

International Round Table

Transboundary Water Management Experience of International River and Lake Commissions

Berlin, Villa Borsig, 27 to 30 September 1998

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

Federal Ministry for Economic Cooperation and Development (BMZ)

Federal Foreign Office (AA)

The World Bank

Development Policy Forum/DSE

Berlin Recommendations

Entwicklungspolitisches Forum
Development Policy Forum
Berlin, Villa Borsig

EF



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FÜR INTERNATIONALE ENTWICKLUNG
GERMAN FOUNDATION FOR
INTERNATIONAL DEVELOPMENT
ENTWICKLUNGSPOLITISCHES FORUM
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Preface

Water is a key natural resource that will have a crucial impact on future prosperity and stability. Yet water is surrounded by conflicts over its use, and thus by conflicts of interest. The need to manage the availability of, access to and utilization of water can act as a catalyst for transboundary cooperation.

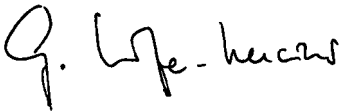
Water as an opportunity for intensive regional cooperation, and an exchange of corresponding experiences, was the theme of the 1st Petersberg Round Table on “Global Water Politics – Cooperation for Transboundary Water Management”. The International Dialogue Forum was held from March 3 to 5, 1998 at Petersberg near Bonn, and was co-hosted by the German Federal Ministry for Economic Cooperation and Development (BMZ), the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU), the German Federal Foreign Office, the Development Policy Forum of the German Foundation for International Development (DSE), and the World Bank. According to the Petersberg Declaration, the integrated management of transboundary river systems is one especially positive example of such regional cooperation. The earth’s largest freshwater reserves are contained in its more than 200 transboundary river systems. For some two-thirds of these systems, cooperative arrangements that are already in place were developed, and are being implemented and monitored, by river basin commissions. Their success will be a crucial factor in effectively tackling the water issue in the future. In recognition of this fact, the German Government has helped move the issue of an integrated transboundary water management further up the international agenda. The Petersberg Declaration was discussed at the Paris Water Conference in March 1998, and at the 6th Meeting of the Commission on Sustainable Development (CSD) of the United Nations in April 1998.

This Round Table was designed, in dialogue with representatives of river and lake commissions, to exchange practical experiences and draw-up recommendations as to how such commissions might be better promoted and supported in the future, for instance through mutual exchange of information.

In the established tradition of the Development Policy Forum, the meeting addressed those issues on the international agenda where an informal exchange of experiences can help identify common ground, and draw-up proposals for further action. A small group, comprising representatives of

German Ministries for various sectors, high-ranking representatives from the water management sector, Executive Secretaries of river and lake commissions, and representatives of international organizations from all parts of the world, looked at the experiences of international river and lake commissions in transboundary water management, analyzing them in detail on the basis of representative case studies presented by various commissions.

The objectives of the Round Table were to discuss key challenges, identify the problem areas which the commissions will face in the future, and on that basis to elaborate recommendations for action. This will be relevant both to existing commissions and to those just emerging. The results and recommendations will be further pursued in the context of Germany's membership in the Global Water Partnership, and will provide a solid foundation on which to build closer cooperation with the commissions.



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Berlin Recommendations:¹⁾

Lessons Learned, Challenges and Issues for the Future

A. OVERVIEW

1. **Introduction.** The Development Policy Forum (EF) of the German Foundation for International Development (DSE) hosted an International Round Table on “Transboundary Water Management – Experience of International River and Lake Commissions” at Villa Borsig, Berlin, from 27 to 30 September 1998. The Round Table was a collaborative effort of the Federal Ministry for Environment, Nature Conservation and Nuclear Safety (BMU); the Federal Ministry of Economic Cooperation and Development (BMZ); the Federal Foreign Office (AA); the World Bank; and the EF/DSE. The Round Table was designed to provide a forum for selected representatives of international river and lake commissions (commissions) to exchange practical experiences and to identify measures that could be taken to promote and support their work in the future. The recommendations of the Round Table will be used as a reference document for German Government participation in international water resources management activities and will provide a solid foundation on which to build closer cooperation with the commissions.

2. **Petersberg Declaration.** The Round Table built upon the findings and recommendations of the International Dialogue Forum on “Global Water Politics – Cooperation for Transboundary Water Management” held in Petersberg, near Bonn in March 1998 with the support of the German Government and the World Bank. The outcome of this major meeting has been presented in the “Petersberg Declaration” which focuses on the theme of “*Water – A Catalyst for Cooperation.*” The declaration emphasizes the importance of water as an opportunity for regional cooperation; integrated management of transboundary river and lake systems as an especially positive example of regional cooperation; and international commissions in addressing management of transboundary water resources in the future.

