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WORKSHOP FOR THE DANUBE EMISSIONS MANAGEMENT DECISION SUPPORT PROJECT (DEMDESP)

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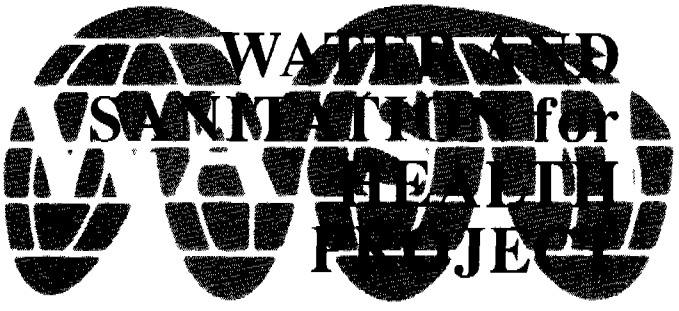
August 1992



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1 September 1992

Dear Colleague:

On behalf of the WASH Project, I am pleased to provide you with a copy of **WASH Field Report No. 378** entitled **Workshop for the Danube Emissions Management Decision Support Project (DEMDESP)**, by Kathy Alison. Representatives from the four riparian countries of Bulgaria, Hungary, Romania, and the Slovak Republic, and the WASH team participated in a workshop that was held in Dubravka, Slovakia, in May 1992. This report summarizes the results of the workshop. The focus of this workshop was on institutionalization of the Danube Emissions Management Decision Support System (DEMDESS) within each country. Participants identified ways that the system could be used to support the overall Environmental Program for the Danube River Basin (EPDRB) now being developed, and discussed how DEMDESS could be used by each country to manage its water resources effectively.

If you have any questions or comments about the findings or recommendations contained in this report, we will be happy to discuss them. Please contact Craig Hafner at the WASH Operations Center. Please let us know if you would like additional copies.

Sincerely,

J. Ellis Turner
WASH Project Director

JET:kf
Enclosure

WASH Field Report No. 378

WORKSHOP FOR THE DANUBE EMISSIONS MANAGEMENT DECISION SUPPORT PROJECT (DEMDESP)

DUBRAVKA, CZECHOSLOVAKIA
MAY 24-27, 1992

Prepared for the Europe Bureau,
U.S. Agency for International Development
under WASH Task No. 271

by
Kathy Alison

August 1992

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CONTENTS

ACRONYMS

DEMDESP	Danube Emissions Management Decision Support Project
DEMDESS	Danube Emissions Management Decision Support System
EBRD	European Bank for Reconstruction and Development
EC	European Community
ECU	European currency unit
EPA	U.S. Environmental Protection Agency
EPDRB	Environmental Program for the Danube River Basin
GIS	Geographic Information System
ME	Minister of Environment
MOE	Ministry of Environment
NGO	nongovernmental organization
USAID	U.S. Agency for International Development
WASH	Water and Sanitation for Health Project
WWTP	wastewater treatment plant

EXECUTIVE SUMMARY

In August 1991, The Office of Environment and Natural Resources for the Bureau of Europe in the U.S. Agency for International Development funded a year-long pollution reduction activity on the Danube River. The activity was designed to support Bulgaria, Hungary, Romania, and the Slovak Republic of Czechoslovakia in the development of a decision support system to facilitate the establishment of policies and investments that would reduce water pollution in the Danube River. The Water and Sanitation for Health (WASH) Project provided a team to support this activity (see WASH Field Report No. 374 for a complete review of this activity).

As part of the activity, representatives from the four riparian countries and the WASH team participated in two workshops. The first workshop was held in December 1991 in Budapest, Hungary. The WASH activity was named the Danube Emissions Management Decision Support Project (DEMDESP) at the first workshop.

The second workshop was held in Dubravka, Slovakia, in May 1992. The focus of the second workshop was on institutionalization of the Danube Emissions Management Decision Support System (DEMDESS) within each country. Participants identified ways that the system could be used to support the overall Environmental Program for the Danube River Basin (EPDRB) now being developed, and discussed how DEMDESS could be used by each country to manage its water resources effectively.

The decision support system is the U.S.'s contribution to EPDRB, which is being coordinated by the Commission of the European Community and involves the 14 Danube riparian countries plus the European Bank for Reconstruction and Development, the European Investment Bank, the World Bank, the UNDP and UNEP, the Nordic Investment Bank, and other lenders.

This report provides a synopsis of results from the second DEMDESP workshop.

Chapter 1

OVERVIEW OF WORKSHOP

A three-day workshop on the Danube Emissions Management Decision Support Project (DEMDESP) was held at the Hotel d'Alfonz, Dubravka, Czechoslovakia, from May 24-27, 1992. Twelve individuals representing Bulgaria, Czechoslovakia, Hungary, and Romania participated in the workshop, along with the six WASH team members and five donor representatives/resources. In addition, Croatia, Slovenia, and Yugoslavia each sent one representative as an observer. The workshop facilitator was provided by WASH. (See Appendix A: DEMDESP Workshop Participant List.)

On the final day of the workshop, representatives from the European Bank for Reconstruction and Development (EBRD), the World Bank, the Commission for the European Community, the Austrian government, and the U.S. Agency for International Development (USAID) joined the group for discussions on each country's short-term priorities and actions for pollution reduction projects and for institutionalization and use of the Danube Emissions Management Decision Support System (DEMDESS).

The workshop was co-sponsored by USAID and the Slovak Commission on the Environment.

The overall purpose of the workshop was to discuss and develop plans for the institutionalization of DEMDESS in each country, and to relate and link its future uses to short-term investment priorities and long-term national planning efforts, such as preinvestment studies, national reviews, and an integrated monitoring information network. DEMDESS is a decision support data management system that provides information to pollution control policy makers involved in the preparation of legislation, regulations, and basin strategies. DEMDESS is designed to allow prediction of the impacts of a wide range of possible pollution control interventions.

The specific objectives of the workshop were as follows:

- To determine what needs to be done to improve and continue development of DEMDESS, and expand its use to more basins and users.
- To develop ways to integrate DEMDESS with the Environmental Program for the Danube River Basin (EPDRB).
- To inform the donor community of support needed to support, utilize, and expand DEMDESS and of individual country needs for immediate support for pollution control projects.
- To consider long-term Danube River basin water quality management and the possible use of the DEMDESS in that development.

The workshop outcomes and processes included the following:

Review Experience to Date

- Review experience in the development and use of DEMDESS by participating countries.
- Discuss lessons learned, including issues and concerns in the use of DEMDESS.

Review Status of the Decision Support System

- Share status of DEMDESS (overall and in each country).
- Present sample questions that have been evaluated.
- Discuss how to move from pilot basin to national scale.
- Identify and agree on additional needs in development of model.

Identify Potential Users/Clients

- Identify the range of possible uses and users (who they are and should be).
- Identify how they can use DEMDESS.
- Determine how DEMDESS developers/analysts should interact with clients and data sources.
- Develop specific-use scenarios that will best serve clients.

Review Data Needs

- Identify data needs and availability.
- Identify resources (human, material, financial) needed for data collection.
- Discuss ongoing coordination of data collection.
- Develop next steps/action plan for data collection.

Identify Future International Applications

- Discuss possible integration with the Monitoring Information Network of the EPDRB.

Identify Action Planning

- Define short-term action plans from May to September 1992.
- Discuss prefeasibility studies proposed for support by multilateral donors.
- Discuss national action plans.

Present Country-Specific User Plans and Needs to Donor Representatives

- Explain uses of DEMDESS and types of questions it will be able to answer.
- Present overview of country plans in terms of the EPDRB, including immediate program actions for the next year and development of longer-range national action plans.

Chapter 2

WORKSHOP DESIGN

The workshop sessions were designed to stimulate discussion and information sharing among participants. Short presentations with time for questions and answers, plus small-group and country-specific discussions followed by group reports and plenary discussions, encouraged active deliberation during the workshop.

The special session for representatives from multilateral and bilateral donors and lending agencies on the final day of the workshop provided an opportunity for each country team to present its specific plans for DEMDESS and for pilot project implementation. (See Appendix B, "Workshop Purpose, Goals, Outcomes, and Agenda.")

Chapter 3

WORKSHOP SESSIONS

SUNDAY EVENING—MAY 24

1. Welcome and Introductions

Kathy Alison, workshop facilitator, asked participants to introduce themselves by stating their name, country they represented, agency represented, and job title. The agenda for the evening was reviewed.

2. Overview of the Current Status of DEMDESS

Bob Thomas, WASH team leader, provided a brief history of DEMDESS and the current status of the activity. Dan Edwards, institutional specialist on the WASH team, described DEMDESS, the types of questions it can answer, and its potential uses for policy and decision makers. These presentations were followed by a brief question-and-answer period.

3. Overview of the Anticipated Workshop Outcomes and Processes

The group was divided into four smaller groups to review the proposed workshop outcomes and processes and to add any others that should be discussed during the workshop.

4. Rationale for the Workshop

The workshop purpose, goals, and agenda were presented by the facilitator and discussed by the group.

