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INTERNATIONAL EXCHANGE OF EXPERIENCE ON THE TOPIC OF WATER MANAGEMENT BY THE TECHNOLOGY TRANSFER WATER PROJECT

General. Improving the environment with the help of environmental and infrastructure programmes requires elevated public awareness for the issue, suitable legal framework conditions and the corresponding administrative organisations with an effective management apparatus on both the state and community level.

In light of the high demand for objective advising in water management from colleagues abroad, largely from transformational states in Central and Eastern Europe [1], the Bavarian State Ministry of the Environment and Consumer Protection (StMUV, in its German abbreviation) established the Technology Transfer Water (TTW) project office, headquartered at the Bavarian Environment Agency.

Bavaria has had partnership agreements and declarations of interest with many of these countries for decades now [2].

Water Management on State Level. In Bavaria, the State's Water Management Administration is responsible for all matters involving the management of water resources as well as the conservation of bodies of water and soil. With its three-tier structure, it is among the oldest administrations of its kind in the world, its history spanning back to the year 1830 [3]. Today, it falls under the authority of the StMUV, Europe's oldest environmental ministry (founded 1970).

The experts working here consider themselves to be "water advocates" and are extensively involved whenever water and bodies of water are in some way affected [4].

One integral component of this work, and an expression of the cemented principle of cooperation, is the consulting performed for municipalities to assist them in meeting their obligations in matters such as planning, operating and self-monitoring systems for water supply and sewage disposal.

Covering an area of 70,548 km², Bavaria is the largest federal state in Germany; its structures are decentralised due to topography and settlement, which represents a special challenge.

Project aim. TTW is a platform for international exchange of experience on the subject of water. Imparting the practical experience of the Bavarian Water Management Administration guarantees institutional aid in setting up functional environmental management and establishing appropriate environmental standards. The most important concerns are implementation of the Principles of Integrated Water Resources Management (IWRM) and action for sustainable development as laid out in Agenda 21 [5].

Conversely, Bavaria can profit from experience gained abroad and integrate that know-how into its own professional work.

Problem. The largest hindrance in resolving water management problems is not a lack of advanced technologies or financing, but rather general institutional conditions.

When it comes to sustainable water management, the structures developed in Germany over decades are held in high esteem on an international level. These include:

- clearly defined responsibilities,
- legal and functional guidelines, developed according to the principle of proportionality, largely in consensus with the participating associations (not top down),
- norms and standards laying out specifications according to the generally recognized principles of technology and the generally accepted state of the art,
- clear guidelines governing the relationship between municipalities and their citizens (including municipal code, cost allocation law, fee system),

- services ranging from advice on submitting applications and scoping procedures to short process times with the presumption of approval under certain conditions
- public participation not only in administrative procedures, but also in planning processes, for example, and
- certified professions specialising in water management, with comprehensive offers for initial and advanced training.

Poland is a prime example illustrating how a need for collaboration on a technical level progressed. With no other country in the TTW project has the exchange of experience been so intensive, and it continues to be carried out to this day.

At the beginning, queries were mainly aimed at ensuring the provision of essential services, such as water supply and sewage disposal (centralised and decentralised), focussing on the associated technical and administrative issues (e.g. operating form, fee system).

Then came the topic of “capacity building” (training and advanced training, with instruments set up for on-site training/neighbourhoods), followed by questions on flood control, warning services and ecological river works.

Current topics covered in the exchange of experience are energy efficiency, options for the generation of energy from water infrastructure, benchmarking, lake rehabilitation and water desludging.

Instruments for technology transfer. Bavaria offers colleagues in partner countries and regions project-flanking support in capacity development (CD) measures and exchange on technical topics with the objective of imparting the IWRM philosophy of good governance in the most illustrative manner possible. This support includes:

- consultation, also in situ;
- seminars in Bavaria;
- conference/presentation events in the partner countries;
- municipal water partnerships;
- internships in Bavaria, as well as;
- translation of professional literature.

In doing so, we rely on the support of a comprehensive water management network whose expertise is integrated into the exchange. The network especially includes municipalities and municipal associations (service), consultants (planning and construction works), associations and chambers (initial and advanced training), universities (research) and suppliers of comprehensive technical component solutions.



Figure 1 – IWRM seminar with Polish participants

The local partners needed are of particular importance. We have gained excellent experience with non-governmental organisations (NGOs) in long-term collaboration targeted at reaching as many potential multipliers as possible in various spheres of responsibility.

The following activities are of particular note:

IWRM seminars usually represent the first step toward in-depth collaboration. We use this seminar model to provide insights into the spheres of work of the various actors in water management, to dismantle mutual prejudices, to highlight the advantages of modern service administration and to promote interdisciplinary networks abroad [5].

Seminars on special topics in Bavaria. For water management topics in particular demand, TTW designs professional seminars tailored to the needs and desires of the specific group of participants. These seminars are often in conjunction with the preparation of specific investment projects. Examples of topics covered in these seminars in the past include sewage disposal (decentralised, municipal, industrial), sludge management, potable water hygiene, operator organisation / association formation, flood control, renaturalisation of water bodies and the certification of water management equipment.



