Institutional Capacity	Adequate institutional capacity and on-going relevance to maintain project benefits	Adequate institutional capacity to maintain benefits	Local institutions have the requisite mandate and human capacity to sustain benefits, which are relevant to sector. But deficiencies in physical plant and equipment may hinder maintaining benefits.
Enabling Environment	National and international environment conducive to maintenance of program benefits	Somewhat favourable to maintaining benefits	Ukraine reform process is slow going. Some important steps are being planned to extend program to three riparian countries, Russia, Belarus and Ukraine.

CIDA's investment in programming activities often resulted in benefits beyond the outputs expected of activities. In other cases, however, the program did not achieve downstream results because Ukrainian stakeholders lacked the financial resources to apply learning and transfer technology. The lack of financing seemed to affect technical more than management results. In its proposal for EMDU-2, IDRC stated that without further support from Canada, there is "the high probability that the environmental capacity introduced into the Ukraine is not deeply enough embedded to survive."

In summary, the skills and abilities have been developed under EMDU but the funding to keep the initiative going at an optimum level is not available. There are too many other critical demands being placed on the limited Ukrainian government's resources. For sustainability CIDA should consider an longer term investment plan until the Ukraine economy starts to turn around and sufficient local financial resources can be made available to maintain and develop the initiatives started under the EMDU program.

7. Management Factors

This section describes the development factors contributing to the achievement of results in the EMDU program. The key success factors include the quality of stakeholder partnerships and local participation (section 7.1) and innovation and creativity in approaches to capacity development (section 7.2).

7.1. Partnership/Participation

The EMDU program employed management and programming structures to encourage the development of shared ownership and decision-making, and mutual trust and benefit. Table 7.1 describes the quality of partnerships and participation in the program. *Overall, the key stakeholders shared responsibility and accountability for project results, which was a key success factor in the achievement of results.*

Table 7.1 Partnership and Local Participation in EMDU Program

Indicator	Criteria	Rating	Comment
Beneficiary Participation	Active participation of recipients and beneficiaries in project design, implementation and monitoring/evaluation	Full participation	Ukrainian institutions were active in design of EMDU. Fund mechanism meant participation of recipients in all stages of project cycle.
Participants Roles and Responsibilities	Clear definition, understanding and acceptance of roles and responsibilities of project participants	Periodic informal clarification needed	EMDU built project management capacity in MEPNS and participant institutes. Periodic clarification of roles and responsibilities needed, but seen as part of capacity development.
Local Decision-making Authority and Tools	Partners in management have the appropriate authority and tools they need to make decisions and take action	Coherence between authority and tools	In EMDU structure, partners were given authority to take lead roles in decision-making and management. UMC and IDRC performed strategic management functions; Ukraine institutes ran their project operations; IDRC managed Canadian resources.

The main stakeholders were active in all program stages, and shared an understanding of program objectives and purposes, which they reinforced periodically in discussions between IDRC and MEPNS. The stakeholders signed three MOUs or agreements at the outset, and created project approval and reporting structures for decision making and accountability. The program developed a relatively high profile among sector institutions. Various Ukrainians including MEPNS leadership expressed the view that the success of EMDU was due in good part to IDRC's approach, which emphasized partnership, local leadership, and respect for Ukrainian priorities.

7.2. Innovation and Creativity

The EMDU program was experimental and innovative in its context. It was intended to introduce new thinking, approaches and technologies to environment sector institutions. Table 7.2 describes innovation and creativity in managing and executing the program. *EMDU tended to explore new ideas and approaches to achieve results, which was a key success factor in overall program performance.*

Table 7.2 Innovation and Creativity in Achieving Results through EMDU

Indicator	Criteria	Rating	Comment
Experimentation	Experiment with new project design and procedures	Led to institutional learning	EMDU designed as responsive fund with local management features. In some projects, EMDU built learning models, information systems, research capacity, and ways for management to use information.
Risk taking	Calculated risk taking to achieve results	Fortuitous risk taking led to improved results	UMC and DRF were created in EMDU and each play key roles in managing sector. IDRC moved programming money to 'environmental management' component (from activities yielding fewer results) to support UMC and DRF development.
Partnership building	New partnerships to achieve results	Contributed to intended and unintended results	New partnerships among institutions enhanced quality of results. UMC is model for co-operative approach in sector management. Program increased co-operation among sector institutes, and some have since joined as partners in grant proposals.
Learning from Lessons	Lessons learned from innovations recorded, reported and disseminated	Disseminated lessons learned led to replication	The lessons of various projects were widely published in journals, booklets, manuals and articles. Some new practices, structures and technologies were replicated. More generally, departments and institutes tend not to share information enough in the sector.

IDRC is committed to a learning agenda in EMDU, especially for strategic leaders in the sector. While Ukrainian leaders and officials 'have to learn to influence outcomes through indirect means and incentives, through demonstrations and pilot activities,' EMDU provides a model for doing just that through some of its structures (e.g. UMC and DRF) and projects (e.g. EMIS and water meters).

7.3. Appropriate Human Resource Utilization

People were generally effective in managing and carrying out the program. This is consistent with other factors, including the quality of their participation and the relevance of the program to their needs. Table 7.3 describes the appropriate use of human resources in the program in terms of matching personnel to program needs, and

managing project personnel. Overall, the human resources involved in EMDU were suitable and used well, although other factors better explain the achievement of results.

Table 7.3 - Appropriate Human Resource Utilization

Indicator	Criteria	Rating	Comment
Participant Expertise Matches Program Needs	Match between program needs and knowledge, expertise and personal skills of all major program participants	Good match	Generally, a good match of technical skills to program needs, but local management skills didn't always meet needs. EMDU invested in developing project and financial management capacity through training and practice. UMC had some difficulties working as key management group, although progress was made through program.
Adequacy of Human Resources Management	Management of program personnel	Fully adequate	Low turnover rate in program staff, except at start with IDRC Program Director. All other features of good HR system appear to be in operation.

IDRC brought appropriate human resource management systems to the program, and continued to develop the management procedures throughout EMDU. The IDRC staff and Canadian consultants earned the respect of the Ukrainian partners. The stress caused to the program by changes in the IDRC Program Director in the first year of EMDU was eased once the current director was appointed.

IDRC also invested in training in project management for selected individuals in MEPNS, DRF, and IDRC Kyiv office. Through such training, the participants reportedly streamlined program management and financial procedures along the chain between Ottawa and Kyiv. IDRC provided on-going support to the UMC, which made better use of members' expertise in Dnipro River basin management as program developed.

7.4. Prudence and Probity

The program monitored its financial resources closely, and reported to CIDA in quarterly financial reports. Table 7.4 describes and rates the systems for managing finances, risk, and contracts. Overall, the financial information appears complete, accurate and reliable, and the systems for managing program finances, risk, and contracts are basically sound.

Table 7.4 Prudence and Probity in the EMDU Program

Indicator	Criteria	Rating	Comment
Financial Management Policies and Procedures	Sound financial management policies and procedures, including budgeting, accounting and reporting systems and practices	Sound	IDRC conducted a management and financial review of the Kyiv office and DRF in 1996. The review found the local bodies operating soundly. In an interview, MEPNS Deputy Minister said that Ukrainian stakeholders appreciated the financial transparency of the program.
Risk Management Strategies and Practices	Adequate strategies and practices respond to the nature and level of risk to program funds and assets	Sound	MEPNS and IDRC operate effectively at strategic level. For example, the 1996 tax imposed on transferring money to Ukrainian institutes was clear risk to program funds and assets. DRF was created as a solution, which proved fortuitous.
Contracting and Contract Management Procedures	Contracting and contract management in accordance with sound contracting policies and procedures	Sound	Contracts evident at each transfer of funds. IDRC followed corporate procedures in contracting Canadian consultants.

The program helped develop some of these systems in Ukrainian organizations like MEPNS, DRF, and at IDRC in Kyiv and Ottawa.

7.5. Informed and Timely Action

The EMDU program was designed to ensure local leadership in the strategic and operational management of programming resources. In this way, the program could take informed and timely action in response to change. Table 7.5 describes the effectiveness of the networks and processes in assessing trends in the program environment, and the monitoring and reporting systems used to respond to opportunities and problems. Overall, the program performed well in taking informed and timely action at the strategic and operational levels – with noted exceptions in the delays at start-up and in implementing some projects in the Green Technology activity.

The program built its monitoring networks, procedures and systems as part of the broader effort to strengthen environmental management capacity in Ukraine as per the objectives. The program invested in the UMC, the DRF, the EMIS projects, the Water Quality Baseline Study, and other projects that developed monitoring and learning systems. It made timely use of information and results in the water purification project, the water meters project, the riverbank stabilization project, and in developing auditing standards in national legislation, and municipal regulations for installing water meters in new buildings. The program leaders also moved \$450,000 from the budget for Green Technology projects to other programming areas (mostly environmental management capacity building activities) yielding better results. They participated in GEF project preparations with representatives of the governments of Russia and Belarus.

Table 7.5 Informed and Timely Action in the EMDU Program

Indicator	Criteria	Rating	Comment
Networks and Processes to Monitor Environment	Effective networks and processes to identify and assess important trends and events in the project environment	Effective	Through MEPNS and UMC, the strategic management networks were strong in program. Stakeholders were able to monitor and affect trends in national and international contexts. Results included creation of DRF and negotiations around GEF project.
Monitoring Systems and Timely Response	Effective monitoring and reporting systems and appropriate and timely response to opportunities and problems	Effective	EMDU was responsive in nature and strategy. It incorporated on-going developments in sector, and needs identified in proposed projects. It used results achieved (e.g. BWQS) in downstream projects. It made timely use of information in some projects, and shifted financial resources to programming areas achieving results.

8. External Factors Influencing Results

Overall, various external factors in Ukraine environment had a notable negative impact on achieving factors, while a few others had a positive impact.

8.1. Significant Political, Economic and/or Social Change

The strategic question for the program is how to develop environmental management capacity for rehabilitating the Dnipro River basin in the context of the reform process and other changes in Ukraine?

Economic Factors

The overall economic context was a debilitating factor in EMDU. The Ukrainian economy performed poorly for most of the 1990s, and the Russian financial crisis in 1997 produced high inflation and a drop in the Hrivna against the US dollar. Some Ukrainian institutions receiving program support at the time revised their budgets upward to cover increases in the cost of purchasing foreign equipment.

More generally, the economic situation has meant that fewer financial resources are available to government departments, research institutes, water and community service organizations, etc. for implementing or supporting environmental projects. This had a negative impact on the program in instances where the replication and downstream use of results either did not take place, or less use took place than expected, because the institutions lacked financial resources to implement follow-up projects.

The sharp economic realities create a sense of urgency in Ukraine for addressing economic and financial problems. The slow move to a market economy has caused great internal dislocation. In this context, environmental issues receive less attention and consequently less financial support than necessary from government and the private sector.

Legal and Regulatory Factors

The environment sector lacks appropriate environmental legislation, and the regulatory context is subject to sudden, unpredictable change. The tax laws in particular seem prohibitive and debilitating. The legislative and regulatory context had a negative impact on the program in the instance of the 1995 presidential decree that subject the transfer of foreign donor money to local institutions to a hefty tax. This caused delays in EMDU activities during a six-month hiatus in financial transfers to Ukraine, and contributed to the need for the \$450,000 extension to the 3-year program. After lobbying by the Canadian Embassy, MEPNS and other Ukrainian bodies, an exemption was granted allowing IDRC to move funds through the Dnipro Renaissance Fund (DRF) on a tax-free basis. The DRF, which now carries out environmental audits in the program, has identified lack of legislation as a serious constraint to wider use of environmental audits and the application of audit results in industry.