MONDAY—MAY 25

1. Official Welcome

Dr. Patricia Lerner, USAID/Bratislava representative, and Dr. Ivan Zavadsky, director of the Slovak Commission on the Environment, welcomed the participants to Slovakia and discussed the importance of their upcoming discussions.

2. Example of How DEMDESS Works

Tim Bondelid, data base specialist for the WASH team, presented an example of how DEMDESS could provide policy makers with specific information on both the economic and environmental impacts of various alternatives that could be used to control industrial emissions.

3. Lessons Learned and Uses of DEMDESS

The large group was divided into two smaller groups—DEMDESS developers/analysts and potential policy/operational-level users of DEMDESS. Developers/analysts discussed DEMDESS implementation issues and what was needed to implement the system successfully. Policy/operational-level users discussed additional questions that the system should be able to answer, as well as the needed institutional arrangements for its use. Each group presented a report to the plenary. (See Appendix B for discussion-group questions and Appendix C for discussion-group results.)

4. Identification of Clients and Users

The same two groups (DEMDESS developers/analysts and policy/operational-level users) met to discuss potential DEMDESS users and clients. Both groups presented their report to a plenary session, followed by discussion. (See Appendix B for discussion-group questions and Appendix D for discussion-group results.)

5. Demonstration of DEMDESS

Following the end of the workshop sessions for the day, Tim Bondelid provided a hands-on demonstration of the computer program.

TUESDAY—MAY 26

Tuesday's sessions were designed to help each country team prepare for the presentations to donors/lenders on Wednesday.

1. The Context for Future Planning

In order to provide country representatives with background information on current pollution program plans for the Danube River basin, representatives from four donor/lender agencies were asked to make brief presentations on donor involvement in the Danube River basin:

- Richard Holland, Danube Coordination Unit of the European Community, described the management and program of the Environmental Program for the Danube River basin.
- Erik Børset, World Bank Environmental Division for Europe, North Africa, Middle East, and East Asia, explained the project preparation and funding cycle of World Bank-funded activities.

- DeAndra Beck, USAID Environment and Natural Resources Office of the Europe Bureau, discussed A.I.D.'s role in the EPDRB and related assistance.
- Ron Hoffer, U.S. Environmental Protection Agency's (EPA) International Programs representative, explained the EPA's role in the EPDRB and related assistance.

2. Short-Term Actions

Country teams discussed their countries' involvement with the EPDRB and how DEMDESS can be integrated into the EPDRB's monitoring information network. The country teams also discussed the number of basins planned for DEMDESS expansion during the next several months. Finally, each country team identified pilot projects for immediate pollution reduction that it wanted to bring to the attention of donor/lender representatives coming to the presentations on Wednesday morning. Each country made a brief (10-minute) presentation on its plans. (See Appendix B for discussion-group questions and Appendix E for country responses.)

3. National Action Plans for the Danube River Basin

Each country team discussed its timetable for development of the National Review called for in the EPDRB and identified programs it was considering for inclusion in the review. The teams also discussed their plans for continued use and development of DEMDESS after June and what resources they would need to continue that work. Each country prepared and presented a 10-minute review of its discussions. (See Appendix B for discussion-group questions.)

4. Preparation for Presentations to Donors/Lenders

Each group worked late, preparing for its presentation to donors/lenders scheduled for Wednesday.

WEDNESDAY—MAY 27

1. Welcome to Invited Guests and Overview of the Day

Donor/lender representatives participating in the Wednesday session introduced themselves, and Kathy Alison reviewed the agenda for the day.

2. Summary of the Danube Emissions Management Decision Support Project

Dan Edwards described DEMDESS and Bob Thomas provided an overview of the workshop.

3. Country Presentations

Representatives from Bulgaria, Slovakia, Hungary, and Romania each presented a 20-minute report (with accompanying flipcharts) focusing on the following two issues. (See Appendix F for country presentation information.)

- Short-Term Priorities and Actions
  - Pilot projects for the Environmental Program for the Danube River basin
  - Completion and/or expansion of DEMDESS to more basins
- Continuation of DEMDESS after June 1992
  - Resources that each government will provide
  - External assistance required
  - Priorities for the external assistance items

4. Reactions and Next Steps

Each donor/lender representative responded to the presentations (see Appendix G).

5. Adjournment

The WASH team and workshop participants expressed their thanks to Milan Matuška for hosting the workshop in Slovakia.

Chapter 4

WORKSHOP RESULTS

4.1 Overall Summary

Representatives from Bulgaria, Slovakia, Hungary, and Romania expressed strong support for the continued development and institutionalization of DEMDESS in their countries, and identified specific applications they are planning that will use DEMDESS.

Participation by multilateral and bilateral donors/lenders on the final day of the workshop gave all country groups an opportunity to present their specific plans for institutionalization of DEMDESS and their ideas on how DEMDESS would provide support for water quality planning and management of the Danube River basin and other rivers within their countries.

The USAID representative at the workshop responded to the countries' requests for continued support with a request for a letter from each country's government outlining the institutional support and resources its government plans to provide in order to institutionalize DEMDESS over the next several months. He also asked that the letter explain how DEMDESS fits into the overall environmental program of the country.

Key types of agencies, clients, and users of DEMDESS were identified, as were the functions of the prime users in each country. Multiple users (individuals at national and regional or basin levels) were also identified. Multiple users and multiple agencies imply multiple needs for information and guidance on the use of DEMDESS (see appendices C and D). Potential international applications and uses of DEMDESS were identified as a major strength of the system (see appendices E and F).

Country representatives proposed that international information-sharing and coordination workshops be held periodically and that a newsletter be started to allow continued information sharing and networking about the use of DEMDESS in addressing critical environmental needs in the Danube River basin.

Representatives from Croatia, Slovenia, and Yugoslavia were able to participate in the workshop and expressed interest in utilizing DEMDESS in their water management programs.

The Regional Environmental Center representative, who participated in the final day of the workshop, invited the WASH team to demonstrate DEMDESS at a meeting of nongovernmental organizations (NGOs) on public participation in the Environmental Program for the Danube River Basin (EPDRB). (The meeting was held in Bratislava, June 21-24, but it was not possible for WASH to participate.)

The workshop provided an opportunity for representatives from the European Community (EC) and donor/lender agencies to discuss upcoming EPDRB activities with the country representatives and get clarification on how countries plan to utilize DEMDESS to support the EPDRB.

In discussions following the workshop, country representatives commented that the workshop's design was appropriate for sharing information, stimulating discussion, and making decisions about the future of DEMDESS.

4.2 Summary of Future Uses and Lessons Learned

4.2.1 Policy and Operational-Level Users

The following uses and ideal institutional arrangements for DEMDESS were identified:

- The most important regular use of the system will be at the regional level, where permits are given and sanctions imposed.
- DEMDESS should be guided and maintained from the central level, where comparative, policy, and macro-level analysis will take place. This will require strong linkages between regional and national levels. The central environmental ministry should provide ultimate ownership of the decision support system.
- International linkages should continue (DEMDESS's next phase should address linkage issues).

4.2.2 Developer/Analyst Group

Several implementation issues and the needs arising from the continued use of DEMDESS were identified:

- Validation of existing data and filling in data gaps, especially economic and industrial information.
- Expansion of DEMDESS into other riparian countries, i.e., Austria, Germany, Slovenia, Croatia, Yugoslavia, Ukraine, and Moldova.
- Continuation and strengthening of international and interagency coordination of the decision support system.
- Development of a goal-oriented program of activities for the decision support system in each country.
- Additional funds to update data and complete data transfer to DEMDESS.
- Development of a network of labs, intercalibration, and a central laboratory at the national level, and an international laboratory network to help institutionalize DEMDESS. Additional resources and funding from host governments and outside donors would also be required to institutionalize DEMDESS.

4.2.3 Additional Users

The policy/operational-level users and the developers/analysts identified additional DEMDESS users, their needs, and how to get them involved (see appendices C and D).

- Examples of additional users ranged from water users, NGOs, and legislators to basin and regional environmental authorities. (See Monday afternoon special session reports, Appendix D.)
- Meetings, workshops, local associations, newsletters, pilot basins, and training programs were suggested as ways of getting new users involved with DEMDESS.

4.3 Summary of Country Plans

The workshop provided several opportunities during day two for country teams to discuss their future plans for DEMDESS and its relationship to the EPDRB.

4.3.1 Future Plans

- Bulgaria sees DEMDESS as central to all its activities in the Danube River basin, including the EPDRB.
- Slovakia plans to transfer all data from its existing water data bases to DEMDESS for use in the EPDRB.
- Hungary says DEMDESS will be a tool for monitoring its new environmental policy and developing the country's wastewater treatment plant master plan, which will be part of Hungary's overall Danube River basin environmental program.
- Romania plans to use DEMDESS to support its environmental program. It will be part of a program to identify pollution sources and to carry out impact assessments. This will help prioritize future work that directly relates to the EPDRB.

4.3.2 Expansion

Country teams also discussed specific basins for DEMDESS expansion during the next several months. (See Appendix E, "Tuesday Morning Country Reports.")

