

Draft Conclusions

6th Black Sea – Danube Regional Conference
on Nutrient Pollution Control
in Ankara, Turkey
23-25 October 2007

Executive Summary

- ◆ Participants reviewed nutrient reduction efforts in the Danube / Black Sea basin, as well as in the Mediterranean and Baltic Sea basins.
- ◆ Integrated approaches were stressed, across institutions, basin-wide and between upstream and downstream political units.
- ◆ Many examples demonstrated low-cost and easily implemented solutions, like constructed wetlands and use of forecasting by proxies to complement actual measurements.
- ◆ Discussion also centered on local awareness and the importance of demonstrating impact.

Introduction

The 6th Regional Conference on Nutrient Pollution Control in the Danube / Black Sea Basin took place from October 23rd - 25th, 2007 in Ankara, Turkey, hosted jointly by the Turkish Ministry of Agriculture and the Ministry of Environment. It also received financing from and was jointly organized by the World Bank and United Nations Development Program (UNDP).

Participants included government representatives, implementing and executing agency staff and project representatives, in particular representing the UNDP and World Bank's portfolio of GEF funded projects under the Danube - Black Sea Basin Strategic Partnership. They also attended from outside the region to contribute experiences from the Mediterranean Sea Strategic Partnership and the Baltic Sea Large Marine Ecosystem. A full participant list comprises Annex II of this document.

Information and documents (agenda, participants, presentations, proceedings and conclusions) emerging from the conference can be downloaded from:

<http://www.iwlearn.net/nutrientreduction>

This document includes a brief summary of conclusions from the different sessions.

Objectives of the Meeting

As with past conferences, the objective of this conference is to review regional experiences in bringing about effective and low-cost nutrient reduction and management, to achieve non-point source nutrient pollution control. This year, the intention was to focus critically on how these efforts can be more fully integrated into on-going programs of land and water management. The conference also provided a forum for sharing ideas, experiences and lessons learned amongst a broad spectrum of stakeholders. As indicated in the program, the conference also included a one-day field visit to Corum, where the GEF-supported agricultural pollution control component (APC) of the Anatolia Watershed Rehabilitation Project (AWRP) is implementing a pilot activity for nutrient management. Lastly, a more tacit purpose included gathering project representatives from the UNDP and World Bank's Danube / Black Sea Strategic Partnership's GEF project to share management practices and plan its remaining years.

Expected Outcomes

- ◆ The conference aimed to deliver a set of recommendations on water quality monitoring and reporting, new initiatives and replication strategies.
- ◆ Improved networking, coordination and experience sharing among the stakeholders of the Black Sea - Danube strategic partnership, as well as better management practices among its constituent projects.
- ◆ Inform the new Mediterranean Sea Strategic Partnership

Session I: Opening

Chairperson: Dr. Nihat Pakdil, Deputy Undersecretary, Ministry of Agriculture and Rural Affairs, Turkey

Co-Chairperson: Peter Dewees, World Bank

The Turkish government, Global Environment Facility, UN Development Programme and World Bank offered opening remarks to participants. The GEF presentation included remarks on new strategic priorities. An update on the status of the Black Sea - Danube Partnership was also provided. The Nutrient Reduction website contains both these presentations.

Session II: Country Experiences, Lessons Learned and Suggestions from Different Nutrient Reduction Measures

Chairperson: Prof.Dr. Lutfi AKCA, General Director, Ministry of Environment and Forestry, Turkey

Co-Chairperson: Halil Agah, World Bank

Key Findings

- ◆ **Holistic and integrated** approaches to nutrient reduction are more effective than individual approaches.
- ◆ Watersheds degrade because of unsustainable use of natural resources, erosion, soil fertility decline, forest cover loss, overgrazing and population pressure/poverty

Recommendations/Conclusions/Next Steps

- ◆ Basin managers need to identify the interests of **upstream and downstream** stakeholders, find ways to address them and ways to develop **linkages** between them.
 - One example given showcased lowland pollution resulting from agricultural livestock production while upland areas included afforestation (soil erosion) in the case of Turkey's Anatolia Watershed Management project.
- ◆ Practitioners need to **focus on beneficiaries and immediate benefits** in order to succeed in overall efforts at the household and community levels.
 - One example of this are manure platforms that measurably improve village level sanitation health and also provide organic fertilizer.
- ◆ Work with **institutions** to provide services, especially with multiple and competing interests.
- ◆ Focus on opportunities to improve **rural services**
- ◆ Build on **existing social structures** and institutions
- ◆ Provide larger set of techniques at **low cost**
- ◆ Create **win-win situations**: combine environmental protection with agricultural production
- ◆ Get the **scale right** for integration of multiple objectives, building community capacity, locally adopted planning and site specific solutions. To get it right you need to understand existing social organizations, address equity concerns and avoid too great heterogeneity amongst land capacity, tenure regimes and stakeholder interest.
- ◆ Do demand driven, adaptive, **farmer based research** to achieve quick results that can be integrated in project activities.
- ◆ On monitoring and evaluation there is a need for **better measurement** at the household level of impact of interventions on income and consumption and at the catchment level of impacts on sedimentation, water flow and water quality.