1) *Rapporteur: Stephen F. Lintner, World Bank*

3. **“Breaking Down the Walls in Our Minds.”** A major focus of the Berlin Round Table was on “breaking down the walls in our minds” which separate parties from effectively cooperating in the management of transboundary rivers and lakes. To achieve this objective, participants reviewed several framework agreements, basin-level programs and the on-going activities of a representative selection of international river and lake commissions. The discussions focused on three complementary themes – lessons learned, challenges, and issues for the future – which provided a basis for identification of an agenda for the future. The findings are intended to be relevant both to existing commissions and those just emerging.

B. LESSONS LEARNED

4. The need to cooperatively manage shared water resources and to resolve and prevent conflicts over their use has resulted over the last century in the establishment of many commissions for transboundary rivers and lakes throughout the world. During this period a number of lessons have been learned that can be more broadly applied to the activities of established and new commissions.

5. **Importance of the Development and Environment Context.** The approach to cooperative management of transboundary water resources must be based on a realistic view of the development and environment context. Realization of the promise of cooperative management depends on strategies that take full cognizance of socio-economic development constraints and issues – such as poverty, scarcity of capital, or the imbalance and low levels of managerial and technical capacity – and their often strong linkage to environmental conditions, particularly those which affect public health or degrade natural resources such as land and forests. Many initiatives for cooperative water management were founded on the premise that supply expansion was the primary goal, but recent experience suggests that this strategy may not result in environmentally sustainable water use even where an integrated planning approach was adopted. Recognition also should be given to special factors such as widespread use of perverse incentives that cause inefficient water use.

6. **Wealth of Experience.** The diversity of existing river and lake commissions has yielded a wide range of experience in the cooperative planning and management of shared water resources. These experiences range from

programs which have adopted a fully integrated approach to those which have a special focus on specific elements of the water sector such as water supply, water quality, power generation or flood control, among other objectives. Increasingly commissions are addressing environmental concerns as a primary objective or broadening their programs to more fully address emerging environmental and sustainable development issues. Although considerable experience exists, there are limited fora and mechanisms for the sharing of knowledge among commissions at the international and regional levels, which reduces the opportunities for dissemination of knowledge gained from practical experience.

7. Diversification in the Roles of Commissions. Commissions are not static in their nature. The development of conventions and other related types of agreements, which provide the framework for the operation of commissions, should allow for modifications in the role of these organizations over time to meet changing conditions and to address emerging issues. This is important since many existing commissions were originally established with single rather than multiple objectives.

8. Multiple Approaches and Frameworks for Cooperation. A comparison of the current structure of commissions suggests that no single model or approach to cooperation is appropriate for all or even most situations. This diversity is a major strength and is a consequence of the large variety of political and physical settings, various origins and mandates of the institutions, and the current and emerging problems they are required to address. There are no fixed models and the range of institutional examples and experiences should be reviewed in the process of establishing the framework of any new organization.

9. Legal Frameworks. Legal instruments are essential, but the process of their development is as important as their substantive content. An early agreement without commitment is not enforceable or sustainable. Also, there is no blueprint for an effective legal framework for cooperation on transboundary waters. As a general rule, building confidence and nurturing cooperative action will lead to the security that a legal agreement will provide. In some cases, particularly where issues – such as water quality – are unthreatening, conventions have been developed early in the cooperative process. In other cases, particularly where water scarcity puts water allocation at the center of debate, agreements will be much harder to reach,

requiring a high level of commitment and trust. In this case, cooperative action and investment may need to be identified in order to define the legal instruments required to move forward. Instruments such as agreed minutes and memoranda of understanding allow expressions of commitment, and create enabling conditions for collaboration, without an internationally binding agreement.

10. Framework Agreements. The “framework agreement,” often based on the principles of the United Nations “Convention on the Law of Non-Navigational Uses of International Water Courses” (1997), is an emerging instrument in several regional economic blocks which defines broad commitment for cooperation. The framework agreement model has great relevance for transboundary waters, where early commitment to cooperation is essential but details of cooperative arrangements need time and dialogue. “Subsidiary” agreements can be developed later, as information becomes available and confidence grows to address specific needs such as quality standards, cost allocation and benefit sharing.