- Bulgaria:
  - Jantra River basin—completed by June 1992
  - Iskar River basin—completed by September/October 1992
  - Some other Danube tributaries—December 1992

All river basins in Bulgaria—1993

- Slovakia: Váh and Hornad river basins
- Hungary: Altalar and Sajo basins
- Romania: Arges River (327 km)
  Jiu River (331 km)
  Olt River (670 km)
  Siret River (576 km)
  Prut River (716 km)

4.4 Summary of Country Presentations to Donor/Lender Representatives

During the presentations for the donor/lender community on Wednesday morning, each country carried out the following activities:

- Identified priority pilot projects for the EPDRB.
- Reviewed plans for completion/expansion of DEMDESS to more basins.
- Presented plans and identified specific needs for continuation of DEMDESS after June 1992. This included the resources each government would provide and the external assistance that would be required.

4.4.1 Facilitating the Environmental Program for the Danube River Basin

During its presentation, each country group outlined the specific roles of DEMDESS and how the system relates to the EPDRB:

- Bulgaria
  - DEMDESS is a tool for implementing the overall Danube environmental program, as well as aiding national water quality management.
  - DEMDESS provides data base management, policy analysis, information for prefeasibility studies, and diagnostics.
  - DEMDESS will help track water quality activities on local and national levels.

- DEMDESS provides linkages with other systems (Corine, INFODANUBE, the Geographic Information System [GIS], national and international water quality systems).

- Slovakia
  - DEMDESS will help prioritize construction and reconstruction optimization and localization of wastewater treatment plants (WWTPs) in the watershed.
  - DEMDESS will help monitor the impact of stricter emissions controls on the economy and the environment in Slovakia following implementation of a new water law.
  - DEMDESS will help monitor the impact of fines and tax policy.
  - DEMDESS will help in planning suitable measures mandated by new international conventions, which will have both economic and environmental impacts in Slovakia.

- Hungary
  - DEMDESS is a tool for new environmental policy elaboration and implementation, international cooperation on water quality protection, and the EPDRB.

- Romania
  - DEMDESS is part of the EPDRB (will be used to identify pollution sources, for impact assessments, and for setting priorities).
  - DEMDESS will be used to design the country's monitoring system (sections, parameters, and early warning systems).
  - DEMDESS provides technical information for planning and water quality management in the river basin.
  - DEMDESS should continue to sponsor workshops for periodic coordination and to introduce DEMDESS to other riparian countries.

Each country requested continued coordination of and communications about DEMDESS.

4.4.2 Pilot Projects

Each country also identified its priority pilot projects under the EPDRB. (See Appendix F, "Wednesday Country Presentations for Representatives of Donor/Lender Agencies.")

- Bulgaria
  - Basinwide action plans for seven basins (Jantra, Iskar, Ogosta, Lom, Osam, Vit, and Rusenski)
  - Environmental legislation, standards, and regulations (fines, taxes, etc.)
  - Monitoring and information systems
  - Water quality management plans for tributaries

- Slovakia
  - Wastewater treatment plants in Nitra, Trencir, and Kosice
  - Landfills related to metallurgic factories in Sered (nickel) and Ziar Yttr (aluminum)
  - Novaky (chemical factory)
  - Dubora (oil wastes)

- Hungary
  - Wastewater treatment plant in Budapest*
  - Groundwater resources protection
  - Cities without a WWTP (Győr, Szolnok, Debrecen)*
  - Altalar watershed project*
  - Upper Tisza Valley water quality project (with Ukraine, Czechoslovakia, and Romania)
  - Sajo River water quality project

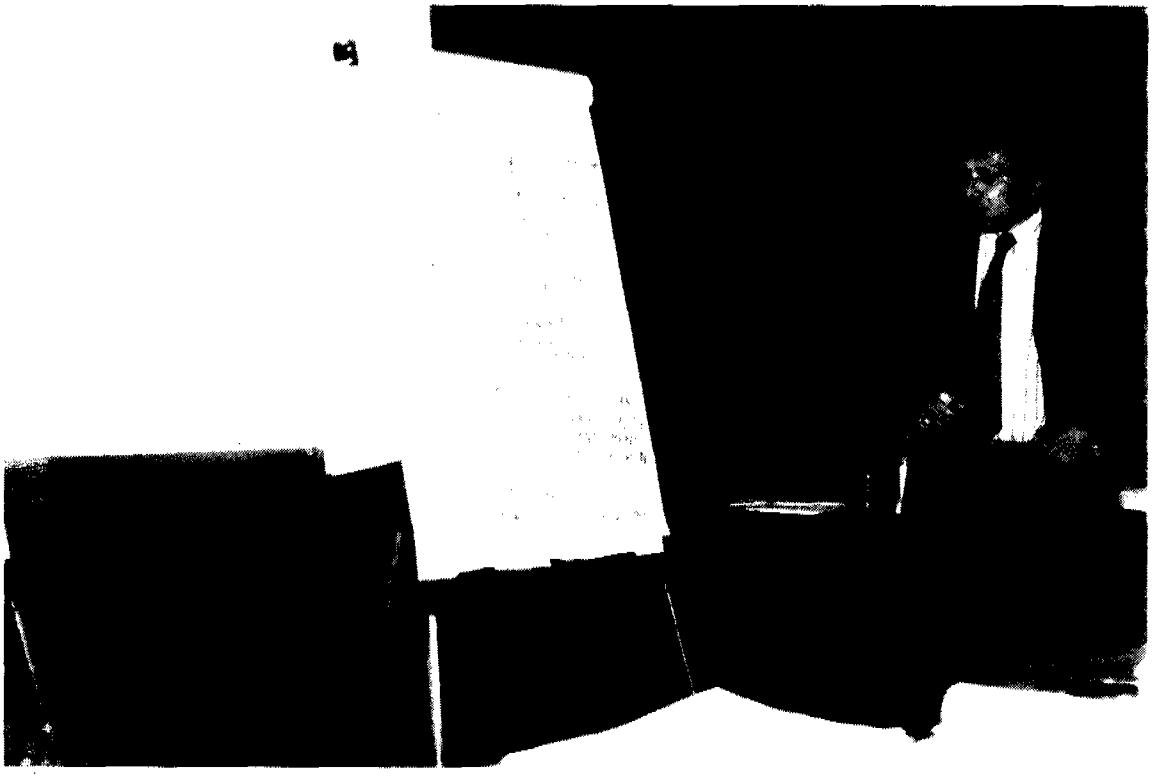
  * Can start now with prefeasibility studies

- Romania
  - Arges River Basin
    - Wastewater treatment plants in Bucharest and Pitesti
    - Water treatment plant in Bucharest

- Jiu River
  - WWTP in Craiova
- Olt River
  - WWTPs in Valcea and Govora
- Danube River
  - Municipal WWTP in Braila
  - Industrial WWTP in Galati

PHOTOS

Robert Thomas, DEMDESP team leader, and Milan Matuška, Slovak Commission on the Environment, wait for the workshop to begin.



Ioan Jelev, director general of the Romanian Water Resources, Conservation and Management Department of the Ministry of Environment, presents an overview of how Romania plans to use DEMDESS to support the Environmental Program for the Danube River Basin.

Workshop participants and donor representatives listen to country presentations during the last day of the workshop.

Appendix A

DEMDESP WORKSHOP PARTICIPANT LIST

May 27, 1992

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Appendix B

WORKSHOP PURPOSE, GOALS, OUTCOMES, AND AGENDA

Purpose

To discuss and develop plans for the institutionalization of the Danube Emissions Management Decision Support System (DEMDESS) in each country, and to relate and link its future uses to short-term investment priorities and long-term national planning efforts, such as preinvestment studies, national reviews, and an integrated monitoring information network.

Goals

1. To determine what needs to be done to improve and continue development of DEMDESS, and expand its use to more basins and users.

2. To develop ways to integrate DEMDESS with the Environmental Program for the Danube River Basin (EPDRB).

3. To inform the donor community what support is needed to expand DEMDESS and what support is needed for individual country pollution control projects.

4. To consider long-term Danube River basin water quality management and the possible use of DEMDESS in that management.

Workshop Outcomes and Processes

Review Experience to Date

- Review experience to date in the development and use of DEMDESS by the participating countries.
- Discuss lessons learned, including issues and concerns in the use of DEMDESS.

Review Status of the Decision Support System

- Share status of DEMDESS (overall and in each country).
- Present sample questions that have been evaluated.
- Discuss how to move from pilot basin to national scale.

- Identify and agree on additional needs in development of model.

Identify Potential Users/Clients

- Identify the range of possible uses and users (who they are and should be).
- Identify how they can use DEMDESS.
- Determine how DEMDESS developers/analysts should interact with clients/users.
- Develop specific-use scenarios that will best serve clients.

Review Data Needs

- Identify data needs and availability.
- Identify resources (human, material, financial) needed for data collection.
- Discuss ongoing coordination of data collection.
- Develop next steps/action plan for data collection.

Identify Future International Applications

- Integrate DEMDESS with the Monitoring Information Network of the EPDRB.

Identify Action Planning

- List short-term action plans from May to September 1992.
- Review prefeasibility studies proposed by multilateral donors.
- Identify national action plans.

Present Country-Specific User Plans and Needs to Donor Representatives

- Explain uses of DEMDESS and types of questions it can answer.
- Present overview of country plans in terms of the EPDRB, including immediate program actions for the next year and development of longer-range national action plans.