Session III

Chairperson: Aleksander Bogunovic, Ministry of Agriculture, Forestry and Water Management, Serbia

Co-Chairperson: Ulrich Zeidler, Denmark

Key Findings

Wetland Restoration and Constructed Wetlands

- ◆ It is critical to restore wetlands for the simple reason that ancient and preexisting wetlands were destroyed and should be **replaced**.
- ◆ The aim of restoration is three-fold: to **restore biodiversity, control flooding and reduce nutrient pollution**.

- ◆ Public participation becomes a critical issue to re-flooding long-dry land.
- ◆ Two examples covered the Bulgaria Wetland restoration project and the example of restoration of the Danube wetlands, where **fisheries** recovered and new **tourism** potential can be realized.
- ◆ Constructed wetland facilities provide **low-cost solutions**, especially at smaller scales (i.e. the farm level), while retaining the option of being easily scaled up.
- ◆ Knowledge regarding this technology is **not widespread** despite the strong need to have it widely disseminated.
- ◆ When implementing such systems, **local awareness** must be raised on their benefits.
- ◆ On constructed wetlands, more information should be disseminated and a community of practice fomented via **IW:LEARN**.
- ◆ Because constructed wetland technology is less tested in hilly/mountainous areas, 2-3 **demonstration** projects should be established in areas with **non-flat topography**.

Advanced Wastewater Treatment Systems

- ◆ Investments can make a difference with the major impact on reducing nutrient loading, however such investments can be large and require a **significant return**.
- ◆ One example considered a GEF project funding a tertiary treatment plant for Budapest, which requires an increase in **municipal tariffs** as part of its sustainability.
- ◆ New technologies exist which not only reduce the by-product of **sludge**, but also **increase energy** yields and lower residue.
- ◆ Cleaning water alone does not provide sufficient economic incentives in the short-run water must be used economically to cover part of the cost.

Discussion on constructed treatment wetlands during the closing plenary became extensive. *Hanifi Avci* described a situation in Turkey where 14,000 villages utilized small dug holes, thus creating sewer system without wastewater treatment plants. The resulting discharge created an even larger problem and he wondered what the solution could be. *Ulrich Zeidler* answered that, one need only find the appropriate space. Such facilities require a certain **area per inhabitant**. *Chris Severin* went on to describe work in mountainous areas, but also added that household systems cost approximately **100 euros per household** (with digging not included).

Session IV

Chairperson: Alexandru Jolondcovschi, Project Manager, Moldova
Co-Chairperson: Anna Georgieva, World Bank

On-Farm Management Practices (Crops and Livestock)

- ◆ The main categories of good on-farm agricultural practices include managing sedimentation and soil erosion, nutrients in the soil, other pollutants, confined animal facility, livestock grazing and irrigation water use efficiency.

Biogas

On the question of **biogas**, the discussion session showed how environmental mitigation can be incorporated into agricultural practices, actually increasing yields. Discussants raised the importance of assisting **small and medium sized** farmers (the predominant type in Southeastern Europe) and also **catalytic investments**. The Georgian delegation described their success with extension, saying local climate is a big factor. On the question of colder climate, *Darejan Kapanadze* stressed that success in Northern Europe and North America showed that it biogas solutions can function (technical solutions available in Dave Sood's presentation). *Alexandru Jolondvischi* described the Moldovan experience and how initially political leadership fought implementation of manure platforms. Whereas before the mayors fought, now the farmers fight

for biogas projects. In conclusion the manure management system at the communal system became less effective than the synergy between these two projects.

