



# INTERNATIONAL WATERS EXPERIENCE NOTES

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## Institutional Training and Capacity Building in Support of Private Sector Partnerships



**Abstract:** The Danube TEST project was designed and targeted to demonstrate how environmentally sound technologies would not only aid in reducing point-source pollutants but would assist the associated enterprises that adopted them in being more cost-effective and less wasteful. Although there are capacities in Danubian countries to provide many of the services needed by industry to pursue the simultaneous objectives of competitiveness enhancement, social responsibility and environmental compliance, these capacities remain isolated in separate institutions and companies. The project aimed to build the capacity of these national bodies to implement TEST tools and to advise on Best Available Practices (BAP's) and Best Available Technologies (BAT's). National counterpart institutes in each country worked to train their selected enterprises to implement and adopt of an appropriate suite of TEST tools. The project provided them with direct experience in implementing TEST in selected demonstration enterprises, then 'marketed' these successful demonstrations and created a landscape where other enterprises would be encouraged or even required to adopt the same tools and procedures. A strong level of networking and cooperation has developed between the national counterpart institutions and this has led to countries sharing their special expertise with each other and assisting each other in the development of further TEST initiatives. The training and capacity building approach discussed above is a means to strengthen of national institutions in cutting edge approaches to reducing industrial environmental footprints.

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# Institutional Training and Capacity Building in Support of Private Sector Partnerships

Experience of the GEF - sponsored

## GEF/UNDP: Transfer of Environmentally Sound Technology (TEST) to Reduce Transboundary Pollution in the Danube River Basin

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### PROJECT DESCRIPTION

In the context of UNDP-GEF's ongoing Danube Regional Program, the GEF Transfer of Environmentally Sound Technologies (TEST) project was implemented by UNDP and executed by UNIDO during 2001-2004. The Development Objective of the TEST initiative was twofold:

- ◆ To improve industrial environmental management by major industrial enterprises in the Danube River Basin, resulting in major reductions in pollutant loading and consequently risk to the Danube River and Black Sea aquatic environments.
- ◆ To build capacity in networks of national cleaner production institutions to advise the enterprises in the five participating countries on how to implement the TEST approach.

This GEF Medium Sized Project was designed to demonstrate how environmentally sound technologies could not only aid in reducing point-source pollutants but could also assist enterprises to: be more cost-effective and less wasteful, comply with environmental standards, and still maintain or enhance their competitive position. The project targeted Bulgaria, Croatia, Hungary, Romania and Slovakia, selecting a total of 17 enterprises across these Danube basin countries in which to demonstrate the TEST process and its tools. The project successfully completed training, capacity building and institutional strengthening for TEST procedures at both levels of the demonstration enterprises and of the national counterpart institutions (i.e., Cleaner Production Centres (CPC's), Pollution Control Centres (PCC's) or similar bodies). One such institution in each of the 5 countries serviced the needs of participating enterprises.

Actual demonstrations of the TEST approach (various options for environmental management and pollution reduction) within the 17 enterprises

were successful. Selected companies made considerable investment into the adoption of cleaner production processes and environmentally sound technology. Moreover, the project left in place suitably trained and capacity-built TEST focal institutions within each country. They were able to continue to assist the original 17 enterprises while promoting TEST and delivering the TEST tools to other interested companies, as well as offering their services as TEST Trainers to similar institutions in other countries.

Independent terminal evaluation of GEF TEST found the project to have been most notably successful and a very worthwhile example of a GEF MSP investment, from which many valuable lessons and practices could be captured. The Evaluation provided a number of recommendations, including the proposal that serious consideration be given to further investment to transfer these lessons and best practices and to build on the substantial achievements of the TEST project, including expansion of the training and capacity building within other Danube Basin countries as well as other important IW water-bodies (e.g. Caspian Basin, Black Sea, etc).

### THE EXPERIENCE

#### *Issues and Challenges*

The Transboundary Analysis (TDA) for the Danube River Basin (1999) identified the following main problems that affect water quality use: high load of nutrients and eutrophication; contamination with hazardous substances, including oils; microbiological contamination; contamination with substances causing heterotrophic growth and oxygen depletion and competition for available water. The human activities contributing significantly to these problems are human settlements, agriculture and industry.

Up until the inception of the TEST initiative within the Danube basin, there was a lack of convincing practical demonstrations with private sector enterprises that it is possible to comply with environmental norms and still advance their competitive positions. Danubian countries are capable of providing many services needed by industry to pursue the simultaneous objectives of competitiveness enhancement, social responsibility and environmental compliance. However, such capacity remained isolated in separate institutions and companies. None provided an integrated service package for enterprises to pursue the three objectives simultaneously.

The project aimed to build the capacity of these national bodies to implement TEST tools and to advise on Best Available Practices (BAP's) and Best Available Technologies (BAT's). One of the primary challenges of the TEST Project was therefore institutional strengthening within each country to capture "under one roof" understanding of the TEST procedures and tools. Another challenge was train that body to deliver these services as a marketable product to appropriate enterprises.