Workshop Schedule

Dates: Begin Sunday, May 24, 7:30 p.m. (two-hour opening session)

End Wednesday, May 27, 2:30 p.m.

Location: Hotel d'Alfonz
Plachého ulica
Bratislava-Dubravka
841 02 Slovakia, CSFR

Telephone: (42-7) 763-405
Facsimile: (42-7) 762-008

Workshop Agenda

Sunday, May 24

7:30-9:30 p.m.

1. Start-Up—Kathy Alison, Workshop Facilitator
   - Welcome
   - Introductions

2. Overview of DEMDESS
   - DEMDESS: Where We Started and Where We Are Now

     Bob Thomas
   - Introduction to DEMDESS

     Dan Edwards
   - Questions and answers

3. Overview of Workshop Outcomes
   - Group exercise: Groups will review the outcomes listed and determine if any additions are needed, based on experiences over the last several months.

4. Rationale for Workshop
   - Workshop purpose and goals
   - Workshop agenda
   - Workshop norms

5. Logistics

Monday, May 25

8:30 a.m. Official Welcome

Dr. Patricia Lerner, USAID/Bratislava representative

Dr. Ivan Zavadsky, director, Slovak Commission on the Environment

9:00 a.m. Overview of Day—Kathy Alison

9:15 a.m. Example of How DEMDESS Works—Tim Bondelid

9:45 a.m. Simultaneous Sessions:

Group 1—Lessons Learned (DEMDESS Developers/Analysts)[1]

Max Clark—Discussion Leader

Task: Discuss the following questions:

1. What are the implementation issues you are facing (model and data)?
2. What is needed for successful implementation?

Put your responses on a flipchart and be prepared for a 10- to 15-minute report by 11 a.m.

Group 2—Uses of DEMDESS (Policy and Operational-Level Users)[2]

Dan Edwards—Discussion Leader

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[1] (Ivan Milushev, Boris Minarik, Pavel Hucko, Janos Feher, Vladimir Rojanschi, Tarik Pekin, Tim Bondelid, and others)

[2] (Ilya Natchkov, Milan Matuška, Sandor Kisgyorgy, Daniel Geisbacher, Lajos Horvath, Speranta Ianculescu, Ioan Jelev, Richard Holland, Bob Thomas, Bill Lord, and others)

Task: Discuss the following questions:

1. What additional types of questions should DEMDESS be able to answer? (What other options should be evaluated?)
2. What types of information are needed?
3. What are the appropriate institutional arrangements for DEMDESS's use?

Put responses on a flipchart and be prepared for a 10- to 15-minute report by 11 a.m.

10:30 a.m. Break

11:00 a.m. Plenary Session

- Groups report major points of their discussion
- Questions and discussion

12:30 p.m. Lunch

2:00 p.m. Simultaneous Sessions: Identification of Clients and Users

Group 1—Developers/Operators

Tim Bondelid—Discussion Leader

Task: Discuss the following questions:

1. What are your expectations for what clients and users should provide to enable you to do your work?
2. Who else might be in the user group?
3. What specific needs will they have for DEMDESS analysis?

Put your responses on a flipchart and be prepared for a 10- to 15-minute report by 3:30 p.m.

Group 2—Policy and Operational-Level Users

Bob Thomas—Discussion Leader

Task: Discuss the following questions:

1. Who else might be in the user group?
2. What specific needs will they have for DEMDESS analysis?
3. How do you get them involved?
4. What do you expect from developers/analysts in terms of their roles and responsibilities for the future use and development of DEMDESS?

Put your responses on a flipchart and be prepared for a 10- to 15-minute report by 3:30 p.m.

3:30 p.m. Plenary Session

- Groups present suggestions, using flipcharts
- Questions and discussion

5:30 p.m. Adjourn for the Day

Tuesday, May 26

8:30 a.m. The Context for Future Planning

Brief presentations on donor involvement in the Danube River basin

- The Environmental Program for the Danube River Basin (EPDRB)

  Richard Holland, Danube Coordination Unit, Commission of the European Communities

- Project Preparation and Funding Cycle

  Erik Børset, Environmental Division, Europe, Middle East, North Africa and East Asia, World Bank

- A.I.D.'s Role in the EPDRB and Related Assistance

  DeAndra Beck, Environment and Natural Resources, Bureau for Europe, U.S. Agency for International Development

- The U.S. Environmental Protection Agency's Role in the EPDRB

  Ron Hoffer, International Programs, U.S. Environmental Protection Agency

9:30 a.m. Short-Term Actions

Today's sessions are designed to help prepare for tomorrow's presentation to donors who are involved with the Environmental Program for the Danube River Basin.

Task: In your individual country teams, please discuss the following questions:

1. How is your country involved with the Environmental Program for the Danube River Basin?
2. How can DEMDESS be integrated with the Environmental Program for the Danube River Basin's Monitoring Information Network?
3. How many specific basins can you designate for DEMDESS expansion in the next several months and what data needs will you have? What additional water quality parameters should be measured (e.g., toxins, micropollutants, etc.)?
4. What are the pilot projects for immediate pollution reduction that you want to bring to the donors' attention tomorrow?

Please put your key responses on a flipchart for brief (10 minutes) presentation to the plenary group by 10:30 a.m.

10:30 a.m. Break

11:00 a.m. Plenary Session

- Country groups present their conclusions on the short-term actions

12:30 p.m. Lunch

2:00 p.m. National Action Plans for the Danube River Basin

Task: In your country team, please discuss the following questions:

1. What is your timetable for the development of a National Review for the Environmental Program for the Danube River Basin?
2. What are some of the program areas you are considering for inclusion in your National Review?

3. For the continued use and development of DEMDESS after June, what resources will be needed?

   a) Resources your government will provide

   b) External assistance

   c) Priorities for the external assistance items

4. In preparing your National Review reports, are there things DEMDESS cannot help you with that will require additional assistance? What are those needs?

Please put your key responses on a flipchart for brief (10 minutes) presentation to the plenary group by 3:30 p.m.

PLEASE NOTE: You will be combining this morning's report on short-term actions with the results from this afternoon's long-range planning discussion into your 15- to 20-minute country presentation to donors tomorrow.

3:30 p.m. Break

3:45 p.m. Plenary Session

- Each country presents its anticipated long-range plans

5:00 p.m. Preparation for Presentations to Donors

6:00 p.m. Adjourn for the Day

Wednesday, May 27

SPECIAL PRESENTATIONS TO DONOR COMMUNITY

8:30 a.m. Welcome to Invited Guests and Overview of the Day

Kathy Alison, Workshop Facilitator

8:45 a.m. Summary of Danube Emissions Management Decision Support Project (DEMDESP) to Date

- Overview of DEMDESS—Dan Edwards
- Overview of Workshop—Bob Thomas

9:30 a.m. Country Presentations

9:30-10:15 a.m.	Bulgaria—Ilya Natchkov
10:15-10:30 a.m.	Break
10:30-11:15 a.m.	Czechoslovakia—Milan Matuška
11:15 a.m.-12:00 p.m.	Hungary—Sandor Kisgyorgy
12:00-12:45 p.m.	Romania—Ioan Jelev

The country presentations will focus on the following two areas:

1) Short-term priorities and actions
   a) Pilot projects for the Environmental Program for the Danube River Basin
   b) Completion and/or expansion of DEMDESS to more basins

2) Continuation of DEMDESS after June 1992
   a) Resources that each government will provide
   b) External assistance required
   c) Priorities for the external assistance items

12:45 p.m. Reactions and Next Steps—Kathy Alison

1:15 p.m. Closure—Ron Greenberg, A.I.D./Washington

1:30 p.m. Lunch

Appendix C

MONDAY MORNING (MAY 25, 1992) REPORTS ON LESSONS LEARNED, USES, AND INSTITUTIONAL ARRANGEMENTS FOR DEMDESS

GROUP 1 – DEMDESS DEVELOPERS/ANALYSTS

MONDAY MORNING SESSION

Topic: Lessons Learned

Question 1: What are the implementation issues you are facing (model and data)?

[A]
- Must test to be able to trust DEMDESS (validation needed)—Who will validate, what is cost, etc.?

[B]
- Must expand to other Danube countries (Austria, Germany, Slovenia, Croatia, Yugoslavia, Ukraine, Moldova).
- Must facilitate international coordination.
- Accuracy and validity of water quality data—lack of instruments, methods, standards, sensitivity of tests.
- Data gaps, i.e., economic and industrial.
- Monitoring is not linked to water quality planning (80 parameters/sample limits frequency).
- Interagency coordination lacking.
- No goal-oriented program of activities.
- Lack of money for data transfer to DEMDESS.
- The data is old, needs updating during industrial transition now taking place in each country.

Question 2: What is needed for successful implementation?

[A] ■ Testing/validation: each country to exercise/apply DEMDESS with the developer.

[B] ■ Institutionalization.

- □ network of labs, intercalibration, central laboratory
- □ development of optimal water quality monitoring network (national, private, local; heavy metals even if not in discharge permit)
- □ international laboratory network
- □ financial support (U.S. dollars, deutsche marks, ECUs, etc.)