Political Factors

The political environment for the reform process also presents debilitating factors for achieving program results. The Monitor wrote that 'Ukraine's entrenched internal east-west split, a product of long historical animosities in the region, is alive and strong.' The political context is fluid and structures and positions are subject to reform and change in personnel. As it happens, the program benefited when an EMDU champion was promoted to Minister of MEPNS, but the selection of candidates from MEPNS for a few activities was delayed as matters settled. That being said, the institutional leaders in Ukraine have stayed involved in EMDU from start-up to the present time (with changes in MEPNS personnel and UMC membership noted).

Institutional Factors

Other legacies of the Soviet period in the institutional context have been debilitating factors for the achievement of results. The most significant is the general shortage of management skills and systems. Leaders and managers are sometimes missing basic management concepts, and sector institutions have insufficient project management capacity. The institutions are generally stronger on the technical side than in management areas. Playing to their strength, they see technical solutions to problems before considering management solutions.

The sector institutions also struggle in an information culture that does not support openness and sharing information. In the Soviet period, the institutions tended to work in isolation and develop their own standards, which constrained their sharing results. They have since adopted international standards for research and measurement, but they exchange too little of their information, and tend not to link their EMIS related projects to similar work by other institutions.

8.2. Climatic and Geographic Conditions

The focus of this project was on the Dnipro River which flows across Ukraine in a southeastly direction. Twenty two million people in the Ukraine rely on this river for drinking water with high demands for irrigation and industrial uses. Over 50% of the Dnipro Basin lies within Ukraine with the balance roughly split between Belarus and Russia. Any major efforts on water and river basin management in the Ukraine must be coordinated with Belarus and Russia.

8.3. National Government Policies and Actions

The Ukraine government developed the National Plan for the Dnipro River Basin in 1992-94 to bring a focus to environmental management activities in relation to the river. The EMDU program contributed to the development of the plan through project activities like the Water Quality Baseline Study. The program brought together and

supported some of the key policy makers in MEPNS and the scientific institutes who shaped the directions taken in the plan.

The National Plan, and other official documents and legislation in the environment, need to be viewed in the context of Ukraine's other domestic needs and conditions. The government must balance its use of resources in managing environmental issues with stronger pressure to invest in other economic and social activities to address the more immediate hardships facing Ukrainians.

The government has international commitments in pollution control, specifically covering obligations under the European Protocols on Transboundary Pollution, the Montreal Protocol, and the Framework Convention on Climate Change. As much as the Ukraine government tries to improve environmental conditions, the pressure of economic needs tends to shape overall thinking and activity.

8.4. Other External Factors

Ukraine, Russia and Belarus – the three Dnipro riparian countries – are preparing for implementing a joint Strategic Action Program for the Dnipro River Basin. They are looking for financing through the UN's Global Environment Facility (GEF) program. The Ukraine government has revised the National Plan to reflect transboundary concerns, and presented IDRC as a preferred implementing organization for the GEF project. The injection of GEF funds into managing the Dnipro River Basin should yield many needed results, and enhance Canada's ongoing investments in the Ukrainian environment.

9. Overall Project Performance

9.1. Overall Assessment of Performance

The program goal was to contribute to the environmental rehabilitation of the Dnipro River system, through collaborative efforts of institutions and organizations from Ukraine, Canada and other countries. *The impact of the program was limited* at the time of the evaluation.

The outcomes of the program were notable in strengthening the capacity of Ukrainian institutions to manage the Dnipro River system, particularly its water quality, and in identifying means of reducing water pollution in the Dnipro River, specifically in Zaporizhzhia region. The most notable outcomes include the capacity of the UMC to provide strategic leadership in sector, and the DRF to administer local disbursements in the sector and provide environmental auditing services. The most notable outcomes include the MEPNS-IDRC work with Russia and Belarus to help build a transboundary GEF project concept for the Dnipro River basin, and the collaboration among sector institutions to adopt standards and exchange information.

The program deliverables and results at the output level were notable. EMDU delivered a good number of outputs and results through each programming component – environmental management capacity building and water pollution control. The most impressive results were at the institutional level – in particular in establishing the UMC and DRF, and producing outputs like the BWQS that benefit the sector. The program also resulted in new environmental legislation and regulations. The results at the community level were less impressive than results at the institutional and macro levels.

Some external factors had a notable negative impact on program delivery and results. The generally poor economic conditions in the country, and the financial constraints facing government departments and environmental institutions, affected the replication and use of results. The legislative, political, and institutional environments provided other debilitating factors to the program (see section 8.1). *A few external factors had a positive impact* on the achievement of results. The most significant example is the program benefiting when an EMDU champion was promoted to Minister of MEPNS.

9.2. Analysis of Key Success Factors

The program performance in producing outputs and results was significant, and the outcomes were notable. Four key success factors explain the achievement of results: relevance, appropriateness, partnership/participation, and innovation/creativity.

Relevance

The program was consistent with development conditions and local priorities in the environment. It remained relevant to the needs and priorities of all major stakeholders in



its implementation from 1994 to 1998. The relevance to stakeholders was a key success factor in the achievement of results.

Appropriateness

IDRC's approach was to induce institutional changes through demonstrations using prototypes and the dissemination of ensuing results. Through the EMDU program, new institutions like the UMC and DRF were developed in the sector, and new legislation and regulations were introduced for reducing water pollution. Overall, the program resources, capacities and selected strategies were sensible and sufficient to achieve the intended results, which was a key success factor in the program.

Cost-effectiveness

The EMDU program achieved a good number of results in strengthening environmental management capacity, and some in reducing water pollution. It provided good value for the money CIDA invested in institutional capacity building and macro-level results. At the same time, the program management costs were relatively high at 37% of the \$4.8 million budget. The program required a \$450,000 extension (almost 9% of budget) for completion. While cost-effectiveness was not considered a key success factor in achievement of results, the positive performance of EMDU suggests that the relationship between EMDU costs and results was reasonable

Sustainability

The program largely achieved its objectives for increasing the capacity of Ukrainian institutions to manage the Dnipro River system and identify means of reducing water pollution in the river, specifically in the Zaporizhzhia region. The features that will likely support the sustainability of program benefits include strong stakeholder commitment, adequate institutional capacity, and an enabling environment that is somewhat favourable to sustaining results. Overall, the program benefits to environmental management capacity are likely to continue, although they will be mitigated by a shortage of financial resources in the participating institutions.

Partnership/Participation

The EMDU program employed management and programming structures to encourage the development of shared ownership and decision-making, and mutual trust and benefit. The program fostered some good quality partnerships and active participation by the full range of stakeholders. Overall, the key stakeholders shared responsibility and accountability for project results, which was a key success factor in the achievement of results.

Innovation and Creativity

The EMDU program was experimental and innovative in its context. It was intended to introduce new thinking, approaches and technologies to environment sector institutions. There was a good level of innovation and creativity in managing and executing the program. EMDU tended to explore new ideas and approaches to achieve results, which was a key success factor in overall program performance.

Appropriate Human Resource Utilization

People were generally effective in managing and carrying out the program. This is consistent with other factors, including the quality of their participation and the relevance of the program to their needs. The human resource managers successfully matched personnel to program needs, and managed the project personnel effectively. Overall, the human resources involved in EMDU were suitable and used well, although other factors better explain the achievement of results.

Prudence and Probity

The program monitored its financial resources closely, and reported to CIDA in quarterly financial reports. Overall, the financial information appears complete, accurate and reliable, and the systems for managing program finances, risk, and contracts are basically sound. However this was not considered a key success factor in the achievement of results.

Informed and Timely Action

The program was designed to ensure local leadership in the strategic and operational management of programming resources. In this way, the program could take informed and timely action in response to change. The networks and processes for assessing trends in the program environment were generally effective, and the monitoring and reporting systems used to respond to opportunities and problems worked well. With noted exceptions in the delays at start-up and in implementing some projects in the Green Technology activity, the program generally performed well in taking informed and timely action at the strategic and operational levels.

9.3. Major Constraints

The major constraints to achieving results through EMDU were as follows:

- *The economic situation facing environment sector institutions* – The Ukrainian economy is performing poorly, which ultimately affects the resources available to government departments, research institutes, water and community service organizations, etc. for implementing or supporting environmental projects. This is a serious constraint to a program strategy that emphasizes demonstration projects, dissemination of findings, and replication and downstream use of results.
- *The regulatory environment in which sector institutions operate* – The sector lacks appropriate environmental legislation, and the regulatory context is subject to sudden, unpredictable change. The tax laws in particular seem prohibitive: for example, a 1995 presidential decree subjecting foreign donor money to heavy taxation caused delays in EMDU activities during a six-month hiatus in financial transfers to Ukraine. This is a serious constraint to managing water resources and reducing water pollution in Dnipro River basin.

- *The political environment affecting sector institutions* – The sector institutions are affected by on-going changes in a fluid political environment in Ukraine. National and oblast ministry leaders change positions. As it happens, the program benefited when an EMDU champion was promoted to Minister of MEPNS. But the uncertainty is a constraint to developing environment management capacity in Ukraine.
- *The management capacities in sector institutions* – The sector institutions are generally stronger on the technical side than in management areas. Leaders and managers are sometimes missing basic management concepts, and institutions lack appropriate skills and systems for project management. Playing to their strength, the institutions tend to see technical solutions to problems before considering management solutions. This is a serious constraint to developing the environmental management capacity needed in Ukraine to rehabilitate the Dnipro River.
- *The information management culture and communication practices in sector institutions* – The sector institutions struggle in an information culture that does not support openness and sharing information. In the Soviet period, the institutions tended to work in isolation and develop their own standards, which constrained their sharing results. They have since adopted international standards for research and measurement, but they share too little of their information, and tend not to link their EMIS related projects to similar work by other institutions. This is a serious constraint to developing environmental management capacity in Ukraine, specifically through EMIS projects, and to encouraging the exchange of information between Ukrainian researchers and policy makers.

9.4. Unique Models and Approaches

- The EMDU programming strategy involved demonstration projects, dissemination, replication and the use of results. The idea was to create leverage and spin-off results. Innovation and creativity were recognized as key success factors in the achievement of results. Beyond the models and approaches in some of the 30 EMDU projects, the innovative aspects of the Ukrainians involvement in program management included:
 - The program operated as a responsive fund with local management features. The Ukrainian Management Committee (UMC), the Dnipro Renaissance Fund (DRF), and the Ukrainian institutions with project contracts were all involved in the management of the fund.
 - The UMC was established from senior members of MEPNS and the leading scientific institutions to manage the program and select projects to be supported by the fund.
 - The DRF was established through the program as an NGO to facilitate tax exempt transfer of funds from Canada (and now other international donors) to the local institutes implementing their projects. DRF provides financial management and environmental audit services to the program and other clients.

IV IS REVIEW ISSUES

10. IS Review Issues

5.2 Poverty Reduction, Equity and Access

10.1.1. Poverty Reduction

The results of the program for poverty reduction were limited. This was so because EMDU was not conceived or designed as poverty reduction programming. Nevertheless, there were a few instances of people paying less in services or otherwise benefiting financially as a result of the program. In one example, the City of Edmonton donated 1,400 water meters to Zaporizhzhia municipality. Zaporizhzhia installed them in residential buildings, and people started paying for the water they used rather than a flat rate. Most families saw a 'substantial reduction' in their water bill.' The city consequently installed water meters in all single-family homes, and commercial and industrial customers, and about 80% of residential apartments in Zaporizhzhia.

10.1.2. Enabling Environment

The program successfully contributed to the development of the enabling environment for environmental management capacity building in Ukraine. Most notably, the program helped (1) inform the drafting of the National Plan for Rehabilitation of the Dnipro River Basin, and helped (2) create the Ukrainian Management Committee, which became the national body for coordinating work on the Plan. The program led to other changes to environmental legislation and regulations in Ukraine, including (3) a presidential decree that reorganized the reporting structures among State Committees sharing data on river water quality, and (4) municipal regulations in Zaporizhzhia requiring all new buildings to install water meters. The program helped (5) create the Dnipro Renaissance Fund as a legal entity for administering local disbursements in the sector, which helped (6) introduce new standards for environmental audits into legislation. The program also (7) supported the governments of Ukraine, Russia and Belarus in the design of a transboundary GEF project to rehabilitate the Dnipro River system.