Session V Country Level Water Quality Monitoring and Reporting Chair: Ron Hoffer, World Bank Co-Chair: Andrea Merla
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Summary

- ◆ Presentations covered monitoring and reporting at all levels (soil, ground and surface water and even marine), with the question of what we can gather outstanding.
- ◆ Practitioners should retain focus on straightforward socioeconomic issues, i.e. public life must improve.
- ◆ Activities must maintain linkages to government strategy. We are not effectively linking results to **national strategies**. Implementers should be able to produce **data** that interventions actually **improve live**. The solution could lie in **modeling and approximation** schemes.
- ◆ Monitoring can be done **cost effectively**. Romania demonstrated that less than 10% can get one far. More **international exchange** could help. Estonia showed how comprehensiveness can be expensive.
- ◆ Monitoring programs are often done in **other ministries** than those that execute the project.
- ◆ Monitoring takes place to demonstrate
 - 1. Nutrient reduction delivers **health benefits** (immediate impacts).
 - 2. EU standards are being followed.
 - 3. The Black Sea - Danube Strategic Partnership itself, which provides a focus, to demonstrate that water resources need to be improved. Often, benefits not perceived by everyone. Whether that's important is not certain, but at a certain level it must be understood and monitored.
- ◆ Practitioners need actual **targets** (i.e. fix the Black Sea) and need to know what they are doing has **actual effect**.
- ◆ It is **not necessary** that each project establish a costly system, rather by introducing new practices and simple technologies we will obtain nutrient reduction. We can **forecast** and strategize using existing science and proxies.

Session VI New Initiatives and Replication Strategy Chairperson: Yegor Volovik, UNDP and Black Sea Ecosystem Recovery Project Co-Chair: Meeta Seghal, World Bank

Summary

- ◆ Regarding the new Strategic Partnership for the Mediterranean Sea, it builds on the lessons-learned of the Black Sea - Danube SP. The GEF demonstrated tremendous flexibility with financing (including the use of multiple focal areas). The chairs also noted the significance, that within the Investment Fund component, participating countries include the **basin** and not just riparian states. The Mediterranean also includes a built-in **replication component**, so at initiation people know what to expect. Great innovations were also demonstrated, like **project replication teams**.
- ◆ Notable and replicable achievements in the Baltic Sea include their environmental management system, their **grant credit scheme** and their success in leveraging more than \$50 million in investment. The Baltic Sea project also stressed **training**, that people at all levels of management should be trained.

- ◆ On the issue of mainstreaming agricultural issues into strategic management, participants noted that both agriculture and industry form key sectors of the economy, yet both pollute and provide services. The scale and impact that this community's interventions have are huge. In conclusion, the strategy itself emphasizes the need for both external and domestic support and also the urgent need to **implement environmentally friendly** practices in agriculture and forestry.

Annex1: Conference Agenda

Tuesday, October 23, 2007

8:00 – 9:00 am Registration, Coffee and Conversation

9:00 – 10:00 am Session I: Opening Session

Chairperson: **Dr. Nihat Pakdil, Deputy Undersecretary, Ministry of Agriculture and Rural Affairs, Turkey**

Co-Chairperson: **Peter Dewees, World Bank**

Opening Remarks:

- *Christian Holde Severin, GEF*
- *Dr. Yegor Volovik, UNDP*
- *Rodrigo Chaves, World Bank Country Office Turkey*
- *Dr. Nihat Pakdil, Deputy Undersecretary, MARA*

10:00 – 10:15 am Black Sea-Danube Partnership for Nutrient Reduction – Progress and Prospects

J. Srivastava, World Bank

10:15 – 10:45 am **Coffee break**

Session II

Chairperson: **Prof.Dr. Lutfi AKCA, General Director, Ministry of Environment and Forestry, Turkey**

Co-Chairperson: **Halil Agah, World Bank**

10:45 – 11:45 a.m. Turkey's Experience with Integrated Nutrient Reduction Approach – Anatolia Watershed Rehabilitation Project

Hanifi Avci, MoEF, Turkey

Ömer Faruk Mutlu, MARA, Turkey

Peter Dewees, World Bank

Open Discussions

11:45 – 12:30 pm Thematic Discussion 1: Integrated Approaches to Nutrient Reduction

Topic 1: Soil and Water Conservation and Forestry

Facilitator – Peter Dewees, World Bank

12:30 – 2:00 pm **LUNCH BREAK**

Session III

Chairperson: **Aleksander Bogunovic, Ministry of Agriculture, Forestry and Water Management, Serbia**

Co-Chairperson: **Ulrich Zeidler, Denmark**

2:00 – 2:45 pm Thematic Discussion 1: (continued)