GROUP 2 – POLICY AND OPERATIONAL-LEVEL USERS

MONDAY MORNING SESSION

Topic: Uses of DEMDESS

Questions 1 and 2: What additional types of questions should DEMDESS be able to answer? *(What other options should be evaluated?)* What types of information are needed?

Questions	Data Needed
1. Help set a realistic water quality objective; what will the option cost? What are the benefits? Particularly in-stream situation. *(ok)*	Cost data for multiple objectives; standards.

2. Be able to assess *priorities* along the basin with each scenario, e.g., which wastewater treatment plant to build first. *(ok)*	Existing data okay if only need water quality standards and costs.
3. What would be the effects of changes in the river? *(requires additional info)*	Hydrotechnical structure of the river.
4. How to assess the load coming from agriculture? *(difficult to estimate cost of doing this)*	Nonpoint source data (nutrient budget).
5. *Cost* for different size of polluters—option analysis—comparative analysis: big, small, and priority. *(ok)*	Current path.
6. Help for environmental impact assessment. *(ok)*	Link technology with pollution and industrial data.
7. Sensitive location points in streams for water inspection purposes. Be able to go to the right places on the river where we need to intervene or will need to intervene. *(ok)*	■ In-stream modeling capability ■ Current, frequent sampling ■ Water use in area ■ Potential polluters
8. How to set up an action plan or interventions and stage them, harmonize the different options; planning model. *(ok)*	Option analysis program.

9. How to relate the different pollution data (and their impact to health benefits); comparative *risk analysis* methodology. *(expensive if more information is needed: question of how to do it—may be a data gap)*	Health risk model and data.
10. How to optimize the policy—fines/sanctions versus the economic needs, e.g. wait or act, and how? *(economic model needed—expensive)*	Option analysis; industrial data.

Next Steps

The policy/operational-level group asked the developer/analyst group to respond to the following question:

> Overall, which of the above expansion needs (with respect to data costs) for DEMDESS are most important, and what are the priorities? (Working group: Max, Sandor, Ioan, Ilya, Milan, Tim—met and reported Tuesday morning.)

Results: The working group responded by categorizing the 10 questions above into categories:

Category I— Questions that the current scope of DEMDESS can address:

Questions 1, 2, 5, 6, 7, 8, and 10.

Note: The benefits side of question 1 may require more effort.

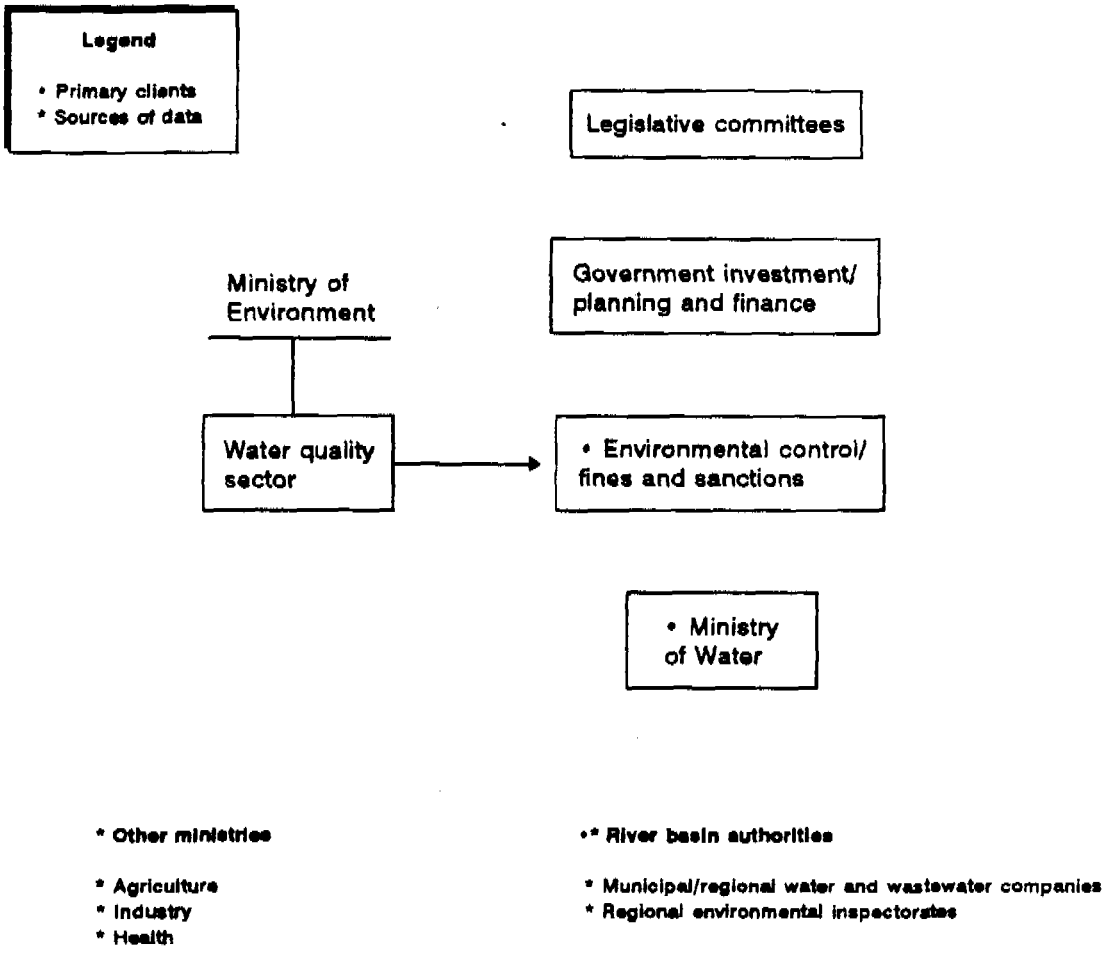
Category II - Questions outside the current scope of DEMDESS that will require significant extra efforts:

Question 3: requires enhanced hydrographics, hydrology, reservoir operating rules, etc.

Question 4—nonpoint source is a separate effort. The current scope of DEMDESS permits use of the nonpoint source results.

Question 9—risk assessment will require several additional components.

Question 3: What are the appropriate institutional arrangements for DEMDESS's use?



How should DEMDESS operate; who owns, uses; who has data rights?

"Ideal" Arrangements

- The most important regular use will be at the regional level, where permits are given and sanctions imposed.

- At the central level, it is important to guide and maintain the system and conduct comparative, policy, and macro-level analysis.
- A strong linkage between levels is needed.
- Access for all users is necessary.
- Central environmental ministry should provide ultimate ownership.
- International linkages are important. Follow-up discussion is required to define how this can be done. The next phase of DEMDESS development should address this.

Appendix D

MONDAY AFTERNOON (MAY 25, 1992)
REPORTS ON POTENTIAL
DEMDESS CLIENTS AND USERS

GROUP 1: DEMDESS DEVELOPERS/ANALYSTS

MONDAY AFTERNOON SESSION

Question 1: What are your expectations for what clients and users should provide for you to do your work?

Clients and Users

For clarity, the group agreed on the following definitions for users and clients:

Users	owners, maintainers
Clients	provide data and receive reports/analyses

1.	Ministry of Environment	user
2.	Regional inspectorate	user
3.	Ministry of Industry	client or user
	■ Forestry and Water	
4.	Monitoring agencies	clients
	■ public	
	■ private	
5.	Universities	clients
6.	Water authorities	clients/users
7.	Ministry of Health	client
8.	Research institutes	clients
9.	Urban and town planning	client

10.	Agricultural agencies	clients
11.	NGOs	clients
12.	Donors	clients
13.	Public	clients
14.	Local government	client
15.	Legislation	clients
16.	Dischargers	clients
17.	Economic planning/ development	clients
18.	Water suppliers	clients

Users should provide:

1*. Continuing level of support
- policy
- equipment
- tariff
- facilities
- financial

2*. Data

3. Liaison with data sources

4. Liaison with clients

5. Maintain capacity to use the data systems

6. Maintain organization and structure to use the data systems

7. Clear statement of needs

8*. Free (reasonable) access to information (varies greatly by country)

9. Implementation plan/strategy

* critical item

Clients should provide:

1. Payment, delineated by following three classes, depending on client:
   a. pay by request
   b. subscription/schedules
   c. no payment
2. Data (clients who provide data should not have to pay)
3. Liaison
4. Technical advice
5. Clear statement of needs

Question 2: What specific needs will they have for DEMDESS analysis?

Specific Needs for Analysis

1. Cost/benefit analysis using many perspectives
2. Development of regulations
3. Economic development forecasting effects
4. Basin management
5. International coordination of regulations
6. Feasibility studies
7. Identification and prioritization of problems
8. Permitting support
9. WLA wasteland allocation
10. Environmental Economic Instruments, e.g., emission trading
11. Financial analyses
12. Short- and long-term action plans
13. International programs, e.g., EPDRB
14. Data quality control
15. Planning for recreation

16. Disaster prevention

17. Risk assessment

GROUP 2: POLICY AND OPERATIONAL-LEVEL USERS

MONDAY AFTERNOON SESSION

Questions 1, 2, and 3: Who else might be in the user/client group? What specific needs will they have for DEMDESS analysis? How do you get them involved?