The results of the program in developing the enabling environment were significant.

10.1.3. Capacity Building

The program successfully contributed to capacity building for individuals, institutions, the sector, and to a lesser extent, the public-at-large. There were numerous instances in which individuals (1) developed new skills and knowledge through basic training, research and study tours. The program helped institutions (2) strengthen human resource



systems, (3) develop plans and strategy papers, and (4) update their infrastructure with new computers, equipment, and manuals. The program helped build capacity in the sector by (5) creating and developing the UMC and DRF, (6) developing EMIS for information sharing among MEPNS and five State Committees, (7) carrying out the Baseline Water Quality Study for use by sector institutions, and (8) fostering collaborative links between a small number of Canadian and Ukrainian environmental organizations. Finally, the program produced materials to help (9) build awareness and understanding of environmental issues among selected groups and the public-at-large through public education programming.

10.1.4. Equity and Access

The program was not focused on improving equity and access for disadvantaged groups like the poor and women. A few EMDU projects did benefit some members of these groups, although disadvantaged groups were not targeted or consulted as the main beneficiaries. Some results included (1) community members in Zaporizhzhia are getting better water services from the Vodokanal through leak detection and pipe repair, water metering and billing, and water purification equipment. The water purification equipment was also installed in Kyiv in (2) about 30 hospitals, clinics, schools and kindergartens to improve water quality for drinking and cooking. At same time, the program helped (3) stabilize the riverbank facing three village communities along the Dnipro, and (4) increase public access to information on the Dnipro through the provision of educational materials for use in schools, community centres, and on television. See section 10.4 for information on performance and gender issues.

10.2. Results, Effectiveness and Efficiency

10.2.1. Project Design and Local Context

The program strategy for environmental management capacity building emphasized active local participation, institutional partnerships, and local ownership of the process. The program supported about 30 short-term, high profile projects, which often involved demonstration, dissemination and the replication of technologies. These proposals were prepared by local institutions in collaboration with the UMC, and within the framework of the National Plan for the Rehabilitation of the Dnipro River. The program management structures were designed to support the capacity building process. The UMC played a key management role in the program and in the sector, and the DRF played a financial management role and built up a regional network. The institutions receiving funding also carried out project management functions as well as their work in the project.

The project design made sense in the local context. The program outcomes were notable, and any higher management costs coming from the Ukrainian side may be viewed as investments in local management capacity.

10.2.2. Partnership and Local Context/Knowledge

Strengthening partnerships was result area and key factor explaining the achievement of programming results. The program tried to build environmental management capacity in Ukraine through greater collaboration among partners and institutions – more information sharing among them – and stronger leadership and strategic direction from the ministry. As described, the program management structures were designed to support this process. A key programming milestone was reached in the BWQS, which brought together many of the key institutions in the sector. A key partnership was established between MEPNS and IDRC, who are pursuing GEF project funding with Russia and Belarus. The program fostered collaboration and partnership between a small number of Canadian and Ukrainian organizations, including the City of Edmonton and Zaporizhzhia, UMA Consulting Engineers and the Zaporizhzhia Vodokanal, CBC and Green TV, and AGRA Earth & Environmental and DRF.

The results in strengthening partnerships were notable. The notion of partnership is central to the programming philosophy and strategy.

10.2.3. Impact on Environment

The program has not yet had an impact on the environment in Ukraine. Some initiatives funded in EMDU are continuing to receive support in EMDU-2, and they may lead to improvements in environmental conditions over the long-term. This includes the work of the Zaporizhzhia Vodokanal in improving municipal water services, and the work of Ukrainian industry in using the results of environmental audits. A handful of other EMDU projects were focused on reducing water pollution in targeted ways.

10.3. Impact on Policy Dialogue

Canada has been a positive influence on environmental policy in Ukraine from the start of the EMDU program to the present. Ukrainian partners in EMDU include MEPNS and other high profile government and research institutions in the sector. As a group, the partners have policy responsibilities, technical knowledge, and a capacity for policy research. The program has contributed to policy development at national and municipal levels. With support from IDRC and the Canadian Embassy, MEPNS and other Ukrainian partners lobbied against the presidential decree subjecting foreign donor money to heavy taxation. The government (1) granted an exemption allowing IDRC to move funds through the Dnipro Renaissance Fund on a tax-free basis. The program also (2) influenced the direction and wording of the National Plan for the Rehabilitation of the Dnipro River Basin, and (3) led to municipal regulations for installing water meters in new housing in Zaporizhzhia.

Canada has played a positive role among the donor community involved in environmental programming in Ukraine. CIDA and IDRC are recognized as important players in the sector, and the UNDP is considering recruiting IDRC as the foreign implementing agency for the Dnipro Basin GEF Project that involves Ukraine, Russia and Belarus.

10.4. Gender

10.4.1. Project Design and Implementation

The program did not successfully integrate gender considerations into the design and implementation. The "responsive fund" design was nevertheless conducive to meeting modest gender objectives in a capacity building process. The achievement of results was constrained by factors in the local context. The program stakeholders differed in their views of the value of gender equity programming. They discussed gender policy issues and programming responses in program meetings, built gender considerations into proposal and report formats, and supported two gender studies – an initial assessment of gender and the environment in Ukraine, and the preparation of a gender strategy for the program. The studies raised awareness of gender considerations among Ukrainian stakeholders in part because they disagreed with funding the studies. The process did not lead to the full and effective integration of gender considerations into program initiatives, or the involvement of women as equal and active partners in project work, as prescribed in CIDA policy.

10.4.2. Needs and Challenges

The gender studies identified four main challenges to gender equity programming in Ukraine. They include a lack of understanding and knowledge of gender issues in the environment, low representative of women in environmental decision making, a lack of environmental gender-disaggregated data, and the relationship between NGOs and State Environmental Institutions. The studies helped establish an EMDU gender strategy with four objectives: (1) to strengthen the capacity of IDRC and environmental institutions in Ukraine to integrate gender issues, (2) to promote the full participation of women in environmental decision-making, (3) to support the collection and dissemination of gender-disaggregated environmental data, and (4) to foster interaction between state and non-governmental environmental organizations, including women's NGOs.

10.4.3. Equity and Access

The program was not focused on improving equity and access for women and it failed to successfully integrate gender considerations into the design and implementation. One positive change was the UMC eventually included three women in its membership. Many program activities involved collecting data on water quality, environmental

practices, or institutional capacities, but there is no evidence that sex-disaggregated data were collected in these projects. There is also no evidence that any collaboration in projects took gender considerations into account, or that women played a key role in environmental decision-making.



V LESSONS LEARNED AND RECOMMENDATIONS

11. Lessons Learned and Recommendations

11.1. For Policies

Lesson 1 – Enabling Environment

The quality of partnerships and participation and how these relationships are managed are key to strengthening enabling environments. The EMDU demonstrated that the quality of these relationships are based on the commitment of local stakeholders. Commitment was inspired by the relevance of the programme, and the innovative and creative approaches used in project implementation. The programme helped create, for example, the UMC and DRF, and supported the government of Ukraine, Russia, and Belarus in the design of a transboundary GEF project to rehabilitate the Dnipro River system. It helped inform the drafting of the National Plan and at least five other pieces of environment legislation in the Ukraine. In this way the results of the program in strengthening the institutions for environmental management of the Dnipro River were significant.

Recommendation 1

CIDA should continue to support partnership building, local ownership, and the demonstration project approach in developing the enabling environment in Ukraine.

Lesson 2 – Gender Equality

Gender results are achieved in specific country and cultural contexts when the best practices in development thinking occur. This includes local participation and ownership of the process started very early in the project. The results of implementing gender equity and access considerations in the EMDU-1 program were negligible. Ukrainian partners were sceptical of efforts to promote gender sensitivity in the program, as this was not a priority area for them. The program failed to provide the Ukrainian partners with a compelling reason to support this type of development.

Recommendation 2

CIDA should develop context specific strategies to promote local participation and ownership of the process for achieving results in gender equality.

Lesson 3 – EMDU Program Management Costs

The program should identify the expected return on CIDA's investment in EMDU, and estimate the impact on results of reducing CIDA's investment in program management. As this data was not available, CIDA and IDRC lacked investment data upon which to make decisions about changes to the program management structure. The management costs were relatively high in the EMDU program (higher than normally accepted industry benchmarks) and caused some misunderstandings between CIDA and IDRC. The costs remained an issue in EMDU-1 as IDRC did not convince CIDA of the value of the expensive management structure.



COWATER

Recommendation 3

CIDA should develop a methodology for estimating return on investment in management so that investment benchmarks may be developed to replace benchmarks in management costs.

11.2. For Projects

Lesson 4 – Ukrainian Reform

CIDA projects in CEE countries, such as the Ukraine, must remain responsive to changing demands. The management, administrative and governing structures in post-Soviet Ukraine are undergoing a steady and fundamental change. The principles and systems for managing the economy and banking, accounting and project management systems are very different from Western practices, and going through a change process. The program responded to the changing demands and operating environment through the flexibility provided by a responsive fund.

Recommendation 4

CIDA should continue to support EMDU-type responsive funds with local management features for use in programming that supports Ukrainian reform.

Lesson 5 – Ukrainian Management Capacity Building

The program successfully increased management capacity in targeted Ukrainian institutions, and improved information management and communications in the sector. The program was successful in this regard because capacity building was relevant to local stakeholders, took place in a context of mutual respect and trust, and employed appropriate resources and strategies in the context. This is significant considering the prevalent management, information and communication culture in Ukraine, which were constraints to the achievement of results. Many institutions are not yet comfortable with the changes seemingly being forced on them.

Recommendation 5

CIDA should continue to support management capacity building in Ukraine through project environments such as EMDU that create the right conditions for the process.

Lesson 6 – EMDU Demonstration Project Approach

The program results in the enabling environment, partnership building, and impact on policy dialogue, as well as project activities for water pollution control, were achieved with the support of demonstration projects, dissemination of results, and replication of technologies. Innovation and creativity was a key success factor in EMDU programming, and it was partly responsible for five important results at the macro-level and the solid performance in policy dialogue

Recommendation 6

CIDA should continue to support the demonstration project approach as a means of achieving objectives for enhancing the enabling environment and influencing the policy dialogue in Ukraine.

Lesson 7 - Sustainability

Long-term investments and partnerships are necessary to achieve results in capacity building, creating an enabling environment or achieving results at the impact level. In the Ukraine, the value of the information and/or training received is measured by the confidence, respect and personal trust placed in the person or group providing the information or training. This is only developed over a period of time and repeated visits and by allowing time for successful results to start to show and be recognized.

Recommendation 7

CIDA should continue support EMDU-2 and reasonable extensions of other successful projects to allow personal trust and respect to develop between the Ukrainian and Canadian stakeholders.

Lesson 8 - Risk Management

Risks should be identified early in the project and then monitored on a regular (monthly) basis. There are a number of economic and cultural risks that were identified related to working in the Ukraine. For example the legislative and regulatory context had a negative impact on the program in the instance of the 1995 presidential decree that subject the transfer of foreign donor money to local institutions to a hefty tax. This caused delays in EMDU activities during a six-month hiatus in financial transfers to Ukraine, and contributed to the need for the \$450,000 extension to the 3-year program. There generally did not appear to be any specific proactive action planned to mitigate such risks. Issues were dealt with appropriately, however, when they did arise.

Recommendation 8

Identified potential risks should monitored as the project progresses. Early recognition and a prepared course of action could help reduce the productive project time lost to correct the situation.