#### *Addressing the Issue*

130 industrial enterprises of concern (known as hot spots) were identified within the Danube River Basin. Five countries were selected to participate in the TEST programme. All of these target countries were in 1) Economic and political transition, 2) Undergoing increasing industrial production and consumption, 3) Experiencing growing environmental pressure, and 4) experiencing changing social conditions and considerations. The main criteria for selecting these 5 countries were 1. They were contributing the high nutrient loadings to the river basin, coupled with 2. The countries had established Cleaner Production Centres or similar institutions in place.

The aim of the TEST initiative was to work with the selected pilot enterprises to:

- ◆ Demonstrate the feasibility of achieving industrial compliance with environmental norms and social considerations while maintaining a company competitive edge
- ◆ Bringing the selected enterprises into compliance with European Union Accession

requirements as well as the Danube River Protection Convention requirements

UNIDO identified the National counterparts within each country based on their joint programme with UNEP for the identification of suitable institutes for the development of Cleaner Production Centres. These counterpart institutes would deliver the necessary TEST products and training. These were either existing national CPCs (established by UNIDO and UNEP), PCCs or other appropriate institutes dealing with national pollution management and control.

The TEST approach uses a modular set of tools could be targeted or enhanced to suit specific enterprises. Training and delivery focussed on the following sequence of tools:

- A. **An Initial Review of Company Needs:**\* Identifying which of the following modules need to be integrated into the specific enterprises' TEST programme
- B. **Environmental Management Systems:** Practices and procedures to promote an environmental policy within a company's overall quality management system
- C. **Cleaner Production Assessment:**\* An integrated preventive environmental strategy applied to industrial processes, products and services to increase overall efficiency and reduce risks/impacts to humans and the environment
- D. **Environmental Management Accounting:** Identifying the financial impacts on improved environmental performance (which can be negative or positive)
- E. **Environmentally Sound Technology Assessment:**\* Implementing best available techniques and practices to improve environmental performance or meet environmental norms
- F. **Sustainable Enterprises Strategy (SES):** Adoption of all of above into performance objectives within an overall business strategy so they are not 'stand-alone' but form part of overall company policy

\* Each enterprise went through these 3 modules. Selected enterprises did one or more other modules.

CPCs stressed that all modules are integrated and should be considered related to one another.

The Project worked with the national counterpart institutes in each country to train their selected enterprises to implement and adopt of an appropriate suite of TEST tools. The final module on SES was considered particularly important, as it integrates previous modules, environmental assessments and reviews into an overall corporate management and business strategy. To ensure this vital TEST component was well understood, UNIDO delivered an SES workshop for all national counterparts. National counterpart institutes also received training in COMFAR (Computer Model for Feasibility Analysis and Reporting), software developed by UNIDO to aid their analysis of investments in both new projects and expansion/rehabilitation of existing enterprises.

## RESULTS AND LEARNING

A total of 90 persons within counterpart institutes (or individual consultants) were trained in TEST procedures through 622 days of training. The Project was responsible for creating 8 new jobs to support the TEST process within participating countries. Although some CPCs had experience with individual TEST tools already, every one of the 5 counterpart institutes developed a new suite of skills to deliver to industry. Notably, 1691 person-days of training raised capacity for a total of 380 enterprise employees.

National counterparts received high quality training in TEST and associated products. They could then market and deliver this expertise within a context of growing demand. This training and capacity building were provided through real 'shop-floor' experiences within industrial enterprises. Clearly this created a 'win-win' situation for these counterpart institutes. The Project provided them with direct experience in implementing TEST in selected demonstration enterprises, then 'marketed' these successful demonstrations and created a landscape where other enterprises would be encouraged or even required to adopt the same tools and procedures. The CPCs then found themselves in great demand due to their unique knowledge and were therefore able to become cost-effective businesses in their own right. By the end of the project, the CPCs and PCCs were in an advantageous position to sell their services professionally, offering industry very effective, modular packages delivering cleaner and more cost-effective production.

Although companies were initially cautious about the entire TEST approach they tended to be more ready to cooperate if they had already had some dealings with the counterpart institutes (in their roles as CPCs). After the initial review process, they were more aware of the tools and underlying rationale, and quickly understood the potential advantages to them: complying with environmental norms, competing within a wider market, and reducing costs by decreasing unnecessary waste and discharges.