Figure 2 – Seminar on sewage disposal with a group from Slovakia

Summer Academy of the Bavarian Environmental Administration. Since 2007, we have been offering a summer academy series once a year in collaboration with the University of Applied Sciences for Public Administration and Legal Affairs in Bavaria,

Hof. The series represents an expansion of the topics covered in the IWRM seminar. The two week educational programme covers water management as well as subjects like waste management, nature conservation, emissions control and development planning.

The first summer academy featured Portuguese as the working language and hosted participants from Brazil. The event has been held in Russian since 2008 with participants from countries of the former USSR.

Conferences / Presentations in partner countries. We support one- and multiple-day conferences on water management topics in cooperation with local organisations in partner countries.

One feature and particular concern in the mutual exchange of experience is to attain a well-balanced mix of local and German speakers, with their presentations coordinated in order to illuminate the respective circumstances and problems.



Figure 3 – Summer Academy with participants from UA / BY / RUS/ MD/ KZ

Special events / special topics. In 2005, we presented the model of on-site training using sewage treatment plant neighbourhoods, a model that has been tried and tested in Germany. After the operator association Eksploatatora [6] was identified as a suitable host organisation, it was possible to achieve a penetration of 50 % of Poland's surface area as early as 2008 with such neighbourhoods.



Figure 4 – Presentation event, Olsztyn/ Pl

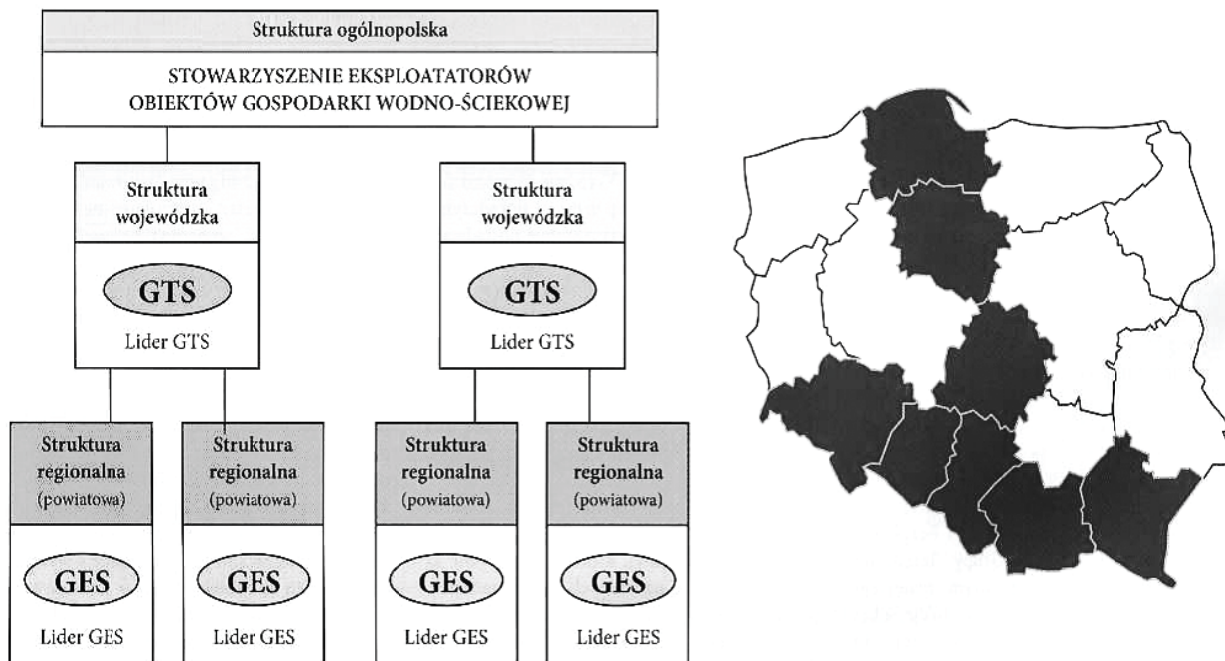


Figure 5 – Source <http://www.eksplotator.org>

In the past, TTW fostered this development through various activities. We recently supported the production of a Polish version of the Modular Wastewater Training System developed by the German Association for Water, Wastewater and Waste (DWA), which can be used to illustrate processes in sewage disposal.



Figure 6 – Handover of a copy at the 2012 Teacher Day in Grudziń/ PL

Summary. The importance of water as a resource in an increasingly technical world will continue to rise in light of the decline in natural bodies of water, loss in biodiversity, climate change, population growth, energy and food security, and globalisation. Given the transborder importance of water, sustainable water management cannot be isolated to the country level.

Environmental contamination, resource problems and equality aspects transcend national borders.

Bavaria's Technology Transfer Water project office embodies a platform offering partners a contact and information point for exchanging mutual experience in the field of water management.

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