Annex A: Results of Multi-Criteria Analysis Tool



Table A-1 : Developmental Success Factors

Development Factor	Indicator	Maximum Value	Project Rating
Relevance	Consistency with needs and priorities of targeted beneficiaries/ country/ region based on a sound understanding of the local context.	40	40
	Consistency with CIDA policy, priorities and programs.	20	20
	Consistency with Canadian foreign policy, including potential benefits to Canada.	20	14
	Consistency with efforts of local organizations and other donors addressing the same needs or problems.	20	14
	Total Relevance Rating	100	88
Appropriateness	Stakeholder satisfaction with and commitment to results and methods used to achieve them.	35	27
	Canadian capacity to provide goods and services required to achieve results.	15	15
	Effective design and delivery of resources and services, responding to conditions, needs & problems.	35	27
	Application of lessons learned from development experience.	15	12
	Total Appropriateness Rating	100	81
Cost Effectiveness	Allocation of costs to project priorities.	30	20
	Allocation of costs to budget line items.	15	7
	Allocation of costs between program and overhead.	15	7
	Relationship between costs and results	40	32
	Total Cost Effectiveness Rating	100	66
Sustainability	Stakeholders take charge of project activities.	40	40
	Commitment of sufficient financial resources to maintain project benefits.	15	11
	Adequate institutional capacity and on-going relevance to maintain project benefits.	15	15
	National and international environment conducive to maintenance of project benefits.	15	11
	Project results develop the capacity of targeted beneficiaries to maintain benefits.	15	10
	Total Sustainability Rating	100	87

Table A-2 : Management Success Factors

Development Factor	Indicator	Maximum Value	Project Rating
Partnership	Active participation of recipients and beneficiaries.	30	30
	Project management structures are coherent with a partnership approach.	30	30
	Major stakeholders share a common understanding of project objectives and purposes.	10	10
	Clear definition, understanding and acceptance of roles and responsibilities by project participants.	10	7
	Partners in management have appropriate authority and tools they need to make decisions and take action.	20	20
Total Partnership Rating		100	97
Innovation & Creativity	Experiment with new project design and procedures.	25	18
	Calculated risk-taking to achieve results.	25	12
	New partnerships to achieve results.	25	25
	Lessons learned from innovation recorded, reported and disseminated.	25	25
Total Innovation and Creativity Rating		100	80
Appropriate Human Resource Utilization	Good match between project needs and knowledge, expertise and personal skills of all major project participants.	60	52
	Adequate management of project personnel.	40	40
Total Appropriate Human Resource Utilization Rating		100	92
Prudence & Probity	Sound financial management policies and procedures, including budgeting, accounting and reporting systems and practices.	40	37
	Adequate strategies and practices respond to the nature and level of risk to project funds and assets.	30	30
	Contracting and contract management in accordance with sound contracting policies and practices.	30	30
Total Prudence and Probity Rating		100	97

Development Factor	Indicator	Maximum Value	Project Rating
Informed and Timely Action	Effective networks and processes to identify and assess important trends and events in the project environment.	40	40
	Effective monitoring and reporting systems.	30	22
	Appropriate and timely response to opportunities and problems.	30	30
	Total Informed and Timely Action Rating	100	92



Annex B: Persons Contacted and Documents Consulted



Persons Contacted and Documents Consulted

Canadian International Development Agency

Mr. Philip Chan, Performance Review Officer, PRB
Mr. Réal Lalande, Deputy Director, CEE
Ms. danielle Rondeau, Senior Project Officer, CEE
Mr. Clermont Racine, Senior Project Officer, CEE

CIDA Program Monitor

Mr. Rob Lothian, IRIS

Canadian Embassy in Kyiv

Mr. Emile Baran, Counsellor
Mr. Bruce Steen, Senior Project Officer
Mr. Volodymyr Synuk, Senior Project Officer

International Development Research Centre

Mr. Jean-H. Guilmette, Director, Office for Central and Eastern Europe Initiatives
Mr. Kerry Franchuk, Program Officer
Ms. Sue Davies, Assistant Office Manager

IDRC Kyiv Project Office

Mr. Myron Lahola, Program Director
Mr. Ihor Iskra, Project Liaison Officer
Ms. Olena Rudenko, Administrator
Ms. Irina Rudenko, Financial Manager
Ms. Julia Guderenko, Receptionist, Cooperation House

Dnipro Renaissance Fund

Mr. Vasyl Navrotskij, Vice-President
Mr. Juriy Satalkin, Vice-President
Mr. Anatoliy Dobrovolskij, President of Zaporizhzhia DRF

Ukraine Ministry of Environmental Protection and Nuclear Security

Dr. Anatoliy Yatsyk, Deputy Minister (UMC Member)
Dr. Oleksandr Mazurkevich, Head of Water Resources Directorate (UMC Member)
Mr. Oleksandr Belov, Head of International Directorate
Mr. Anatoliy Stashuk, Head of Dnipro Department (UMC Secretary)
Ms. Svetlana Maydan, Head of Protocol Department
Ms. Nina Prihodko, Acting Director, Zaporizhzhia Oblast MEPNS
Mr. Anatoliy Dobrovolsky, Former Director, Zaporizhzhia Oblast MEPNS

Ukraine Implementing Organizations

Institute of Hydrobiology, National Academy of Sciences

Dr. Victor Romanenko, Director (UMC Member)

Dr. Nikolay Evtushenko, Head of Ichtiological Department

Dr. Valeriy Zhukinshy, Lead Scientist

Dr. Victor Arkhipchuk, Senior Scientist

Dr. Yuriy G. Krot, Chief of Biotechnological Complex

Institute of Colloid Chemistry, National Academy of Sciences

Dr. Vladislav Goncharuk, Director (UMC Member)

Mr. Vladimir Skubchenko, Deputy Director

Radioecological Center, Ministry of Public Health

Mr. Samsoniy Tedorov, Engineer

Hydromet Institute

Mr. Voytsehovich, Director

Mr. Vladimir Osadchy, Head of Hydrochemical Department

Hydromet Archives

Mr. Vladimir Onufrienko, Director

Green Studio TV

Dr. Juriy Pavlun, Director

Dnipro Basin Water Association (Vyshgorod)

Mr. Arkadiy Sakevich, Director

Ecocenter, Zaporizhzhia Oblast MEPNS

Mr. Valeriy Golovin, Director

Zaporizhzhia Vodokanal

Mr. Petro Spasuk, Director

Mr. Vladimir Razgulayev, Chief Engineer

Zaporizhzhia Central Water Sewage Plant 2

Mr. Boris Litkeman, Director

Other Donors

United Nations Development Programme

Mr. Pedro Pablo Villaneuva, UNDP Resident Coordinator

Ms. Moreno, Donor Liaison Officer

USAID



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Ms. Marilyn A. Schmidt, Director, Office of Democratic and Social Transition
Ms. Alexandra B. Burke, Environmental Specialist

Documents Consulted

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UNDP/GRID-Arendal, Environmental Information Systems in Ukraine (1995)
CIA Fact Book, Ukraine (on-line document)

CIDA Policy and Programming Documents

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CEE Regional Framework (on-line document)
CIDA CEE Technical Cooperation Program (on-line document)
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World Bank, Ukraine Water Projects (on-line document)
World Bank, Region Environment Report (on-line document)
World Bank, Region Environment Sector Report (on-line document)
World Bank, Region Infrastructure Sector Report (on-line document)
World Bank, Region Social Sector Report (on-line document)
World Bank, Region Financial Sector Report (on-line document)



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Annex C: Evaluation Matrix



EVALUATION MATRIX

Evaluation Issues & Research Questions	Type of Data & Indicators	Documents	Interviews					
			IDRC Ott.	Proj Staff Kyiv	MEP NS	Ukr Impl Orgs	CIDA Post Mntrs	Ukr Mgmt Cmte
1. Development Factors								
Relevance. Does project make sense? To conditions, needs or problems it addresses?	Level of consistency w/ Beneficiary group, CIDA, Canadian gov't, Ukraine gov't, donor needs, efforts?	Policy documents		X	X	X	X	X
Appropriateness. Does strategy make sense? Given project resources, capacities? Are they sufficient?	Stakeholder satisfaction w/ intended results, methods? Effective use of project resources, capacities?	Project reports Minutes of meetings			X	X		X
Cost-effectiveness. Is project good value for money? Is relationship between costs and results reasonable?	Planned vs. actual costs? Value measure of results Project costs vs. relevant benchmark?	Project financial reports						
Sustainability. Are results sustainable? Will benefits continue after completion of project activities?	Stakeholder ownership? Ongoing investment? Institutional capacity? Relevance to environment?	MOUs Project reports	X	X	X	X		X
2. Management Factors								
Partnership. Do stakeholders share ownership of the project? Is there shared responsibility and accountability for project results?	Participation in design, implementing, monitoring? Partners have authority and tools to make decisions, act?	Project design documents	X	X	X	X	X	X
Innovation and Creativity. Is design innovative? Does the project explore new ideas and approaches to achieve its results?	Experiments in design? Risk taking and results? New partnerships? Learning from experiments?	Project documents	X	X		X		



Appropriate Human Resource Utilization. Are people used well? Are suitable human resources involved and used well?	Project needs match staff participants skills, expertise Management of project personnel?	Project documents	X	X				
Prudence and Probity. Is financial management sound? Is financial information complete, accurate, reliable? Are financial resources being used economically?	Financial management policy and procedures? Contract management? Ukraine financial mgmt?	Project financial documents	X	X			X	
Informed and Timely Action. Is strategic management sound? Does project anticipate and respond to change based on adequate information?	Networks, processes to assess trends in environment Monitoring, reporting? Use of information?	Project reports Minutes from meetings	X	X		X	X	
3. IS Issues								
3.1 Equity, Access and Poverty Reduction								
Equity and access. To what extent did project improve access for disadvantaged groups like poor and women?			X	X		X		
Enabling environment. To what extent did project contribute to dev of enabling environment in sector?			X	X	X			X
Did the project contribute to development of appropriate policy, legal, regulatory framework in the sector?			X		X			
Did the project contribute to public sector reform?			X					
Capacity building. Was diagnosis sound? Was project based on good assessment of existing capacity?	Data in design reports?	Design stage reports	X	X		X		
HRD results? To what extent did it contribute to development of human capacity?		Progress reports	X	X		X		X
Institutional results? To what extent did it contribute to institutional development?		Progress reports	X	X	X	X		X
Societal results? To what extent did it contribute to rebuilding and reestablishing "normalcy"?		Progress reports	X		X	X		
3.2 Results, Effectiveness & Efficiency of Investment								
Design Effectiveness. Is project in line with Ukraine political, economic, social, cultural environment?		Donor reports	X	X	X			X
Is project design conducive to meeting project objectives?		Design documents	X					
Is project design appropriate given local context? Local policy, technological capacity?		Donor reports	X	X				

Sustainability. Are project results sustainable beyond the project term?			X	X	X	X		X
Were financial, human resources, capacities, strategies, appropriate for achieving results?		Financial reports	X	X		X		
Value for money. Was relationship between costs and results reasonable?		Financial reports	X				X	
Partnership/participatory approaches. Did project implementation involve Ukraine partners and experts?			X	X	X	X		X
Did it promote linkages between Canada & Ukraine organizations?		Progress reports	X	X		X		
Did project management structures ensure effective participation of Ukraine organizations?		Design documents	X			X		
Did the design take into account benefits to Canadian economy? What were the benefits?		Design documents	X				X	
3.3 Policy Dialogue								
CIDA's policy work. What was CIDA's contribution to policy dialogue with Ukraine government in sector?		Donor reports	X				X	
To what extent was CIDA policy dialogue done in concert with other bilateral and multilateral donors?		Donor reports Minutes	X				X	
Is CIDA credible in policy dialogue role? In terms of its presence in Ukraine? Investment portfolio?			X				X	
CIDA's policy work. What was CIDA's contribution to policy dialogue with other donors in Ukraine?		Donor reports Minutes	X				X	
CIDA's influence. What is CIDA's influence on multilateral institutions or global fora?		Donor reports Minutes					X	
What is its influence on infrastructure development interventions in other donor policies, programs?		Donor reports					X	
3.4 Results Management								
Monitoring. Are appropriate processes and systems in place to monitor project results?	Mgmnt processes, systems exist for monitoring results	Project Manuals	X				X	
RBM information management. Is results-based information available for the project?	Quality information for RBM exists, available	Project documents	X				X	
What are challenges of measuring, demonstrating results for IS as opposed to physical infrastructure?	Lessons learned							
How do we develop indicators to measure results of programming in capacity development?	Lessons learned							