The lessons learned from this exercise in relation to institutional training and capacity building:

- A. *The modular approach adopted for the TEST process was enormously valuable.* This allows companies to select (with assistance and advice) those tools that were most appropriate to their needs. Companies with some environmentally sound policies can merely plug in the more advanced tools. Where CPCs enhanced the TEST package with modules in their own areas of expertise, such as energy efficiency and energy auditing. Thus, the modular approach was quite appropriate.
- B. *Pre-existing relations with CPC enhanced companies' positive reactions.* Initial caution about TEST evolved into more positive reactions when enterprises had met previously with their CPC. They became more supportive and enthusiastic once internal problems were identified in relation to pollution discharges and wastes, then linked to improved market competition and compliance via the Initial Review and the Environmental Management Accounting process.
- C. *The technological transformation of enterprises to environmentally sound technologies must also account for economic and social considerations.* Failing to take into account these two factors usually prevents the implementation of the transformation. In particular, if employees are not failure involved in both in design and implementation of the transformation, then negative effects on employment will prevent significant technology transformation.
- D. *CPCs provide valuable valuable service through independent advice, assessments*

*and opinions on BATs and BAPs.* Commercial companies are biased in trying to sell their environmentally-friendly technology and innovative techniques. They will always maintain that their products are best and the companies need a reliable. Thus, CPCs can provide a more impartial source of advice.

Other relevant lessons are reflected below under [6. Replication](#) as advisory notes specifically to guide future TEST initiatives.

## REPLICATION

This is one of the most replicable of GEF's initiatives. It provides very clear lessons, best practices, and highly successful demonstrations of processes leading to stress reduction and inevitable environmental status improvements.

A number of the CPCs have already been approached by the original demonstration enterprises to provide further assistance and upgrading which the companies will now pay them for directly (as opposed to using GEF funds). The CPCs are also being approached by new enterprises with a view to contracting them to carry out various levels and stages of TEST procedures within their companies, particularly in order to meet the ISO 14000 and IPPC (Integrated Pollution Prevention and Control) requirements. Training and capacity building within individual enterprises has proved to be very valuable from the replication point-of-view: Trained personnel have been seen to move up through the company to very senior posts carrying their ideas and support for TEST with them. Some have moved to other companies and carry their new experience and knowledge with them to raise awareness of TEST tools and processes within their new company.

Furthermore, a strong level of networking and cooperation has developed between the national counterpart institutions and this has led to countries sharing their special expertise with each other and assisting each other in the development of further TEST initiatives.

Such further TEST initiatives are currently under implementation or being developed. This includes a follow-up to the Danube TEST pilot project that aims to extend delivery of the TEST process to other Danube river basin countries as

well as to countries in the basins of the Black and Caspian seas.

In replicating these early TEST initiatives it would be advisable to take note of the following challenges and potential improvements that relate to training and capacity building:

- ◆ *A lead-in time is very important*, through a PDF phase or initial project development process, to allow stakeholders to get to know each other and to develop working relationships. Existing CPCs were functional in 3 countries but other appropriate institutions had to be identified elsewhere. In one of the remaining countries, two institutions were selected and later rejected after unsatisfactory delivery before an appropriate counterpart was found. This led to delays in project delivery within that country.
- ◆ *It's better to put CPCs in place BEFORE attempting to deliver TEST tools and processes to the private sector.* The CPCs represent a valuable national 'sustainability' and 'replicability' component. Once they have received sufficient training, they can continue to provide TEST facilities to any private sector interest. An assessment of capacity building existing institutions to become CPCs was sustainable whereas establishing entirely new institutions was not. Therefore projects that enhance existing capacity rather than create new CPC institutions are more likely to be sustained.
- ◆ *TEST training is a dynamic and on-going process.* Companies should be reviewed and reassessed for TEST-related efficiency and sustainability. The established CPCs would be well suited to developing and undertaking this assessment process.
- ◆ CPCs with TEST experience can be used to build capacity within new or less experienced institutes.

Some level of post-project assessment would be valuable to determine how sustainable the TEST process has been both within the companies and at the national level. CPCs have a potentially valuable role to play in this assessment process, which could actually go beyond just assessment and review by actively

encouraging the enterprises to continue and expand on their TEST-related demonstrations.

## SIGNIFICANCE

This TEST initiative is of enormous significance to transboundary waters management as well as to the overall control of land-based sources of pollution, integrated water resources management and coastal area management *per se*. The training and capacity building approach discussed above is a means to strengthen of national institutions in cutting edge approaches to reducing industrial environmental footprints. As such, it represents a major advance toward sustainable pollution reduction within river basins and other transboundary waterbodies.

## REFERENCES

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[www.unido.org/doc/26190](http://www.unido.org/doc/26190)

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**Introducing Environmental Management Accounting at Enterprise Level. Methodology and Case Studies from Central and Eastern Europe.** (Authors: Roberta de Palma, Maria Csutora).

**Danube TEST Project Terminal Evaluation**  
[http://www.iwlearn.net/iw-projects/Msp\\_112799491541/test-terminal-evaluation.pdf/view](http://www.iwlearn.net/iw-projects/Msp_112799491541/test-terminal-evaluation.pdf/view)

## KEYWORDS

◆ Environmentally Sound Technology

- ◆ Industrial Environmental Management
- ◆ Private Sector Partnerships

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