WHO	NEEDS	HOW TO INVOLVE
Water users Contaminators Municipalities Nongovernmental organizations	Information: ■ relative impacts ■ water users and economic aspects	■ Form local associations* ■ Give a legal basis for decision making
Legislators	Policy impacts and options	Meetings and workshops
Basin authorities and regional authorities for environment *	■ Management plan options ■ Guide to data collection ■ Strategic plans ■ Permitting? ■ Environmental impact assessments—	Pilot or demonstration basin ■ Seminars ■ Training
Environment inspectorate *	■ Information for controls ■ Calculations of fines and taxes ■ Decision making for individual violations ■ Permitting guidance	Same as for basin authority

* These groups should have the system in their office.

Water and wastewater companies	■ Understanding basis for constraints, permits, forward planning, scenario analysis * Study least costs options	
Ministries of: ■ Environment ■ Commerce	■ Environmental Impact Assessments—(supervision, overall policy/program)	
Ministry of Health	■ Health impacts and effects ■ Standards ■ Permits/decision making	Official notice/description, meetings, involve Ministry of Health in needs assessment
Protected areas	■Impacts on flora and fauna	Meetings, involve Ministry of Health in needs assessment
Water users: ■ Fisheries		
Ministries of: ■ Industry ■ Commerce ■ Finance ■ Environment	Various	Official notice/description

* These groups should have the system in their office.

Need a common coordination and information dissemination system like DEMDESS within each country.

Question 4: What do the primary developers/analysts (users) have to do?

- Respond to terms of reference and policy changes by Ministry of Environment/ Commission on the Environment†

† Could be contracted out to private group (partially)

- Provide technical assistance*
- Provide training*
- Establish default data*
- Establish implementation procedures for regular reporting
- Communicate with counterparts in other countries
- Provide public information
- Respond to requests for special reports*
- Continue system development*
- Respect legal ownership and sensitivity of information* (applies to developers/ analysts and clients)

* Could be contracted out to private group (partially)

MAIN CONCLUSION: Strong technical and management oversight from the ministry will be required on any items contracted out.

Appendix E

TUESDAY MORNING (MAY 26, 1992)
COUNTRY REPORTS

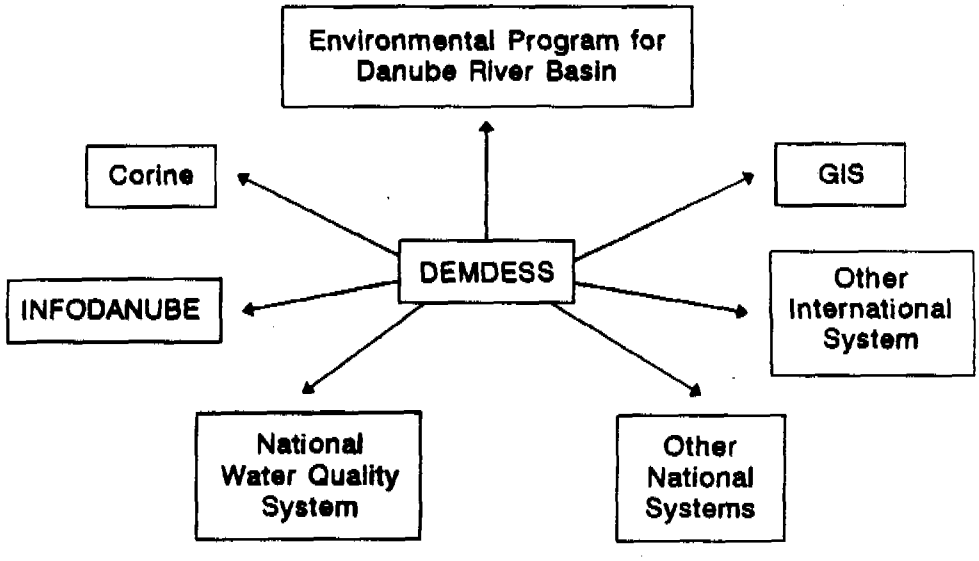
TUESDAY MORNING SESSION

BULGARIA

Question 1: How is your country involved with the Danube Environmental Program?

- active participation in the organization and setting up the program
- starting priority tasks/ 1992
- pilot project—DEMDESS
- Iskar River basin
- INFODANUBE, PHARE convention for the Danube

Question 2: How can DEMDESS be integrated with the EPDRB Monitoring Information Network? (See figure below.)



Question 3: How many specific basins can you expand DEMDESS into in the next several months, and what data needs will you have?

- Jantra River basin —June 1992
- Iskar River basin —September/October 1992
- part of the other Danube tributaries —December 1992
- all the river basins in Bulgaria —1993

Additional help needed:

- Reach file organization of the national river network
- link between wastewater discharge and ambient water quality

Question 4: What short-term actions are you considering?

- Treatment plants
  - Sofia*—Samokov*
  - G. Oryahovitza
  - Lovetch
  - Troyan
  - Michaylovgrad
  - Pleven*
  - Razrad*
  - V. Tarnovo*
  - Gabrovo*
- Some big industries
  - sugar plant—G.O.
  - feed lots

* Indicates that DEMDESS will be able to provide data for decisions

TUESDAY MORNING SESSION

SLOVAKIA

Question 1: How is your country involved with the Danube Environmental Program?

Establishment of the environmental program in CSFR:

- approval by F.C.E.
- preparation for Slovak government
- coincides with Environmental Program for the Danube River Basin

Question 2: How can DEMDESS be integrated with the EPDRB Monitoring Information Network?

Slovakia plans to transfer data from existing water data bases into DEMDESS.

Question 3: How many specific basins can you expand DEMDESS into in the next several months, and what data needs will you have?

Expansion

- Váh River basin (Hornad River basin)

Data Needs

- heavy metals
- specific organic pollutants (TOC)

Question 4: What short-term actions are you considering?

Priority list of wastewater treatment plant construction:

- nickel metallurgy (Váh)
- aluminum metallurgy (Hron)
- chemical factory—Novaky
- oil wastes—refinery Dubová (Hron)

HUNGARY

Question 1: How is your country involved with the Danube Environmental Program?

- geographical situation (lowland country)
- socio-political changes—new environmental protection policy
  - monitoring (emissions)—DEMDESP
- Anti-inflation policy
  - environmental load fee
  - penalty
    - product/environment tax
    - WWTP master plan (DEMDESP)
- shortage of financial support for environmental issues
- initiatives of Hungarian Ministry of Environment
- EPDRB as a help to facilitate the implementation of monitoring (emissions)—DEMDESP, environmental load fees and penalties
- EPDRB—country specific

Question 2: How can DEMDESS be integrated with the EPDRB Monitoring Information Network?

DEMDESP is a tool for Hungary's new environmental policy in the following areas:

- monitoring
- WWTP master plan

Question 3: How many specific basins can you expand DEMDESS into in the next several months, and what data needs will you have?

DEMDESS will be used in Hungary's ongoing watershed water quality management program in 10 selected basins (financial support from Ministry for Technical Development [OMFB]).

Example: Altalar basin: DEMDESP demonstration basin

Sajo basin: Hungarian pilot project

Question 4: What short-term actions are you considering?

(Didn't have enough time to answer.)

TUESDAY MORNING SESSION

ROMANIA

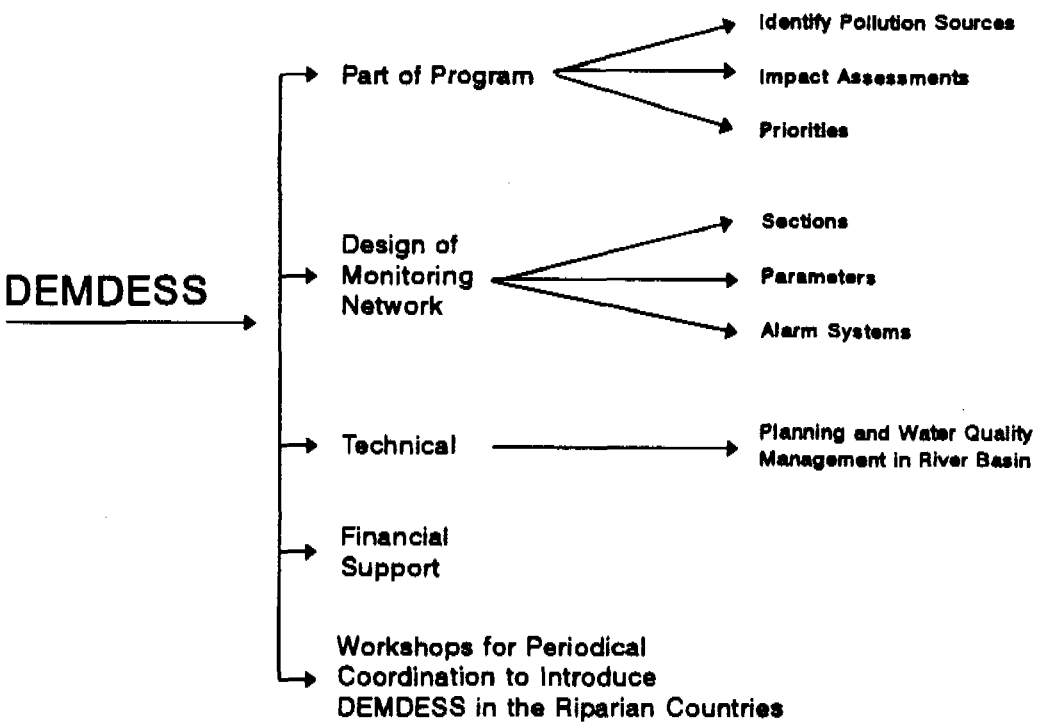
Background

- great length (1,070 km)
- great surface basin area
- available position
- influence on Danube Delta and Black Sea Coast
- very important sources for water supply systems and irrigation systems

Question 1: How is your country involved with the Danube Environmental Program?