Annex D: Interview Protocols



Interview Protocols

The interview protocols consist of areas of discussion and interview prompts. They are drawn from the evaluation matrix. The interview will follow the discussion of issues within these parameters. The interview protocols for the stakeholders groups are presented below:

DFAIT and CIDA Hull

Background
involvement in EMDU-1

Development Factors
relevance

Results and Overall Performance
significant results
value for money

Management Factors and Results Management
partnership
prudence and probity
informed and timely action
monitoring
RBM information management

Policy Dialogue
CIDA's policy work
CIDA's influence on policy dialogue and partners

Conclusion
lessons learned
recommendations

IDRC Ottawa

Background
involvement in EMDU-1

Development Factors
relevance
sustainability



Results and Overall Performance

significant results
effectiveness
value for money and efficiency of investment
equity, access and poverty reduction

Management Factors and Results Management

partnership
human resource utilization
prudence and probity
informed and timely action
monitoring
RBM information management

Conclusion

lessons learned
recommendations

Canadian Consultants and Suppliers

Background

involvement in EMDU-1

Development Factors

relevance
appropriateness
sustainability

Results and Overall Performance

significant results
effectiveness
equity, access and poverty reduction

Management Factors and Results Management

partnership
innovation and creativity
informed and timely action

Conclusion

lessons learned
recommendations

IDRC Kyiv project office

Background
involvement in EMDU-1

Development Factors
relevance
sustainability

Results and Overall Performance
significant results
effectiveness
equity, access and poverty reduction

Management Factors and Results Management
partnership
human resource utilization
prudence and probity
monitoring
RBM information management

Conclusion
lessons learned
recommendations

Ukraine Management Committee (UMC)

Background
involvement in EMDU-1

Development Factors
relevance
appropriateness
sustainability

Results and Overall Performance
significant results
value for money and efficiency of investment
equity, access and poverty reduction

Management Factors and Results Management
partnership
monitoring

Conclusion
lessons learned



recommendations

Ministry of Environmental Protection and Nuclear Safety (MEPNS)

Background
involvement in EMDU-1

Development Factors
relevance
appropriateness
sustainability

Results and Overall Performance
significant results
equity, access and poverty reduction
value for money
obstacles

Management Factors and Results Management
partnership

Conclusion
lessons learned
recommendations

Other Ukraine beneficiaries/participants

Background
involvement in EMDU-1

Development Factors
relevance
appropriateness
sustainability

Results and Overall Performance
significant results
effectiveness
equity, access and poverty reduction

Management Factors and Results Management

partnership
innovation and creativity
informed and timely action

Conclusion

lessons learned
recommendations

Canadian Embassy in Kyiv

Background

involvement in EMDU-1

Development Factors

relevance
appropriateness
sustainability

Results and Overall Performance

significant results
value for money and efficiency of investment

Management Factors and Results Management

partnership
informed and timely action
monitoring

Policy Dialogue

CIDA's policy work
CIDA's influence on policy dialogue and partners

Conclusion

lessons learned
recommendations

Other donors

Background

involvement in environment sector programming in Ukraine
programming portfolio

Development Factors

relevance
appropriateness
sustainability

Results and Overall Performance

significant results

Management Factors and Results Management

partnership

Policy Dialogue

CIDA's policy work
CIDA's influence on policy dialogue and partners

Conclusion

lessons learned
recommendations

Annex E: Members of the Ukrainian Management Committee



Members of the Ukrainian Management Committee

Dr. V.Ya. Shevchuk	Minister, MEPNS
Mr. K.A. Aliev	Deputy Head, State Water Resource Management Committee
Ms. Dovganuyk	Deputy Head of Investments and Capital Buildings Directorate, Ministry of Economy
Dr. V. Goncharuk	Director, Colloid and Water Chemistry Institute of Ukraine
Mr. Leonenko	Head of Department of Economy of Natural Resources, Ministry of Economy
Mr. V.M. Lipinsky	Head, State Committee of Hydromet
Ms. N.O. Makogon	Assistant to the Minister, MEPNS
Dr. O.O. Mazurkevych	Head of Dnipro Basin and Water Ecosystems Directorate, MEPNS
Mr. V.M. Navrotsky	Vice President, IDF
Ms. M.I. Prozorova	Head of International Affairs Directorate, MEPNS
Dr. V. Romanenko	Director, Hydrobiology Insititute
Mr. G.M. Semchuk	First Deputy Head, State Building Committee
Mr. V.V. Serenko	First Deputy Head of State Environmental Inspection, MEPNS
Mr. A.I. Stashuk	Head of the Dnipro Basin Problems Department, MEPNS (UMC secretary)
Mr. E.O. Yakovlev	Deputy Head, Geoprognozes State Enterprise
Dr. A.V. Yatsyk	First Deputy Minister, MEPNS, Director, Scientific Research Insititute of Water and Environmental Problems

**Annex F: Global Environmental Facility (GEF)
And UNDP Concept Paper on the Dnipro River
Basin Program**



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UNDP Concept paper

**Implementation of the GEF Project, Preparation of a
Strategic Action Programme (SAP) for the Dnieper
River Basin Programme and Development of SAP
Implementation Mechanisms**

1. Introduction

The Dnieper Basin Project was approved at the April 1998 session of the GEF Council. The major objectives of the Project are "to remedy the serious environmental effects of pollution and habitat degradation in the Dnieper River Basin, to ensure sustainable use of its resources, and to protect biodiversity in the basin".

The Dnieper Programme was initiated by the three riparian nations who, in 1995, agreed upon a Memorandum of Understanding which requested UNDP assistance for the preparation of a GEF Project Brief. Shortly prior to the approval of the Project Brief, objections had been raised by the Canadian Member of Council who, citing the ongoing work of Canada's International Development Research Centre (IDRC) in Ukraine, requested that "consideration should be given, among other things, to alternative management approaches for multi-country co-operation, besides the traditional method for implementation". The Council Member for Finland also questioned the draft Project Brief, noting "it is not clear what type of institutional set-up is intended to look after the regional basin co-operation in the future. This is an element of sustainability that should be addressed".

In response to these comments, UNDP has contracted a senior consultant (Prof. Laurence Mee) to conduct discussions with the various Parties in order to develop a consensus position prior to the formulation of the Project Document. In the execution of his duties, the consultant conducted discussions with government officials and specialists from Russia and Ukraine and will shortly be visiting Belarus with the same purpose. He has also conducted preliminary discussions with IDRC, including a brief visit to their office in Kyiv, and has had telephone consultations with other potential donors. The consultation process was considerably delayed by the change in Minister of Environmental Protection and Nuclear Safety in Ukraine, a situation now happily resolved with the appointment of a new Minister.

The present document represents a vision of management aspects of the Dnieper programme and presents recommendations for follow-up consultations between the parties. The current paper represents a clear consensus which paves the way to a strong working relationship between all of the organisations involved in this important environmental project.

2. Development of a Management Approach for the Dnieper Basin and the GEF Project

2.1 Issues

Several key criteria must be met if the project is to achieve its basic aims. The project should:

- ensure a cross- sectoral approach, both across sectors in the government and between central and local governments and representative groups of stakeholders in civil society;
- maximise benefits for the recipient countries to fulfil the common objectives;
- focus GEF funding on identified transboundary issues;
- build sustainability through ownership, creating long term mechanisms for policy implementation which can be financed by the riparian countries;
- contribute to the GEF Black Sea Basin Approach;
- make optimal use of scientific and technical resources in the region as well as existing consultative fora;
- make optimal use of the technical and financial resources of all donors willing to contribute to its development.

One of the most important considerations from the standpoint of the GEF is to build the project and its recommendations on a domestic baseline which can be financed by the riparian countries, either by domestic funding or through loans and grants from external sources. This point was stressed by the GEF Council Member for the United Kingdom. There should be a clear distinction between zero-baseline "enabling" activities (SAP preparation) and those which implement the SAP above a determined baseline of domestic funding. The concept of "domestic baseline" in the context of the GEF refers to the level of activities needed to resolve environmental problems within a country's direct jurisdiction, as compared with activities which would address global and regional problems shared by more than one country. In practice, in the case of international waters, there is often no clear-cut dividing line between domestic and international responsibilities. The SAP process, conducted through a transboundary diagnostic analysis, is designed to help identify those issues of a truly transboundary nature for which "incremental cost" funding from the GEF might be provided. The GEF considers that the process of formulating international treaties and laws to govern the management of international waters is a national responsibility and not an incremental one. Assistance can be provided however with their implementation in cases where the issues involved have actual or potential global consequences.

The subsequent paragraphs will consider how a project management strategy may be designed in order to meet these criteria.

2.2 Current situation

The disintegration of the former Soviet Union resulted in the sudden need to decentralise many institutions which were formerly governed from Moscow. The social and political agenda was such that the establishment of effective cross-sectoral bodies for environmental protection was not one of the highest priorities in this process. Many key institutions, such as those responsible for monitoring the environment or for developing and implementing effective economic instruments, lacked financial means to operate and languished. Unfortunately, as in some western countries, the environmental ministries have themselves become "sectors" and other ministries defer all responsibilities for environmental protection to them rather than embracing the vision that this is the responsibility of all components of society. Currently, there is no lack of willingness to collaborate within the "environmental sector" but the means to extend the dialogue to practical actions is often absent.

The above situation has resulted in fragmentation of the institutional networks which were formerly engaged in various aspects of environmental protection. Many of the remaining structures are so poorly financed that staff are obliged to seek part-time employment elsewhere. The institutions are often badly equipped and the staff demoralised. The roles and capabilities of institutions have not been fully assessed. Realignment of institutions, including strong networking, is badly needed. Complicating matters further is the fact that there is little confidence

from potential investors in the three riparian countries and actions requiring substantial loans are likely to suffer considerable delays. The approach taken to resolve this deadlock must necessarily be innovative: seeking low cost solutions which make best use of the scant available resources; developing demonstration projects which will promote confidence in the viability of new policies; and seeking means for attracting the co-operation of donors and the emerging private sector without compromising good environmental ethics. The institutional difficulties in the region provide a unique opportunity to set a precedent of a well managed, accountable and transparent project with total ownership from the region.

The project needs to be careful in not trying to "reinvent the wheel". In the former Soviet Union, a Commission on the Dnieper already existed. Experience shows that it is sometimes easier to reform and redirect a Commission which had a legal standing in the past than to create an entirely new one. This approach should be explored and evaluated at the earliest stage of the project. Certainly, the major focus of the current project is, and should remain, directed towards creating and implementing an effective Strategic Action Plan rather than a legal Convention. It is recognised however, that at some point, an enforceable international treaty could become a necessary conditions for the rehabilitation of the River Basin.

