

German Experiences in River Basin Co-operation

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Abstract

Germany has a long history of gradual development of frameworks for co-operation on shared waterways. Germany's geographical location, with parts of several major trans-boundary river basins in its territory, has stimulated the need for co-operation with neighbours. The paper describes the evolution of co-operative institutions on the Rhine, and draws the lesson from this that these institutions must evolve over long periods of time, as the partners gradually recognise the value of co-operative frameworks. This history also shows that co-operation may develop through addressing one issue at a time, rather than seeking early establishment of a comprehensive framework.

The latter part of the paper reviews Germany's role in recent years in fostering international exchanges of experiences on these issues, and presents summaries of the recommendations of a series of such international meetings.

1. Introduction

Germany has been co-operating with its neighbour countries in various ways for a long time. Due to its geographical location and political development it has a wealth of experience regarding the management of trans-boundary waters. This is based on experiences from water resources management, federal co-operation between individual Federal Länder¹ within Germany, co-operation between Germany and other riparian states on trans-boundary waters, co-operation with other European Union (EU) Member States and co-operation within the European regional organisation of the United Nations, the UN-ECE.

Various parallel uses of waters are the norm in Central Europe. Multiple utilisation of waters can, in principle, lead to conflicts. The fact that such conflicts could be largely avoided or resolved peacefully is due only partly to comparatively favourable climatic conditions. It is mainly due to national and joint efforts to solve water pollution problems. Preventing water pollution is a prerequisite for the multiple utilisation of waters by various parties.

Based on its own experiences, Germany has in the past been involved in a range of international initiatives beyond Europe's borders, as a partner and supporter of co-operation on managing trans-boundary waters. The issue of co-operation on trans-boundary waters is gaining political weight as one of the safety-relevant aspects of international co-operation.

¹Germany is a federation of 16 states called Länder.

2. Germany's experience

Germany shares its four biggest rivers—the Danube, Elbe, Oder and Rhine as well as a variety of smaller rivers, with its neighbouring countries. Development on the Rhine is in many respects characteristic of the joint use of trans-boundary rivers.

2.1 Historical development of co-operation for the use of the Rhine

For a long time, the most important trans-boundary use was the transport of goods. The Central Commission for Navigation on the Rhine (ZKR), which now has its headquarters in Strasbourg, dates back to the Vienna Congress (1815). With the re-ordering of European politics after Napoleon, the principle of navigational freedom in international waters was also established. A commission was set up to create the possibility of monitoring compliance with common regulations for the Rhine and an opportunity for the riparian states to discuss all issues relevant to navigation on the Rhine.

In 1831, 16 years later, agreement was reached on the first standard principles for navigation on the Rhine. Another 37 years later, the Rhine riparian states transferred sovereign rights (courts with jurisdiction over navigation on the Rhine) to the ZKR with the Mannheim Convention (1868). The majority of these rights still exist today.

Parallel to political development for the promotion of navigation on the Rhine, extensive river training began on the Rhine at the beginning of the 19th century. The aims were to reduce the danger of flooding at certain locations, and to stabilise the river course. This was the subject of widespread political debate. Many landowners, downstream towns and countries fought the plans, because they would have to reckon with loss of land, they feared negative impacts for economic development, or because their territory was affected by an increasing danger of flooding. These objections brought a halt to construction in 1827. Development of the Rhine to stabilise the river course and to regulate the flow rate was continued between 1842 and 1876 only after difficult multilateral negotiations and on the basis of an inter-governmental treaty.

However, negative effects on ecology and navigability were linked to this development. Further development, to secure navigation as far as Basel (in Switzerland) began in 1906, on the basis of inter-governmental agreements, and finished in 1960. In 1974 and 1977 the two final weirs, with locks for generating electricity, were completed.

In addition to its uses as a waterway and for supplying drinking water, the Rhine and its tributaries were also used for the supply of water to industry (in particular the chemicals industry), for energy generation and for draining waste-water from rapidly growing towns and cities, from industry and mining. In the course of development and the increase of pollution, one of the main uses of the water, for fishing, which was still an important source of protein for the population at the beginning of the 20th century, decreased. Traditional professional fishing could not compete against the newly developed industries.

At the beginning of the 20th century, the developing industry and the growing population led to rapidly increasing pollution of water resources in some German tributaries of the Rhine catchment area. This led to tough competition for water among commercial and industrial users. The discharge of pollutants and untreated domestic wastewater resulted in environmental pollution and had negative effects on human health. In order to solve these problems, industrial enterprises and municipalities along these waters formed associations and began to manage the water jointly, with the goal of ensuring a good supply of drinking water for the population both in a quantitative and qualitative sense, and to meet the water requirements of industrial enterprises. These associations still exist today and operate water storage systems and extensive wastewater treatment facilities.