11. Careful Design of Management Structures. The long-term success of commissions is based on the careful design of management structures that provide for effective planning and management, allow managers and technical staff to operate efficiently and are affordable for the cooperating parties. The sustainability of agreements to cooperate is dependent on a number of factors including their financial structure. The structures that succeed often are based on joint fact-finding and sharing of information that create a climate of trust among the parties. The institutional sustainability of commissions ultimately rests on a high level of political commitment in each country. Through this commitment and trust developed with transparent structures, and with the participation of stakeholders and civil society institutions, the prospects for sustainability are increased. Often the capacity and skills of those involved in transboundary water resources management issues are low in the early phases, and the use of a “step-by-step” process can be important to the development of institutions and management structures.

12. Sustainable Financing of Commissions. The experience of existing commissions shows that their financial capacity to undertake activities must be guaranteed by the cooperating parties if they are to fulfill their mission in a sustainable fashion. High level political commitment, trust among parties, and stakeholder and civil society support are elements to be achieved in

order to nurture and assure continued financing. The scope of commission programs and size of their staff and structure should be consistent with available financial resources. External support should not be viewed as a medium or long-term means to meet the financial requirements of commissions.

13. National and External Support. Transboundary management organizations do not need to be large bodies. They can rely on available national technical support from their cooperating parties in joint committee structures and avoid becoming competitors for scarce human and financial resources. External support is best directed to complement the technical work that the management institution requires to develop policy and provide guidance on issues of common interest. It should be designed with a view toward phasing out donor support for institutions once their management, administrative and human resource capacities are adequately developed. The preparation of Strategic Action Programs (SAPs), as supported by the Global Environment Facility (GEF) and other organizations, has proven to be a useful tool for developing experience and expertise within new commissions and reaching a shared vision by the cooperating parties concerning priorities for management activities.

14. Selection of Staff. Although it is fully recognized that the executive management of commissions should respond to the political realities of cooperating parties, these individuals should have broad qualifications that allow them to show independence in judgment and to take a leadership role on behalf of the jointly established organization. Experience has shown that competitive selection of professional, technical and support staff, with adequate consideration given to nationality mix, contributes significantly to the performance and efficiency of such organizations. In this context it is desirable that commissions be staffed with a mixture of long-term and time-limited staff at all levels.

15. International, National and Subnational Level Participation. Experience with transboundary river and lake management clearly illustrates the importance of working at three complementary levels – international, national and subnational – to achieve successful and sustainable management programs. At the international level a commission provides a basis for joint approaches and actions among the cooperating parties. At the national level, different ministries integrate the actions of the commission into

national policies, strategies and programs. At the subnational level, the participation of local governments, private sector, nongovernmental organizations, civil society institutions and various stakeholders is needed to translate these policies and programs into actions and provide feedback. Civil society institutions are often important mechanisms for expression of views by parties concerned with environmental issues as well as marginalized social groups who with support can become advocates for sustainable water use.

C. CHALLENGES

16. Emerging issues and problems of water resources management present new challenges to policy makers, public and private sector managers, technical specialists and the public. The adoption of an integrated approach to water resources management increases the complexity of coordination efforts and analytical work; however, it results in outcomes which have lower levels of conflict between user groups, lower long-term costs, and facilitates more sustainable use of available resources. A major challenge to all commissions and their cooperating parties is to provide open access to basic information and data sets by the public, in order to support informed decision making and foster frank discussion of key issues regarding transboundary water resources management.

17. Changing the Paradigm of Transboundary Water Management. In many river and lake basins, commissions and riparian states may be forced to change from the old paradigm of supply-side management to address four enormously important issues:

- Water scarcity, and its attendant threat to food security and the economic well being of rural and urban populations, will emerge as an important imperative in regions formerly thought to have adequate freshwater supplies.
- Control of rising salinity, prevention of environmental degradation and maintenance of aquatic ecosystems will be recognized as critical factors in sustainable management of water resources.
- Inefficient surface and groundwater use tied to supply-side management approaches will become a major issue in transboundary water resources management given constraints posed by water scarcity and degradation.

- The imperative of socio-economic development and poverty alleviation will become the central focus of transboundary water management and will require a complete rethinking of strategies to directly deliver these benefits to people.

Each of these issues will require new thinking about strategies for transboundary water resources management in which the central focus is environmentally and financially sustainable water use. Such strategies are likely to place much greater emphasis on water conservation, efficient and sustainable water use and appropriate incentives. Proper attention to incentives may be critical in overcoming barriers to changing patterns of water use.