2.3 Policy and management tools required

There are a number of basic tools which are required for the successful implementation of the GEF project. Some of these have been incorporated in the paper prepared by IDRC, others are based upon successful policy development in other NIS countries:

a) Networking

The concept of networking is a key aspect of project design and implementation and is an area where much practical experience has been acquired in recent years in the NIS. A fundamental component in the GEF strategy is the *regional activity centre* (RACs), a concept tested in the Black Sea Environmental Programme but originally developed in UNEP projects, notably the Mediterranean Action Plan. The regional activity centres are a mechanism by which countries agree to share specific co-ordinating roles employing institutions which already exist and can be sustainably financed by national governments using their own resources. Each RAC has its own network of technical focal points within which components of the program are realised and information is exchanged freely, usually by electronic means, and without outside interference. The scheme avoids the unnecessary transfer of currency from country to country and provides a means of providing counterpart funding for the project. In the establishment of the RACs, it is important that uniform criteria are discussed and agreed for the selection of the topics for each centre to develop and for the selection of the centres themselves. Certainly, centres should be chosen that are in Oblasts within the Dnieper basin and which contain appropriate expertise, irrespective of which sector they may pertain to. The discussion on this aspect should take place prior to finalising the project document.

The RACs are not the only means of networking. An example of civil society networking is that of the *Regional Environmental Centres*. These should be incorporated into the project from its outset. RECs are in their final stages of establishment in Russia and Ukraine and hopefully, a similar organisation will be created in Belarus. It should be pointed out that the RECs are not a mechanism for co-ordinating NGOs but have a wider mandate including business organisations and all other branches of civil society. They have been funded largely through support from the USA and the European Union, together with expertise from UNDP and other bodies in some cases. The REC in Hungary has a network of ten country offices throughout East and Central Europe. The UNDP country offices also have their own networks of organisations within civil society in all three countries (including business associations, in some cases) and it is important to make full use of their capabilities in the programme. In a similar manner, IDRC and Tacis have been conducting important networking activities, especially in Ukraine and will be important partners in the networking process.

Networking will be necessary between local authorities if this project is to be fully successful. Initiatives for promoting Local Agenda 21 are important in this respect and the work of organisations such as ICLEI (International Council of Local Environmental Initiatives) have established valuable precedents for engaging local authorities. An association of Dnieper municipalities might be created along these lines.

(b) Consensus building

There is little difficulty to build a consensus between similar sectors in the three countries. The real challenge is to build a consensus across sectors. For this purpose, it is necessary to establish common environmental objectives and practical goals for achieving them. The process starts with the common objectives (it has already started with the creation of the Project Brief itself). Agreement moves by small steps within the comprehension of the Parties but which mesh together in their movement towards a common objective. Thus there will be important discussions on methodologies, standards, data distribution in order to create the information necessary for politicians and the public in general to make necessary management choices for attaining each goal. The concept of choices is important to develop - each option is associated with an uncertainty which, unlike past practice must be properly and transparently explained.

The *Transboundary Diagnostic Analysis* is a key element in the GEF approach towards consensus building. The GEF Secretariat has already pointed out that the present TDA and draft SAP will need extensive revisions to meet the objectives of the project. When completed, the TDA should demonstrate a causal chain between environmental problems and their root causes and examine gaps in understanding, including the quality of current information. Its development should utilise the extensive experience of the UNEP GEF Unit in TDA design. The TDA provides the framework for the choices to be made. It should present different options for resolving the identified problems and their cost and thus facilitate the more political work of formulating the Strategic Action Plan. It is particularly important to separate the "technical" work of the TDA from the "political" work of the SAP. The TDA is the culmination of effective preparatory work of the network, whereas the SAP is the work of the River Basin Commission or its predecessor. The Dnieper GEF programme should serve as the facilitator for the technical work and for its interface with the political work. The Black Sea TDA and SAP are good examples of how this process towards consensus building works effectively in the cultural setting of the NIS. There are, of course, many improvements which can now be made in the process, particularly with the design of the TDA, but the process is a well-tested and valid one.

(c) Iterative policy development

Iterative policy development is the stepwise process by which environmental objectives are gradually met in parallel with improvements in knowledge of the environmental problems themselves and within the economic constraints of the countries within the region.

In the case of pollution control for example, the basic approach is rather simple. Firstly, there has to be a recognition that the integrity of river basin ecosystems and/or human health is threatened by pollution. The complete removal of the threat would be desirable but is often impracticable in the short/medium term for social and economic reasons and an interim strategy is necessary for pollution control. It also requires that there are measurable indicators of ecosystem health. The riparian states then agree on a short term target for reduction. In the first iteration, the reduction is agreed on the basis of what can reasonably be achieved within a given time frame. The agreement is made on the basis of common but differentiated responsibilities, in this case each Party finds the most economically convenient approach for reaching the agreed target. It is understood from the outset that the first reduction is modest and somewhat empirical but the Parties also agree on a programme of research and monitoring to refine the estimates of optimal reductions so that, at the end of the first period, new targets may be set with lower scientific uncertainty regarding the outcome. The iterations continue until all Parties agree that the environment is adequately protected. At the same time, public understanding of the issues will also gradually improve as will their demands for tighter criteria for protection and, hopefully, their willingness to pay. This is an open-ended process with a moving target, driven by continuity of scientific research, freedom of information and the full involvement of all stakeholders. The approach avoids creating a stark division between "the public" and "the polluters" and seeks a consensus which addresses environmental degradation at its root causes.

In other words, iterative environmental management is an integrated (across disciplines, stakeholder groups, and generations) approach based on the paradigm of "adaptive management," whereby policy-making is an iterative

experiment acknowledging uncertainty rather than a static "answer". This is a practical application of the Precautionary Principle which underlies most post-UNCED agreements on environmental protection.

(d) Participation of civil society

The importance of participation of civil society has been mentioned in "networking" above. In the Danube and Black Sea programmes, as in many other projects, this issue was addressed by the creation of a forum for NGOs. This, in practice, did not work effectively as the forum was created artificially and the NGOs involved lacked a common mission around which to build cohesion. This mistake should not be repeated in the Dnieper. Civil society participation should be viewed as an integral part of the project design. For example, Output 6 of the Project Brief, takes a rather similar approach to that of the Black Sea Programme and provides a disperse array of Activities but gives few details of how effective participation will be achieved. There is a severe risk of spreading the project too thinly. Experience of the Black Sea indicates that there is a "missing link" in the project design which is the involvement of local community organisations at the municipal level and of municipalities in general. It is a mistake to assume that NGOs are the only medium for developing public awareness and participation - in the NIS region they are still very weak and are often highly specialised with little of no community support. The work of public awareness, for example must also embrace formal education (schoolchildren - mentioned in Activity (vi)) but this requires an entirely different approach than the other items grouped in the same activity (NGO newsletters, Internet postings, events in the popular media).

If civil society is to be effective in stimulating policy development, the SAP itself should be presented at public hearings. Wide consultation will also be required in the process of formulating the Project Document.

2.4 Sustainability - positive and negative experiences from other projects

The Black Sea and Danube Programmes have provided some important lessons in project sustainability (paragraph 47 of the Project Brief suggests that these should be noted carefully). In the Black Sea, despite all commitments by the coastal countries, Parties to the Bucharest Convention, there is still no Secretariat to the Convention and countries have been unable to pay their contributions to the Secretariat or to the interim mechanism created in co-operation with the GEF Project. The Ministry of Environment and Nuclear Safety of Ukraine has recently met its commitments, an action of great importance for future co-operation in the region. In the Danube, the situation is slightly better due to the support of the upper Danubian countries, particularly Austria, but it has taken six years to complete negotiation for the Sofia Convention (on the Protection of the Danube) and, until very recently the Secretariat remained an interim arrangement.

This situation is a very serious one. Countries should have agreed on a joint mechanism for implementing their international agreements from the inception of the project. Such a joint mechanism, and the staffing necessary to implement it should be regarded as part of the baseline for the project. The partnership should be reviewed step by step as funding can only be released if the baseline remains firmly in place.

2.5 Project and Programme, understanding the distinction

The comments and recommendations in this paper specifically address the immediate needs of the **GEF Dnieper River Basin Project**. As mentioned earlier, the GEF is quite limited in the scope of activities it is able to fund. The problems observed in the region require a much broader approach which will assist the countries to address important problems both above and below the "domestic baseline" as defined by the GEF's Operational Programme. This broader approach will require the joint involvement of a wide spectrum of donors and investors, as well as the governments themselves. A mechanism for achieving this might be the creation of a **Dnieper Basin Environmental Programme** which would serve as an umbrella, within which the current project would fit neatly together with a number of other projects and longer-term structures. It is the strong conviction of UNDP that such a programme is desirable, an opinion echoed by IDRC and other agencies and donors. The GEF Project may help to catalyze the initiation of the DBEP. In this respect, all elements of its management structure have been designed in a flexible manner, enabling them to be adapted to the new context of the Programme when such a proposal is adopted. The process for achieving this will be described in section 2.6 below.

2.6 Management levels, cross-sectoral fora

The creation of an adequate management structure is important, as is the relative roles of the donors and agencies executing the project, a subject which will be considered in section 3. The present section will focus on the management structure itself.

The objectives of the Project management structure are twofold: firstly to manage the GEF project in an efficient and transparent manner and secondly, to assist in the creation of a sustainable local management structure for implementing the Dnieper Strategic Action Plan. These two goals may be achieved by the creation of parallel structures which work closely together or by a single structure within which the management responsibilities are defined in order to address both objectives simultaneously (as for example in the World Bank implemented Aral Sea Programme, executed by the Executive Committee of the International Fund for the Aral Sea). Both approaches have strong merits.

In essence, the IDRC proposal does not differ fundamentally from that of the practice adopted for the Black Sea Environmental Programme. It too has a parallel system of a Donor Co-ordination Group and a National Co-ordinator's Contact Group, together with a joint body denominated the Steering Committee. The Istanbul Commission (for the implementation of the Bucharest Convention) also operates in parallel with the GEF Executing Agency but the co-ordination mechanism between the two has been the Steering Committee and most governments were careful to nominate the same persons as BSEP National Co-ordinators and Black Sea Commissioners. The National Co-ordinators engaged themselves in project management with great enthusiasm, reviewing reports and debating the annual workplan in a transparent manner until a consensus was reached. The Donor Co-ordination Group no longer felt the need to meet following the approval of the 1996 BS-SAP, especially as there were no issues or discussions from which representatives of the beneficiary countries should be excluded and donor funding itself had become scarce, apart from the substantial contribution of the EU. Similarly, a programme of transition was devised whereby the countries of the region gradually took over management responsibilities and, in 1998 the project CTA stood down in order to be replaced by his deputy from the region.

In the case of the Black Sea Programme, the failure was not one of liaison nor consensus building, but of financial viability of the Istanbul Commission itself. As mentioned earlier, Ministries of the Environment have not been able to raise the funds necessary to support the Convention which was ratified by all of their legislative assemblies. In effect, they are all breaking their own laws. The programme, like many others in the region, has shown signs of becoming donor-dependent in its reliance on outside funding for survival. This dependency may be a transitory feature. It could be argued that countries have not yet had time to put the mechanisms in place or to attract sufficient public attention to the need for supporting the programme.

If a really effective management system is to be evolved based upon the concept of the basin-wide approach, a mechanism should be developed which bridges the gap between central and local administration and encourages the two-way flow of programmatic support and information between the local to the central levels. An interesting proposal was presented at the Sixth Session of the Commission on Sustainable Development (New York, 20 April, 1998) by the Russian Federation (Russian Federation National Water Policy, Draft Concept). It states: "Despite the change of the social- economic regime, the system of water sector management practically hasn't changed. Its main drawback is excessive centralisation. Management bodies and finances (sic.) distribution are also considerably centralised." The proposal goes on to propose a three-tier process of management with (1) responsibilities at the Federal level for setting long-term objectives and overall administration, (2) responsibilities at the regional level for project implementation, joint planning, social assessments and stakeholder co-ordination, and for setting short-term objectives, and (3) responsibilities at the operational level for executing specific project activities.

How could such a strategy be applied in the case of the Dnieper project?