Topic 2: Wet Lands Restoration and Constructed Wetlands

Facilitator: Christian Holde Severein, GEF

Case Study – Bulgaria. *Anna Georgieva*

Marieta Stoimenova

- 2:45-3:30 pm** **Topic 3: Waste-water Management**
Facilitator: Ulrich Zeidler, Denmark
Christian Holde Severin, GEF
Case study: Hungary
Katalin Sass, Janos Tobias
- 3:30 - 4:00 pm** *Coffee break*
- Chairperson:** **Session IV**
Alexandru Jolondcovschi, Project Manager, Moldova
Co-Chairperson: **Anna Georgieva, World Bank**
- 4:00 – 4:45 pm** **Topic 4: On-Farm Management Practices (Crops and Livestock)**
Facilitator: Jitendra Srivastava
Discussants:
- *Moldova: Alexandru Jolondovschi, Silvia Pana Carp*
 - *Georgia: Teo Urushadze, SosoMurvanidze*
 - *Serbia: Danijela Ilic*
 - *ICARDA/CIMMYT Experience with Conversation Agriculture: Dr. Julie Nicol*
- 4:45 – 5:30 pm** **Topic 5: Biogas from Animal Manure – Retrospect and Prospects,**
Dave Sood Presentation
Discussants:
- *Darejan Kapanadze, World Bank)*
 - *Nino Inasaridze, Georgia*
 - *Ali Kasaci, Turkey*
- 7:30 pm** **RECEPTION Museum of Anatolian Civilizations**

Wednesday, October 24, 2007

- Chairperson:** **Session V**
Ronald Hoffer, World Bank
Co-Chairperson: **Andrea Merla, Italy**
- 9:00 – 9:10 a.m.** Thematic Discussion 2: Country Level Water Quality Monitoring and Reporting
- Ronald Hoffer, World Bank
- 9:10 – 10:00 am** **Topic 1: Monitoring and Reporting for EU Nitrate Directive and Water Framework Directive.**
Discussants:
Pille Koorberg & Jaan Kanger, Estonia
- 10:00 – 12:30 am**
(15 min break) **Topic 2: Brief Discussions on Project Experiences with Monitoring and Reporting of Water Quality:**
Armenia
Bulgaria
Georgia

Hungary
Moldova
Romania
Serbia
Turkey

Overall Discussions

12:30 – 2:00 pm

LUNCH BREAK

Chairperson:
Co-Chairperson:

Session VI
Dr.Yegor Volovik, UNDP
Meeta Sehgal, World Bank

2:00 – 2:10 pm

Thematic Discussion 3: New Initiatives and Replication
Strategy

2:10 – 2:45 pm

Topic 1: Strategic Partnership for the Mediterranean Sea
Large Marine Ecosystems.

Emilia Battaglini, World Bank

Andrea Merla, Italy

Paolo Guglielmi, INFORAC, Italy

2:45 – 3:15 pm

Topic 2: Baltic Sea Regional Program

Staffan Lund, Swedish Agricultural University

William Sutton, World Bank

3:15 – 3:45

Coffee Break

3:45 – 4:15

Strategy for Mainstreaming Environmental
Management into Agriculture and Forestry

William Sutton, World Bank

Staffan Lund, Sweden

4:15 – 4:45

Overall Discussions

Chairperson:
Co-Chairperson:

Session VII
Hanifi Avci, Ministry of Environment & Forestry, Turkey
Jitendra Srivastava

4:45 – 5:30 pm

Closing Session

- Recommendations from Each of the Thematic Sessions (Presented by Chair/Co-Chair of Each Session)
- Any Other Business
- Overall Conclusions and Follow up
- Closing Remarks

Thursday, October 25, 2007

Chairperson:
Co-Chairperson:

Ömer Faruk Mutlu, MARA, Turkey
Ali Kasaci, MARA, Turkey

Field Visit to Anatolia Watershed Rehabilitation Project area – Corum

7:00 a.m.

Departure by bus from hotel

Lunch and dinner will be provided

11:00 p.m.

Arrive back at hotel

Annex 2 - Participant List

OVERSEAS PARTICIPANTS FOR THE REGIONAL CONFERENCE

	Participant		e-mail
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8	Dr. Nihat PAKDIL	Deputy Undersecretary, MARA , TURKEY
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13	Mustafa YÜKSEK	General Manager, MoEF , TURKEY
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19	Ibrahim GUCDEMIR	Deputy General Manager, Soil and Fertilizer Research Institute, MARA, TURKEY
!!!	12 Engineers	From Provincial Directorates of MARA
!!!	14 Engineers	From GDPC
!!!	3 Engineers	From MoEF

REC: Regional Environmental Center

MARA: Ministry of Agriculture and Rural Affairs

MoEF: Ministry of Environment and Forestry

GDPC: General Directorate of Protection and Control (Project Execution Directorate, under MARA)