- National Environmental Strategy
- Bucharest Declaration
- Danube Convention
- Black Sea Convention
- Danube Delta Protected Area
- research program in Black Sea (for 10 years)
- bilateral convention
- integrated monitoring system (regional and national)

Question 2: How can DEMDESS be integrated with the EPDRB Monitoring Information Network? (See figure below.)



Question 3: How many specific basins can you expand DEMDESS into in the next several months, and what data needs will you have?

1. Arges River (327 km)
2. Other basins for next period:
   - Jiu (331 km)
   - Olt (670 km)
   - Prut (716 km)
   - Siret (576 km)
3. Romania will respect the indicators established by the Bucharest Declaration

Question 4: What short-term actions are you considering?

- Pilot basin Arges River:

- wastewater treatment plant—Bucharest
- water treatment plant—Bucharest
- wastewater treatment plant—Pitesti

- Research—Stage III
- Jiu River—Craiova—WWTP
- Olt River
  - Valcea—WWTP
  - Gousra—WWTP
- Danube
  - Braila (municipal WWTP)
  - Galati (industrial WWTP)

TUESDAY MORNING SESSION

SLOVENIA

Question 1: How is your country involved with the Danube Environmental Program?

The Republic of Slovenia is involved with the Environmental Program for the Danube River basin in three river basins. The first and longest basin, which concerns four republics from the former Yugoslavia, is the Sava River basin. The second is the Drava River basin; the third the Mura River basin. The last two rivers come from Austria and flow to Croatia. In the past two years we have tried to prepare a common program with other republics of the former Yugoslavia for the Sava River basin, but it is momentarily stalled. We are working now on the Slovenian Ecological Project, which deals with the main problems of the Sava and Drava river basins. About 1 million inhabitants are located in these river basins, which also have the largest industrial areas. In total, these three basins represent the pollution of about 6 million units of population.

For all three basins, we prepared a prefeasibility study two years ago with priority action plans. The program was evaluated for about 1 billion dollars until the year 2000, and the main problem is how to collect the money.

This year we started to implement this program as part of the National Environmental Program.

Question 2: How can DEMDESS be integrated with the EPDRB Monitoring Information Network?

In the Republic of Slovenia, one continuous water monitoring program is in place, started in 1964 as a common Yugoslav hydrometeorological program. In the last seven years, this program was implemented and consists of monitoring all rivers and lakes in the Republic of Slovenia. This program includes about 400 sampling sites with about 100 parameters examined at each site.

Four different institutes work on this program, and it is paid for by the Ministry of Environment of the Republic of Slovenia as a national monitoring program. Besides this program, there are also some special programs concerned with the border river Mura carried out in cooperation with various Austrian institutes, as well as other nonradiological programs involved with the nuclear power plant Krsko. This program is a collaborative effort with the Croatian government and its institutions.

We work by European standard methods or ASTM methods. All laboratories work on intercalibration, some even with a central laboratory in Brussels. The results are fully computerized and collected annually in a final report. They could serve as the Danube River basin's Monitoring Information Network.

Question 3: How many specific basins can you expand DEMDESS into in the next several months, and what data needs will you have?

We can expand DEMDESS into all three river basins. We have technical documentation for measuring any of the parameters, specific to the Danube River basin's monitoring program, which will be prescribed.

Question 4: What short-term actions are you considering?

The pilot projects for immediate pollution reduction that we want to bring to the donors' attention are three or four large municipal purification treatment plants. We also need to focus attention on three industrial areas with specific industry pollutants such as heavy metals, and by-products from the pulp, textile, and metal industries.

In the Drava and Mura River basins we have problems caused by agriculture. This area holds our largest reserves of drinking groundwater, which at this moment is not of the best quality.

Appendix F

WEDNESDAY (May 27, 1992)
COUNTRY PRESENTATIONS
FOR REPRESENTATIVES OF DONOR/LENDER AGENCIES

Bulgaria Presentation

Overview of Bulgaria's plans for the Danube environmental program

National Involvement in the Environmental Program for the Danube River basin

Active participation in the organization, and setting up the program-starting priority tasks in 1992

- national review
- emergency alarm system
- data base management

USAID/WASH—DEMDESS Project

- Phase I: results from DEMDESS
  - inventory of emissions
  - demonstration project, Jantra River basin
- Phase II: prefeasibility study

EBRD—Iskar River Basin

- terms of reference
- diagnostics and priorities
- prefeasibility study

EPA—technical assistance

PHARE—monitoring system

INFODANUBE system

Danube Convention

Priority Pilot Basin Projects

Basinwide Action Plan:

- Prefeasibility and feasibility studies
  - Jantra River Basin
    - Gorna Oryahovitza
    - Veliko Tarnovo
    - Gabrovo
    - sugar plant
  - Iskar River Basin
    - Sofia—Samokov
  - Ogosta River Basin
    - Mihaylovgrad
  - Lom River Basin
  - Osam River Basin
    - Lovetch
    - Troyan
  - Vit River Basin
    - Pleven
  - Rusenski Lom River Basin
    - Razgrad
- Environmental legislation, standards, and regulation (fines, taxes, etc.)
- Monitoring and information systems

- Water quality management plans for the tributaries
  - policy analysis/identification — identification
  - action plan/data collection — data collection
  - prefeasibility study/diagnostics — diagnostics
    alternatives
    risk assessment
    cost-effectiveness

DEMDESS—Tool of EPDRB and National Water Quality Management

Data base management

Policy analysis; prefeasibility studies; diagnostics

Water quality activities on local and national levels

Linked with other systems (see figure on next page)

Expanding DEMDESS

- Jantra River basin—June 1992
- Iskar River basin—September/October 1992
- part of the other Danube tributaries—December 1992
- all river basins in Bulgaria—1993

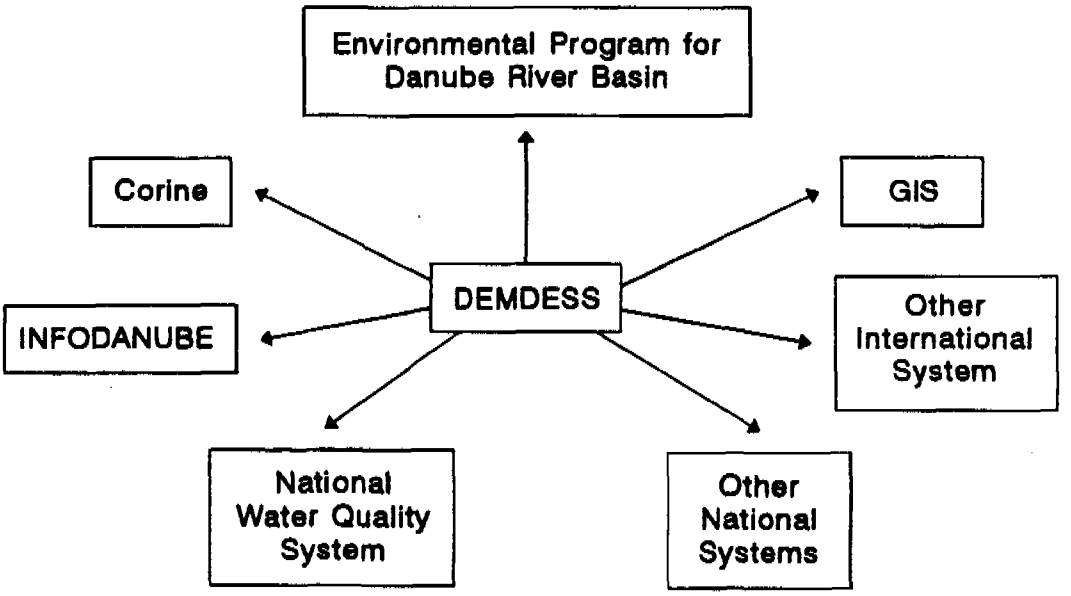
Plans and Specific Needs for DEMDESS Implementation

Resources from Bulgarian government

- all the capacity of the monitoring and information systems
- data
- home for DEMDESS

External assistance

- Making it practical for use in Jantra River basin
- Implementation on the Iskar River basin



- Link with GIS
- Implement Reach file organization on the National River Network
- Assess the impact of wastewater discharge on ambient water quality
- Strengthen the legal standards, norms, and economical block of the system
- Provide training courses for the staff operating DEMDESS
  - Local level
    - water quality engineer
    - chemist
    - computer specialist
  - National level
    - specialist for policy analysis/decision maker
    - system analyst