A) The Governance structure for the GEF Project

A.1 Responsibilities at the Federal Level

- Countries should commit themselves to establish interagency liaison groups on the Dnieper, *National Management Committees*. These should meet at regular intervals and bring together specialists from key sectors including environment (as the co-ordinators), economy, water supply, agriculture, industry, health, transport, academy of science, regional authorities. These groups will be particularly important for reviewing institutional arrangements for developing, approving and implementing the SAP at a national level. An alternative approach might be to agree on including specific discussions on the Dnieper on the agenda of existing inter-agency bodies.
- To guide the GEF project activities on a regular basis, the project would establish a *Joint Management Committee* consisting of two representatives from each of the *National Management Committees* and representatives from the *Executing Agencies*. Meeting twice annually, the mandate of this body would be to manage programme implementation and propose annual workplans to the Steering Committee.

A.2 Responsibilities at the Regional Level (regional authorities within the Dnieper Basin)

- Within the basin, a Dnieper Regional Council would be formed. This would include representatives of all Dnieper Oblasts, representatives of central governments, the project implementation unit and various representatives from the civil society including scientific institutions and NGO representatives. The Council would be quite large (some 30 members in total) but, with careful planning could be very effective as a working body with real influence at a local level. This body would bring together various networks, help define policies as well as recommend ways to operationalize them at local levels. Governments might consider developing this body as a successor to the previous Dnieper Commission.

A.3 At the operational level

- The Project would establish a *Steering Committee* consisting of the **government representatives and donors**. Executing agencies and representatives of the Dnieper Commission (or any other regional body) would attend as observers. It would, on an annual basis, review the annual report and specific outputs of the Project, discuss any gaps in funding or project implementation and approve the workplan and budget for the following year. Donors and government officials would also be able to meet separately if they so desired.
- The *Project implementation Unit* would consist of a Co-ordinator, or Chief technical Advisor (CTA), appointed by UNDP-GEF in consultation with the executing agency or agencies and with the donors and riparian governments. A Deputy Co-ordinator should be appointed from the region, in consultation with the Joint Management Committee. His salary should be paid for by the region, representing a tangible and sustainable commitment toward the programme. The project should be seen as a joint management initiative with the riparian countries from the outset. Other posts in the PIU should be defined according to specific needs - the idea of sharing responsibilities between specialists from the region and outside experts is a good one provided that the approach is not "patronising". There are excellent specialists in the region who could be employed in the PIU though their additional training needs should be studied carefully on a case-by-case basis.
- To ensure good co-ordination among executing agencies, UNDP will establish a system of **joint management** between UNOPS (acting for UNDP) and IDRC through the maintenance of a continuous and open dialogue which, at the request of either parties, may include ad-hoc meetings to review project progress reports.

B) Managing the Dnieper Basin Environmental Programme

It should be clear that the sum total of this proposal would help to constitute an umbrella *Dnieper Basin Environmental Management Programme (DBEMP)* to which donors could gradually contribute, co-ordinating their

activities in a framework which transcends the mandate of the GEF alone. It is recommended that such an approach could be discussed between the donors and recipients as an agenda item at the first joint workshop (see section 4). The various parties may then draft a joint memorandum of understanding in which they agree to co-operate in this manner and agree that, on an interim basis, the PIU will be the operational focal point for co-ordination and that the Steering Committee of the GEF Project (including all contributing donors) would act as the interim Steering Committee for the DBEMP. The Memorandum should also contain a statement of the aims and objectives of the DBEMP and the scope of its activities.

As mentioned earlier, though not part of the mandate of the GEF Project, the creation of a DBEP has great advantages for ensuring a concerted, integrated and sustainable approach to environmental management in the region. There are already a number of precedents in the region, such as the earlier Dnieper Commission and the CIDA-financed projects in Ukraine (which were implemented by IDRC). The DBEP could include policy development, capacity building and investment components. It would be country driven in strong partnership with donors and would require a legal framework in the form of a regional convention on environmental protection and sustainable development in the Dnieper Basin.

The Management of such a complex programme requires additional components to those described earlier for the GEF Project. In particular, a donor and executing agencies consultative group, the **Executing Agencies and Donors Working Group**, would be a useful tool to ensure efficient donor co-ordination. Membership of the group would be granted to all donors who provide significant funding to the programme.

The structure created for the Project would also need to be adjusted and strengthened in a number of ways. The **Dnieper Commission** might be re-launched as the central body of the Programme and the Steering Committee expanded and restructured to take on wider functions. A parallel donor and national management system might be devised for the Programme.

Many of these issues can be discussed at an early stage in the development of the GEF Project using the good auspices of IDRC, UNDP, CIDA, SIDA, Tacis, Denmark and the other co-operating donors/executing agencies, working closely with the government of the region. This development cannot be led by the GEF, but the GEF should be willing participants in this important process.

3. Implementation, donor co-operation and joint management

Having discussed management mechanisms, the issue of donor co-ordination and joint management must be addressed. To date, the following actors have expressed interest in developing a role in the Project:

- UNDP - as the Implementing Agency indicated in the Project Document and having a network of country offices in the region;
- UNOPS - as the Executing Agency during the project preparation phase;
- IDRC - as a potential Executing Agency for at least part of the programme (and have express their desire to execute it in its entirety);
- SIDA - as a donor for parallel funding;
- CIDA - as a potential donor;
- Global Water Partnership - as a potential donor/executor of parallel funds;
- UNIDO - as a potential Executing Agency for part of the project;
- Tacis - having parallel programmes closely associated with the aims of the Dnieper Basin Project.
- Danish EPA - as a donor of parallel funding.

The distinction should be made at this stage between parallel-funded donor executed projects and the execution of the GEF Project itself. For GEF project execution, it is necessary to examine the comparative advantages of each of the potential executing agencies in order to seek the ideal combination of technical expertise and cost-effective management.

Comparative advantages of the candidate executing agencies:

UNOPS - has considerable experience of executing GEF projects and fully understands the financial rules and implementation modalities of GEF. It has access to the management services and networks of all UNDP Country Offices (Kyiv, Minsk, Moscow) and considerable experience in co-ordinating the inputs of members of the UN family. It has been effective in places where currency exchange mechanisms fluctuate considerably. It manages part of the work of the Global Water Partnership. It has limited in-house expertise and relies on policy guidance from UNDP and on the qualified experts which it hires for each project through open competition (for long-term appointments) or from its pool of consultants (in the case of short-term tasks). International staff working for UNOPS have the advantage of UN Laissez Passer passports.

IDRC - has a high profile in Ukraine following successful management of CIDA projects and in the technical development of the Dnieper programme. It has suitable office space in Kyiv with a young and enthusiastic group of individuals already in place. It also has ready access to international expertise, though so far, most of this has come from a single country (Canada). Its on-site experience in Russia and Belarus is much more limited. IDRC has very limited experience with the management of complex GEF projects and with their conceptual framework (e.g. in distinguishing between domestic and incremental costs).

UNIDO is currently being restructured into a more focused and competitive organisation. It has a comparative advantage in the field of industrial pollution control and has a full time GEF International Waters Co-ordinator (supported by the Government of the UK).

Integration of the Management Team

It is strongly recommended to establish a system of joint management for the project between UNOPS (acting for UNDP) and IDRC. The Government of Ukraine has already given its support to this approach (see Appendix 1). Management of the entire project by IDRC is not regarded as an acceptable approach by UNDP but joint execution offers an opportunity to combine the comparative advantages of both organisations, use the technical resources of other specialist UN Agencies (such as UNIDO) and attract the support of additional outside donors.

UNDP will consider the possibility of accepting IDRC's offer to provide facilities for the PIU, providing the cost is comparable with other alternatives on the open local market. Office management could be provided by IDRC as well as at least one of the programme officers. The CTA should be appointed by UNDP through UNOPS following full consultation with IDRC, the donors and the recipients. UNOPS would appoint a local project management officer fully familiar with GEF and UNDP procedures in order to facilitate financial and management reporting to the GEF and liaison with UNDP's Country Offices. This is particularly important in the context of a multi-donor project with joint management in order to avoid considerable difficulties with the integration of a seamless and efficient management system. The basic principles for joint management will be defined in a memorandum of understanding, and a joint ad-hoc operational working group will be established in order to refine the details of procedures and responsibilities and to ensure co-ordination.

Responsibilities for specific objectives

UNDP has conducted an assessment of various institutions and, based upon the study of comparative advantages, the following division of responsibilities is recommended:

Objective 1. Create and maintain a transboundary management regime and co-ordinating body

Lead Agency: IDRC, except for 1(i) where UNDP-GEF will be responsible for implementation.

Notes: IDRC's previous work in this area makes them highly suited for fulfilling the task of forming local networks and intersectoral bodies. The approach adopted however, should be along the lines indicated in the present document and should be agreed between all parties prior to implementation.

Objective 2 and Objective 4. SAP and National SAP formulation (except Activity iv)

Lead Agency: UNDP, co-operation with UNEP, and with IDRC for item (iv).

Notes: The strong country office network of UNDP will be critical in the implementation of this component. UNEP's recent work on the development of a new approach to root cause analysis should be employed in the development of the new SAP. Direct discussions must be maintained with the GEF Secretariat during the finalisation of the SAP and the calculation of incremental costs.

Objective 3. and Objective 2 (iv). Pollution reduction and sustainable resource use

Lead agency: UNIDO (through an IAA), with IDRC taking responsibility for items (ii) and (xi), and in co-operation with bilateral donors, GWP and SIDA

Notes:

1. UNIDO and IDRC are well placed to take a leading role in this work. The low-tech approach is particularly suitable for the countries at this difficult time of economic transition and investment uncertainty. Co-operation with the bilateral donors will ensure that the plans are translated in demonstration projects and implemented.
2. A meeting of relevant parties (banks, UNDP, IDRC, UNIDO, etc.) should be convened at the appropriate time to explore co-operation modalities for preparation of a Dnieper investment portfolio (item 3.i)

Objective 5. Improve conservation of biodiversity in the Dnieper Basin

Lead agency: IDRC, co-operation with Wetlands International and other donors, liaison with the World Bank

Notes:

1. IDRC should have ready access to suitable expertise in this field. It will be important to recognise other efforts in this field however, particularly those of the World Bank, as well as UNDP's own programme.

Objective 6. Enhance communication and encourage public awareness and involvement

Lead agency: IDRC, co-operation with Tacis and with the RECs in Russia and Ukraine and UNDP in all three countries

Notes:

1. The work of IDRC in Ukraine is important in this work but co-operation with the other partners is essential (see notes in previous sections).

Objective 7: Build capacity for SAP implementation

Lead agency: UNDP. The outputs of this activity to be reviewed with intent to determine IDRC's potential capacity to execute 3.1 ii. Notes:

1. The UNDP Country Office system should be fully involved as their local experience is an invaluable asset in implementing this objective.

4. The next step - urgent recommendations

It is clear that a meeting of donors, executing agencies and country co-ordinators would be a useful and appropriate follow-up step for defining the practical development of the various elements which will be required for integrating the project document. Before this can happen however, the following decisions need to be taken:

(1) At the level of senior UNDP Management

Decisions:

- on inviting UNIDO and other agencies to join the project management team for specific UNDP components:

- on inviting other donors to join the programme from its inception and to contribute to the establishment and running costs of the PIU.

(2) At the level of senior IDRC Management

Decisions:

- the specific financial proposal of IDRC regarding the cost of implementing the specific components of the project and of establishing the PIU.

(3) By the other donors/executing agencies specified in section 3 above

Decision:

- to co-operate with the management framework specified above and to attend the project preparatory meeting of donors and recipients.

(4) By the riparian countries

Decision:

- to establish a decentralised, sustainable, cross sectoral Dnieper Council or similar mechanism for bringing together regional interests for the integration and implementation of the Dnieper Basin SAP;
- to support the concept of a DBEMP;
- to prepare detailed proposals for institutions/focal points to be involved in the Dnieper network - an aid memoir to this effect will be circulated.