2.2 International co-operation to protect waters

Co-operation between the Rhine riparian states within the framework of the International Commission for the Protection of the Rhine against Pollution (ICPR) began in 1950, initially without the legal framework. In 1963, co-operation was given this legal foundation with a Convention. In 1973, the European Community acceded to this Convention.

A characteristic of the ICPR and other international water protection commissions in which Germany is involved are the relatively small offices with few personnel. The ZKR, with its sovereign duties, has more than double the staff of the ICPR. In the water protection commissions the Member States work together within the framework of action plans and programmes. The programmes are elaborated and adopted jointly and subsequently implemented nationally. The focal points of this work include the rehabilitation of particularly polluted water hot spots, definition of reduction targets for priority pollutants, reduction of diffuse substance pollution, warning and alarm plans in the case of accidents, flood protection, and renaturalisation.

These decisions are a matter of recommendations to the negotiating parties, not legally binding agreements. Over a period of several years, however, ministerial conferences of the Rhine riparian states were also held, the results of which have a high degree of political obligation. In addition, special agreements were also adopted for some particularly important issues within the framework of the Rhine Protection Commission. Thus in 1976 a Chemical Convention was signed as well as a Chloride Convention, for which an additional convention was adopted in 1991.

To solve the asymmetrical conflicts brought about by pollution problems (for example the discharge of salt from mines on the Upper Rhine), it has proved very beneficial that the Rhine riparian states not only co-operate with regard to waters, but that as EU Member States, they also have a considerably more wide-reaching interest in co-operation.

Co-operation on the management of trans-boundary rivers in the EU is to be intensified in future and more strongly formalised with the EU Water Framework Directive.

2.3 Other forms of trans-boundary co-operation

As well as the form of governmental co-operation in commissions, there are also a multitude of other forms of trans-boundary co-operation, both regionally and locally, for example hydro-electric power plants on the Rhine, municipal wastewater treatment plants used jointly by communities on the border, joint emergency drills on Lake Constance, and co-operation agreements between companies of the German chemical industry and port authorities in the Netherlands.

2.4 River basins as development areas

In the broadest sense, the Rhine riparian states all had a comparative level of industrialisation. On the whole, the uses of the water have developed in parallel, if not always in agreement. Conflicts and competition for use between the riparian states were primarily quality or pollution conflicts, rather than conflicts concerning shortages or levels.

Today, approximately 50 million people live in the Rhine catchment area. Not only is the river one of the most navigated inland waterways in the world, but also extensive farming and all types of industrial production are carried out in its catchment area. Most German, Swiss and Dutch chemical production occurs in this catchment area. No other river basin in the world has so many chemical plants. Numerous water works use water from the Rhine for drinking water production to supply around 20 million people; industry uses water for production and cooling processes.

After many years of trans-boundary co-operation, the Rhine river basin has become a closely linked, highly developed economic area. Co-operation among the riparian states, regions, municipalities and citizens now comprises all forms of business and cultural exchanges.

3. German initiatives for river basin co-operation

Beginning with the Round Table on global water politics and co-operation for trans-boundary water management, at Petersberg, Bonn in March 1998, a series of conferences has been organised, to promote river basin co-operation, by the German Federal Foreign Office, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Economic Co-operation and Development, together with the World Bank. Following the Petersberg Round Table, these continued with a Round Table on the experience of international river and lake commissions, at Villa Borsig, Berlin, in September 1998, and a regional meeting on co-operation in river basins in the Baltic Sea region, at Vilnius, Lithuania, in June 1999.

As well as this series of conferences, Germany hosted a workshop on the role of bi- and multi-national commissions in trans-boundary waters in Bonn in September 1999 within the framework of the permanent Water Management Working Group of the UN/ECE Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes (ECE Water Convention). The principal outcomes of these meetings are summarised in the following paragraphs.

