



INTERNATIONAL WATERS RESULTS NOTES

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Transfer of Environmentally Sound Technologies (TEST) to Reduce Trans- boundary Pollution in the Danube Basin

GEF ID#: 867, PIMS ID#: 1997

Project Status: Completed



Key results:

1. Capacity increased at five national pollution control centres for training industry in the TEST approach to reducing pollution and increasing efficiency; over six hundred staff trained at industrial enterprises.
2. TEST methodology was implemented at 17 industrial enterprises identified to be of concern in five countries, resulting in significant pollution reduction, economic savings, and increasing interest in TEST.
3. Training and project result material was disseminated in the host countries and 20 more enterprises were offered training on TEST, including in a sixth country.

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PROJECT OBJECTIVE

The project's objective was to build capacity in existing industrial production enterprises in five Danube River Basin (DRB) countries to apply the UNIDO Transfer of Environmentally Sound Technology (TEST) integrated approach to reducing pollution and increasing efficiency. The five countries involved were: Bulgaria, Croatia, Hungary, Romania and Slovakia.

The DRB is the heartland of Central Europe. The main river is 2,857 km long and drains 817,000 sq. km before discharging into the Black Sea through a delta which is the second largest natural wetland area in Europe. The UNDP/GEF Pollution Reduction Programme identified 130 major manufacturing enterprises of concern (known as hot spots) within the DRB; a significant number of these are contributing to transboundary pollution in the form of nutrients and/or persistent organic pollutants. The four major polluting industrial sub-sectors in terms of numbers of enterprises are: food, paper, chemicals, and iron, together accounting for 75% of pollutant dischargers.

Many industries were not convinced that it was possible to reduce pollution and still remain financially viable. The aim of the assistance was to bring pilot enterprises into compliance with environmental norms of the Danube River Protection Convention while at the same time taking into account their needs to remain competitive and to deal with the social consequences of major technology upgrading. The enhanced institutional capacity would then be available to assist other enterprises of concern in these countries as well as in other Danubian countries.

The TEST approach uses the following set of modular, customizable tools: An Initial Review of Company Needs; Environmental Management Systems; Cleaner Production Assessment; Environmental Management Accounting; Environmentally Sound Technology Assessment; and Sustainable Enterprises Strategy.

RESULTS: PROCESS

INDICATOR #1: National focal points (working units within an already established pollution control department) initiated that facilitate the transfer of Environmentally Sound Technologies (EST) to industrial enterprises in five Danubian countries. [*Target: Five counterpart institutes identified and initiated; adoption of TEST advisory boards with at least two meetings per year; 50 counterpart team consultants trained in TEST procedures in 300 man-days; Information Management System and networking established.*]

All five Counterpart Institutes (one in each country) were engaged and delivering TEST products. Advisory boards were organized and met regularly. 90 team members/consultants were trained over the course of 369 man-days. Internet linkages were made to relevant databases at regional and international organizations. Effective networking was established between counterpart institutes and the coordinator, facilitating active sharing of lessons and expertise between all parties.

INDICATOR #2: TEST training material prepared and staff trained at demonstration sites. [*Target: TEST manual published; 500 staff trained; 1500 man-days of training.*]

A UNIDO manual on the TEST approach methodology was published, and 622 staff were trained over 1,673 man-days.

INDICATOR #3: Results of the TEST demonstration component disseminated to other enterprises in the five participating countries and in other countries in the DRB. [*Target: Five national seminars; one regional workshop; and at least 25 enterprises in DRB countries offered an introductory seminar.*]

A national dissemination seminar was completed in each of the five project countries. Five national publications were published (in English and the local language) on the results of the project at each enterprise. A regional workshop on Best Available Technology and Industrial Pollution Control in the DRB was held in Bratislava, Slovakia. An additional twenty enterprises were introduced to, and offered a training seminar on, the TEST approach in Bosnia, Romania and Croatia. Lessons learned have been shared with the GEF UNDP Danube Regional Project, the International Commission for the Protection of the Danube River Basin, the GEF's Third Biennial International Waters Conference in Brazil in 2005, and various other groups.

RESULTS: STRESS REDUCTION

INDICATOR #1: Demonstration enterprises selected for TEST integrated approach and cleaner production measures implemented. *[Target: Twenty enterprises selected; significant (at least 30 per cent) pollutant reductions in at least half of the participating enterprises and some pollutant reductions in the other half.]*

Seventeen enterprises in five countries were ultimately selected as demonstration sites. 230 cleaner production options were implemented for a total investment of 1.66 M USD, resulting in the following economic and environmental benefits: 1.3 M USD yearly financial savings; 4.6 M m³/y of wastewater discharge reduction in the Danube river basin; and an average 30% of BOD/COD reduction in effluent per unit of production.

The following is a summary of the overall achievements of implementing the TEST process at all of the selected companies:

- A general reduction in unnecessary costs and investments to companies of producing waste products
- Change from loss to profit by use of wastes (recycling or alternative products)
- Overall improvements in quality of products
- Increased marketing potential as a result of higher quality linked with environmental acceptability
- Avoidance of fines, penalties and ill-will with regulatory bodies monitoring compliance
- Overall improvements to company profiles and credibility

As a result of these demonstrated achievements, considerable investments were made by most of the companies into cleaner production processes and more environmentally-sound technologies

INDICATOR #2: Environmental Management System (EMS) and Environmental Management Accounting (EMA) implemented at demonstration plants. *[Target: EMS/EMA implemented in at least 50% of the demonstration enterprises.]*

Four plants have implemented an EMS that was certified by the International Organization for Standardization and eleven more have EMS documentation in place ready for certification. Six enterprises have implemented EMA systems.

INDICATOR #3: Investment projects for EST identified for demonstration sites. *[Target: EST options successfully identified for 75% of the demonstration enterprises.]*

Investment projects have been prepared for all participating enterprises utilizing the UNIDO investment appraisal software COMFAR. Identified investments of EST would total 47 M USD and result in an additional reduction of wastewater discharge into the DRB of 7.9 M m³.

KEY LESSONS LEARNED

- 1) In order to obtain enterprises' participation, they had to be convinced they would achieve significant benefits, economic being foremost in their minds. This required considerable efforts during the initial marketing of the project, since it was particularly important to find enterprises with a strong commitment to the project to avoid the possibility they would later withdraw.
- 2) The identification of the correct drivers existing in the business environment was very important, not only during the first stage when the project was being marketed and pilot sites were being selected, but also during the overall implementation of the programme, to maintain the commitment of the managers. What project implementation showed was that, usually, economic drivers are much stronger than environmental ones in motivating companies to improve the efficiency of their operations and to acquire EMS certification.
- 3) Even though the participation of the enterprises in the project was mostly subsidized by funds from the programme itself, the demonstration enterprises were required to make a small (token) financial contribution. This proved to be an effective strategy to strengthen their commitment and active participation in the project. It should be noted that none of the selected enterprises withdrew from the project and even though there were different levels of success in each of the enterprises, all of them achieved measurable results by implementing the integrated TEST approach.

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