As a consequence of these decisions, it is anticipated that an agreement can be reached between all key parties prior to the project preparatory workshop(s). This is important as there should be a clear understanding between all donors before the meeting is held.

In view of the above situation and the need to consult with the other GEF Partners, it is recommended to schedule the meeting in early 1999 in Kyiv. All listed donors/executing agencies and the GEF Partners should be invited, together with the National Co-ordinator and one technical adviser for each country. The meeting will be hosted by UNDP. Following this last consultation, UNDP/GEF would finalise the Project Document rapidly and circulate it to the Parties for approval on "a no objection basis" to save time.

**Annex G: External Contributions to EMDU-1
(Ukrainian contributions not included)**



External Contributions to EMDU-1 (Ukrainian contributions not included)

Date	Institution/Individual	Service	Amount
Oct 93	World Bank, USAID, USEPA	program preparation	\$30,800
Feb-Jun 94	Environment Canada (Maurice Sydor)	program preparation/peer review	\$2,300
Apr 94-Dec 95	Dr. James Hea	60% of time donated	\$73,600
Apr-Jun 94	Acres International	peer review, BWQS	\$4,600
May 94	International Fertilizer Development Center	lime analysis and report	\$4,500
Jun 94	St. Lawrence Centre	training for Ukrainian EMDU participants	\$2,300
Jun 94	National Water Research Institute, Burlington, Ontario	training for Ukrainian EMDU participants	\$2,300
Jun 94	Ontario Ministry of Environment	training for Ukrainian EMDU participants	\$1,150
Jun 94	Fisheries and Oceans, Winnipeg	training for Ukrainian EMDU participants	\$1,150
Jun-Aug 94	Acres International	plan of optimal equipment for water survey	\$1,000
Aug 94	Environment Canada, Fisheries and Oceans, National Water Research Institute	donation of Raison software	\$1,000
Sep 94	Fisheries and Oceans	services of 2 scientists	\$9,250
Sep 94-Mar 95	Hewlett-Packard	baseline water survey support for Amsterdam Free University and Bratislava Institute	\$87,500
Oct 94	International Sugar Organization	services of economist for workshop	\$2,300
Oct 94	St. Lawrence Centre	training for Ukrainian EMDU participants	\$6,000
Oct 94	World Health Organization	environmental epidemiological seminar	\$5,000
Oct-Dec 94	Aqualta (City of Edmonton)	services of water expert (Myron Lahola)	\$10,000
Nov 94	USAID	translation of national plan	\$1,000
Nov 94	Conference participants	Sugar Beet Workshop registration fees	\$2,100
Nov-Dec 94	UNDP	Internet set-up and connections	\$20,000
May 95	AGRA Earth and Environmental	discounted services for preparation of manual and conducting of environmental audits workshop	\$18,000
Aug 95-Mar 97	Aqualta (City of Edmonton)	services of water expert (Myron Lahola)	\$220,000
Aug 95-Mar 97	CIDA	services of Jean-H. Guilmette	\$155,000
Oct 95	Aqualta (City of Edmonton)	donation of reconditioned water meters	\$75,000
Jan 96-Mar 97	Natural Resources Canada	services of Ken Babcock	\$150,000
Aug 96	Cargill Limited (Ihor Ilnytskyi)	services of environmental health and safety expert	\$10,500
Aug-Sep 96	Frank Simpson (University of Windsor)	services of geological expert	\$10,500
Jan 97	IDRC	co-funding for participation in Urban Water Supply Conference in Jaipur, India	\$6,400
Jan & Sep 97	St. Lawrence Centre, St. Lawrence River Institute of Environmental Sciences, and IDRC	in-kind donations, mainly facilities, administrative backup, and scientists	\$3,400
Apr 97	USAID	co-funding for the Yalta conference	\$45,000
May 97	PCI	discount on software for processing RadarSat data	\$2,000
June 97	USAID	cash contribution toward end-of-project conference	\$7,600
TOTAL			\$971,250

Annex H: RBM Framework for EMDU-2



Overall Framework

GOAL	To support and strengthen the on-going reform process in Ukrainian institutions for better environmental protection activities, improved environmental-economic policies, and heightened environmental awareness.						
OBJECTIVES	<p>Promote business/investment activities that have a favourable impact on the environment of the Dnipro Basin</p> <p>Improve environmental management in manufacturing, the residential sector, municipalities, and agro-industry</p> <p>Increase the Ukrainian public's environmental awareness through the media and educational institutions</p> <p>Promote measures to improve the provision and optimise the use of drinking water</p> <p>Improve environmental management practices through training</p> <p>Enhance international environmental management of the Dnipro River through cooperation with riparian and other international partners</p>						
ACTIVITIES	OUTPUTS	INDICATORS	OUTCOMES	INDICATORS	IMPACTS	INDICATORS	REACH
promoting environmentally beneficial technologies & practices in the private & public sectors in Ukraine	<p>training in environmental management & technology use</p> <p>installation of environmental technologies at selected sites</p> <p>introduction of new & improved business practices</p>	<p>- # of people trained</p> <p>- testing, evaluation, & feedback from trainees & trainers</p> <p>- which technologies installed</p> <p>- opinions of engineers & managers on uses of new equipment</p> <p>- # of targeted businesses receiving instruction in new practices</p> <p>- new practices written into strategy & business plans</p>	<p>positively modified environmental practices in selected private & public entities</p> <p>improved compliance with environmental legislation in private & public sectors</p>	<p>- measured improvement in quality of water output (both waste water & drinking water)</p> <p>- adoption of modified practices in operation manuals & job descriptions</p> <p>- reduction in fines & penalties levied</p> <p>- opinions of environmental inspectors regarding compliance</p> <p>- interviews with managers demonstrating change from adversarial to cooperative attitude toward the law</p>	<p>better environmental protection activities</p>	<p>- feedback from environmental inspectorate</p> <p>- improvement in Dnipro River water</p> <p>- positive changes in key health indicators</p>	<ul style="list-style-type: none"> · MEPNS · Ministry of Economy · vodokanals in major Ukrainian cities · Ukrainian Management Committee (of EMDU) · International Dnipro Fund · Ukrainians founding or running environmental companies & clients of these companies · apartment dwellers · water testing laboratories · municipal ground water engineers · industrial enterprises, particularly in the Dnipropetrovsk/Zaporizhzhia region



ACTIVITIES	OUTPUTS	INDICATORS	OUTCOMES	INDICATORS	IMPACTS	INDICATORS	REACH
increasing environmental awareness of the Ukrainian public	<p>creation/ broadcast/ distribution of educational videos to schools, selected environmental NGOs (ENGOS) & population at large</p> <p>creation & dissemination of environmental information & project results to government bodies, ENGOS & other stakeholders</p> <p>establishing or enhancing information dissemination using electronic & high-tech media</p>	<p>- # of videos created</p> <p>- # of times videos broadcasted on TV</p> <p>- # of schools where the programs are shown</p> <p>- comments/ responses/ reactions from viewers & recipients</p> <p>- # of environmental pamphlets produced</p> <p>- # of organizations reached with the information</p> <p>- reactions from recipients & participants</p> <p>- adoption & use of WWW, CD-ROM, & other technologies</p> <p>- feedback from end-users through e-mail</p>	<p>greater interest in environmental issues among Ukrainian population</p> <p>improved capacity of MEPNS, environmental firms & ENGOS to conduct effective environmental programs</p>	<p>- increase in the # of schools/organizations requesting the videos</p> <p>- students' knowledge of environmental issues before & after watching the program</p> <p>- increase in # of people joining & supporting ENGOS</p> <p>- # of environmental programs conducted by ENGOS</p> <p>- recipients gauge capacity to respond to environmental inquiries</p> <p>- recipients report on capacity to respond to environmental inquiries, issues, debates</p>	heightened environmental awareness	<p>- adoption/ maintenance of environmental curricula in schools & universities</p> <p>- changes in # of ENGOS</p> <p>- frequency & types of environmental reporting in media</p> <p>- feedback from ENGOS</p>	<ul style="list-style-type: none"> • MEPNS • Ministry of Education • school pupils • general public • ENGOS • universities • students

ACTIVITIES	OUTPUTS	INDICATORS	OUTCOMES	INDICATORS	IMPACTS	INDICATORS	REACH
enhancing environmental management of the Dnipro River through the facilitation of multi-stakeholder cooperation (government, private, non-government, international)	<p>participation of decision-makers in various international conferences/ training programs to enhance connectivity & international water management skills</p> <p>use of electronic means (e.g. EMIS) to facilitate information exchange</p> <p>water resource management bodies introduced to open, consultative process</p>	<p>- # of decision-makers participating in training & conferences</p> <p>- feedback from participants</p> <p>- presence of new or improved information infrastructure</p> <p>- users give feedback on conditions before & after installation of electronic system</p> <p>- # of targeted bodies & managers</p> <p>- NGO surveys on input into policy-making</p>	<p>knowledge acquired by water resource managers</p> <p>forging or re-forging transboundary expert networks & links with international organizations</p>	<p>- # of training sessions attended & # of people attending</p> <p>- sessions evaluated by trainees</p> <p>- international meetings on an ongoing basis</p> <p>- new cooperation agreements</p> <p>- new programs (training, environmental protection) with international partners</p>	improved environmental-economic policies	<p>- vodokanals move toward economic self-sufficiency</p> <p>- changes in legislation</p>	<p>MEPNS</p> <p>Ministry of Economy</p> <p>vodokanals in major Ukrainian cities</p> <p>resource management bodies</p> <p>NGOs</p>

Annex I: Country Information



Social and Economic Factors

Indicators	Statistical Data		
Inflation and Unemployment	Inflation rate: 10% (December 1997 est.) Average annual inflation 1984-94: 297%	Unemployment as percentage of labour force: 4.7% (October 1995)	
Gross Domestic Product (GDP) and Government Spending	GDP growth rate in 1997: -3.2% GDP growth rate in 1990-94: -14.4%	Government expenditures as percentage of GDP: 36% (1995)	Real GDP: \$2190.00 per capita (1997)
Real GDP per capita	Male: \$2,763 Female: \$1,691	Poorest 20%: \$1,544 Richest 20%: \$5,753 Ratio of Richest 20% to Poorest 20%: 3.7	
GDP per capita	Lowest Value during 1975-97: \$496 (1997) Highest Value during 1975-97: \$1,247 (1989)		
Population below Income Poverty Line- (\$14.40 a day)	63 %		
Seats in Parliament Held by Women	7.9 %		
People not expected to survive age 60 (1997)	24.1 % of total pop.		
Demography and Ethnic Groups (July 1998 est.)	0-14 years: 19% (9,509,149) 15-64 years: 67% (33,578,337) 65 years plus: 14% (7,037,622)	Ukrainian 73% Russian 22% Jewish 1% Other 4%	
Sex ratio and Population by sex (1998 est.)	At birth: 1.05 males/female 0-14 years: 1.04 males/female 15-64 years: 0.92 males/female 65 years plus: 0.48 males/female	0-14 years: male 4,852,461 female 4,656,688 15-64 years: male 16,096,737 female 17,481,600 65 years and over: male 2,284,960 female 4,752,662	
Access to Education and Health Services	Percentage enrolled in education: Primary Male: 87% female: 87% Secondary male: 65% female: 95% Tertiary overall: 46%	Percentage with access to sanitation facilities: 1993: 49% 1980: 50%	
Labour force	Total: 22.8 million Male: 52% Female: 48% (1997)	Industry/construction 32% Agriculture and forestry 24% Health, education, culture 17% Trade and distribution 8% Transport communication 7% Other 12%	
Income Distribution	Percentage share of income: Lowest 10 percent: 4.1% Lowest 20 percent: 9.5%	Percentage share of income: Highest 10 percent: 20.8% Highest 20 percent: 35.4%	

Sources: CIA Fact Book, Ukraine; UNDP World Development Report 1996 and 1999;