3.1 Petersberg Round Table, 1998

The Petersberg Round Table produced the following recommendations:

- Water should be seen as a catalyst for co-operation. Water alone is not the cause of conflicts. Potential conflict arises only in conjunction with other causes.
- Critical factors for successful co-operation are
 - (a) a shared vision,
 - (b) sustained political commitment and broad-based public support,
 - (c) broad-based partnerships, and
 - (d) environmental management.
- Integrated approaches are required, which should focus on co-operation at the regional level. International river basin commissions are to be supported as facilitators of communications, as a forum for establishing shared goals and for proposing steps to achieve these goals.
- It is important to strengthen institutional frameworks by
 - (a) enhancing confidence-building measures,
 - (b) strengthening legal instruments both regionally and globally,
 - (c) strengthening the capacity of government, in particular in transition and developing countries, and
 - (d) using economic instruments.

3.2 Villa Borsig, Berlin, 1998

Representatives of international river and lake commissions from different regions with varying tasks, methods of working and structures were invited to the exchange of experience at Villa Borsig. The fundamental lessons from the wide spectrum of experience presented included the following:

- A realistic view of the development and environment context is required.
- Commissions are not static in their nature. Conventions and agreements must give consideration to the possibility that the role of commissions could alter or be extended.
- There is no single model or approach to co-operation.

- The development process of conventions and legal instruments is as important as their substantive content.
- Common institutions and administrative structures should be developed in a step-by-step process, corresponding to growing trust and increased experience.

The representatives listed *inter alia* the following points as challenges and issues for the future:

- Changing the paradigm of supply-side management and shifting to integrated water resource management, which incorporates incentive for demand-side management and which can open up new opportunities for trans-boundary co-operation;
- Sharing benefits rather than sharing water, while recognising that agreements on such equitable sharing cannot be static;
- Promoting efficient water use, incorporating the aquatic environment's need for water, taking measures to prevent environmental pollution and to minimise waste-water;
- Considering the effects of development projects on the lower course, estuary and coastal areas, as well as the particular ecological sensitivity of lakes and reservoirs;
- Relations in a catchment area can be disrupted by national development plans of riparian states for exclusive use of common water resources. Consideration should be given to the fact that the capacity to analyse and inform policy positions and decisions varies from country to country;
- Acquiring and sharing information are fundamental and critical factors for the development of trans-boundary waters.

The participants recommended strengthening co-operation of commissions within the framework of the Global Water Partnership (GWP).

3.3 Vilnius, 1999

The Round Table at Vilnius, on experience of trans-boundary co-operation for water management in the Baltic Sea region, served the regional reinforcement of the principles of co-operation elaborated in Bonn and Berlin.

3.4 Bonn, 1999

Representatives of river basin commissions from the ECE area took part in the workshop of the joint commissions of the Water Management Working Group of the ECE Water Convention in Bonn in 1999. The conclusions included the following:

- Co-operation is possible only when parties recognise the principle of a balance of interests, rather than making their own interests absolute priority.
- It is general experience that interests often appear incompatible for individual points. In such cases it can be helpful to deal with several problems together (package solutions). Incorporating issues outside water management is thus possible here.
- Building confidence by dividing more complex amendment processes into stages and small steps is very important. Every goal reached jointly increases the community feeling and makes subsequent co-operation easier.
- With agreements, it sometimes makes more sense to choose a form of regulation which is not necessarily legally or internationally binding. Politically binding arrangements in a more compliant form lead to the development of greater confidence when these arrangements are complied with, although they are not binding in the strictest sense of the word.

4. Conclusions and theses

Our own experiences domestically and the results of German initiatives for river basin co-operation raise the following points for discussion:

- The development of co-operation on trans-boundary river systems requires patience and perseverance. Co-operation in the Rhine basin has a tradition of almost 200 years.
- Co-operation in river basins opens up new, additional economic opportunities. The founding members of the European Economic Community (now the European Union) are all countries from the Rhine catchment area.
- Co-operation in river basins should not be restricted only to government level. Co-operation on many different levels supports economic integration and is beneficial to all riparian states.
- It is important to promote willingness and capacity for comprehensive information exchange between riparian states.

- Various approaches can be used to promote willingness to co-operate among riparian states. In the area of water management, approaches can include joint projects for water protection (e.g. wastewater treatment), traditional water uses (e.g. fishing, transport) or regional development of new uses (e.g. dams for generating energy or developing new irrigation projects). Successful co-operation projects are essential for further co-operation.
- The existence of a comparable level of development is helpful for co-operation between riparian states of a trans-boundary water body. This is not only for economic and social aspects, but also for the strength of state institutions and the capacity to implement provisions and legal conditions included in the field of water management.
- Joint planning processes tend to be initiated for individual goals. This speaks well for step-by-step development. Area-wide and extensive water management planning contains more potential for conflict and is made easier by incorporation into an existing area-wide and extensive co-operation framework.