- data base specialist
- water quality engineer
- wastewater engineer
- economist
- chemist

- Technical equipment
  - Local level
    - for each inspectorate, a PC/AT-286, accessories, and software
  - National level
    - PC/AT-486/40-50 Mhz—1
    - notebooks—386—2
    - accessories and software
  - International level
    - technical equipment for international network and data exchanges
- International communications, regular symposiums, workshops, coordination of the efforts, exchanges of results, discussion on the future development of DEMDESS

Slovakia Presentation

Pilot Projects for the Environmental Program for the Danube River basin

Wastewater treatment plants in Nitra, Trencir, and Kosice

Landfills related to metallurgic factories: Sered (nickel), Ziar Yttr (aluminum)

Novaky (chemical factory)

Dubora (oil wastes)

Completion and/or Expansion of DEMDESS to More Basins

Reasons for introduction of DEMDESS in Slovakia:

- Prioritization of WWTP construction and reconstruction, including the introduction of more effective technologies, as well as the optimization and localization of WWTP in watersheds
- A new water law is being developed in Slovakia with stricter emissions limits:
  - consideration of stricter limits in two phases, influence on the environment and the economy
  - optimization of permission of emissions limits prescribed for polluters in relation to in-stream water quality
- Evaluation/optimization of fines and tax policy in particular basins in Slovakia
- Influence on the economy and the environment of the international conventions, to prepare suitable measures in advance

Plans and Specific Needs for Continuation of DEMDESS

Approval of the EPDRB in Slovak conditions

Data availability from other economic sectors

Collaboration with other sectors to ensure data reliability

External Assistance

Transfer data from existing data bases in Slovakia to DEMDESS.

Train staff to implement DEMDESS in Slovak conditions not only for pilot basin but also for extension of DEMDESS.

Establish intercalibration system in Slovakia to ensure data reliability among participating countries.

Organize workshops to exchange experiences in DEMDESS start-up for particular countries; other workshops are needed to learn newsletter production.

Obtain financial support for external assistance.

Hungary Presentation

Background

Geographical situation (lowland country)

Background on water quality protection policy

- socio-political changes
- new environmental protection policy
  - monitoring emissions*
  - environmental load fee
  - penalty
  - product/environment tax
  - water quality objectives*
  - special emission standards for industrial dischargers*
  - wastewater treatment master plan*

Danube Environment Program

Facilitates Hungary's environmental policy (country-specific characters)

Stimulates initiatives from Hungarian Ministry of Environment

Short-Term Priorities (in Priority Order)

*WWTP in Budapest**

Groundwater resources protection

*Cities without a WWTP (Győr, Szolnok, Debrecen)**

*Altalar watershed project**

Upper Tisza Valley water quality project (to keep it as clean as it is now in conjunction with Ukraine, Czechoslovakia, and Romania)

Sajo River water quality project

* Can start now with prefeasibility studies

Midterm Actions

National Review

DEMDESS

Tool for new environment policy elaboration and implementation *

Tool for international cooperation on water quality protection

Tool for Danube Environment Program

Short-term actions on DEMDESS requiring assistance (all in the home institute)

- Installation
- Consultation
- Validation
- Application in Altalar and Sajo basins

Midterm actions on DEMDESS

- Extension to 10 additional watersheds
  - interface with local point source information data base
  - interface with national surface water quality data base
- Extension for the entire country
  - additional funding required
- Training
- Information and experience exchange among participating countries
  - visits
  - workshops
  - communication

* Can start now with prefeasibility studies

Integration

National monitoring system

Water quality control policy

- revision of water quality objectives
- revision of WWTP

Additional Assistance Needed

Water quality modeling

Well-head protection techniques

Nonpoint source control

Agricultural environment policy

Monitoring development

- hazardous materials
- biological monitoring

Romania Presentation

Background

Great length (1,075 km)

Great basin surface area

Downstream position

Influence on Danube Delta and Black Sea Coast

Important sources for water supply and irrigation systems, transport, and fishing activity

Connection with Rhim-Main

Romania-Involved Actions

National environmental strategy

Bucharest Declaration (1985)

Danube Convention

Black Sea Convention

Danube Delta—national protected area

Research Program for the Black Sea (10 years)

Bilateral conventions—Bulgaria, Yugoslavia

Integrated monitoring system (at national and regional levels)

DEMDESS and Danube Environmental Program

DEMDESS Part of Program

- identify polluting sources
- assess impact
- set priorities

Design of Monitoring System

- sections
- parameters
- alarm systems

Technical—planning and water quality management in river basin

Financial support

Workshops for periodic coordination to introduce DEMDESS in the riparian countries

Expand DEMDESS

Demonstration basin—Arges (327 km)

Other basins for next period:

- Jiu (331 km)
- Olt (670 km)
- Siret (576 km)
- Prut (716 km)
- Measured parameters—respect the indicators established by Bucharest Convention

Projects for Donors' Attention

Demonstration River Basin—Arges

- wastewater treatment plant—Bucharest
- water treatment plant—Bucharest

- wastewater treatment plant—Pitesti

Jiu River

- wastewater treatment plant—Craiova

Olt River

- wastewater treatment plant—Valcea
- wastewater treatment plant—Govora

Danube River

- municipal wastewater treatment plant—Braila
- industrial wastewater treatment plant—Galati

Research activity

National Review

Timetable:

- July 31—draft consulting with USAID, EPA, EC, and WASH experts
- September 30—final report

Priorities:

- Geographical areas
  - Arges
  - Jiu
  - Olt
  - Siret
  - Prut
  - Danube
- Problems
  - identifying pollution sources
  - assessing impact of these sources
  - updating existing data and development
  - evaluating investments

DEMDESS Continuation after June

Objective: To continue the activity of USAID and WASH experts after June

- MOE and ME assure 0.03 million ECU for review study (June-September)
- Volume of external assistance: 0.03 million ECU (June-September)
- Priorities for external assistance:
  - processing data
  - training for persons involved in managing national program
  - three portable personal computers
  - laboratory equipment (1.5 million ECU)
- Additional requirements:
  - legislation
  - institutional framework
  - biodiversity conservation

Appendix G

DONOR/LENDER RESPONSES TO COUNTRY PRESENTATIONS

Donor/Lender Responses

MAY 27

Follow-up Questions

1. Who owns the software? This may be a legal issue. Ron Greenberg will follow up with agency lawyers to find out.
2. Who has access to the information in the system? Each country has its own version of DEMDESS and has access to that information.
3. Is DEMDESS a structure to keep data for donors?

Next Steps

EBRD—Tony Garvey

- Very impressive to have come so far so quickly. Clear that DEMDESS has a number of important uses. If at only a minimum, a uniform data base with interchangeability has been produced; a major contribution has been made. But much remains to be done.
- First, countries must demonstrate they are willing to commit funds and use DEMDESS in concrete ways, or the effort can easily be lost. An important first step is to set up a DEMDESS program unit in each country with someone assigned to manage its use, contract for its expansion, and serve as a focal point.
- The second priority seems to be to focus on key basins where diagnostic prefeasibility and feasibility work will be going on and where you have needs for decision analysis. These will probably be the same basins where each country has indicated priority problems.
- If not done already, EBRD would like to see the entire basin put on a Reach file map with addresses and locations where all point sources can be identified. (*This has been done.*)

- The focus should be on collecting data and ensuring that data sources are reliable. It is not clear to me that the laboratory skills and data collection and monitoring systems are sufficient to do the job.

WORLD BANK—Erik Børset

- Does DEMDESS fit in with country programs?
- Identify core areas of collaboration between DEMDESS and Danube River Basin Environmental Program.
- Develop point source information.
- Do Reach files ASAP.
- Need a transport model for pollutants in the rivers.

DANUBE ENVIRONMENT PROGRAM—Richard Holland

- How much will it cost to implement and maintain?
- How long will it take?
- Discussion needed on expansion to other riparian countries—need to coordinate with other riparian countries.
- Need to coordinate among donors.
- Quality of data.
- Need to improve monitoring.
- Validation within two to six months, come back in six months to see what happened—will be very important.
- Need to look at lessons learned after validation.
- Do governments want it?
- Question may be asked: "If we don't need it in Western Europe, why do we need it in Eastern Europe?"

USAID—Ron Greenberg

- A.I.D. is prepared to support application of DEMDESP to preinvestment studies and pilot basins. A.I.D. needs to follow through on providing help to countries to get DEMDESS running.
- DEMDESS seems applicable to medium-term but not short-term investments.

- In-stream, health impact is not a part of DEMDESS and should be separate.
- Finish application to pilot basins in next three to five months.
- Test system.
- Need government commitment over next several months. (Action: Governments should write to A.I.D. saying what they plan to do in this respect.)
- Need to know how this activity fits into broader aspects of country priorities.
- Need to consider country training needs in relation to use of the tool for investments and other needs—not just in the broad context.

REGIONAL ENVIRONMENTAL CENTER—Delcho Vichev

- WASH team was invited and encouraged to participate in the NGO meeting on public participation to be held in Bratislava at the end of June 1992.