18. Shifting to Integrated Water Resources Management. Major opportunities exist for commissions to lead and support the critical process of shifting water management paradigms from traditional and often fragmented approaches to the adoption of integrated approaches to water resources management. The aim is to move the focus of the dialogue on transboundary water resources management issues from irreconcilable differences to areas that provide new opportunities for cooperation and common ground, and to avoid unsustainable strategies that are costly in the long run.

19. Sharing Benefits Rather Than Sharing Water. Many commissions have focused mainly on the issue of water sharing, an issue that is often a source of discord and stress between the cooperating parties. Greater emphasis in the future should be given to the identification and mutual understanding of all the benefits that can be obtained by all parties. The sharing of economic, environmental, and social benefits transforms what is often seen as a “win-lose” trade-off into “win-win” agreements, establishes the basis for cost sharing, and creates incentives for cost efficiency. In order to achieve these objectives, an effective flow of good and reliable information is essential to properly evaluate benefits, create confidence among cooperating parties, and guarantee political commitment and public support. It should be recognized that equitable sharing of both water and benefits is not “static” but rather a “dynamic process” which requires that agreements in many cases provide mechanisms for periodic review and negotiations.

20. Promoting Efficient Water Use. Actions to promote efficient water use need to be an integral part of water resources management strategies supported by commissions at the international level, by national govern-

ments at the country level and by a wide range of authorities at the subnational level. As opportunities arise for more efficient use of water resources for different sectoral needs, the environment's need for water should be incorporated into management frameworks that recognize this essential use as part of the environmentally sustainable use of water resources. Efficient use of water includes actions to promote pollution prevention and wastewater minimization that avoid excessive emphasis on wastewater treatment and "end of pipe" solutions. Implementation of water conservation programs and other measures that alter current streamflow conditions should include an analysis of the potential positive and negative impacts of the proposed interventions on various sections of the drainage area. Support should be given to a range of government and nongovernmental organizations to promote professional and public recognition of the importance of efficient water use as a critical aspect of water resources management.

21. Use of Incentives for Cost Efficiency in Cooperative Programs. The experience of commissions illustrates the importance of appropriate structuring of incentives to ensure cost control and promote efficiency in cooperative development of basin infrastructure. When costs of capital works are shared, parties to agreements will be equally concerned about such costs. In some cases co-financing and co-ownership of infrastructure assets, irrespective of their physical location, appear to provide strong incentives to cooperate and to ensure cost effectiveness. Other instruments – which allow recovery of recurrent costs through charges for services (e.g. levies on licenses, or on water and power sales), or performance-related payments to contractors and even staff of commissions – need to be considered to improve performance and cost efficiency. On the other hand, where one party owns and develops the infrastructure and the other contributes to financing but has no role in the decision making process, cost control can become difficult and disputes can occur. In the case of major projects shared between two or more countries in a larger basin, consideration should be given to the establishment of project specific commissions that would operate in a manner complementary to existing international agreements and the commission responsible for the basin as a whole.

22. Moving from Supply-Side to Demand Management. One of the greatest challenges in transboundary water resources management and the work of commissions is moving from continuous augmentation of supply to the management of water demand. Growing water scarcity – a result of both

rising demand in relation to availability of water and deteriorating water quality – is rapidly increasing economic costs of water in many basins. Inappropriate prices stimulate greater water use, perpetuate inefficient use, and result in increased stress on water resources, which in turn leads to disputes between different uses and different users. Rational economic instruments, including water tariffs with incentives for conservation and appropriate sanctions, are a necessary element of effective water management, ensuring that water is treated as an economic good and used efficiently. At the same time, “lifeline” tariffs provide an essential safety net to ensure that the poor have access to adequate quantities of water. Demand management will also reduce the marginal cost of water, postponing or even canceling the need for enhancing water supplies through further storage and abstraction. Unless sound approaches to water management in transboundary basins are adopted, demand will increasingly exceed supply and unilateral action and dispute will replace cooperation.

23. International Relations and Information Asymmetry. Growing demands on, and potential conflicts over, shared rivers are likely to arise in countries whose medium-term development plans require considerable increases in water use. Many countries lack significant alternatives to the development of international basins and the sum of these mounting demands claimed by riparian countries is unlikely to be met. In many cases, development goals in different countries are premised on mutually exclusive claims for water from international basins. Negotiations and opportunities for joint development should take into account capacity imbalances among countries, an inability in many countries to analyze and inform policy positions and decisions, and a threat of dominance by the interests of the stronger nations since they often face the greatest water scarcity.

24. Fundamental Importance of Information and Knowledge. Information acquisition and sharing is a fundamental and critical issue in the development of transboundary waters. Where management of international water resources is concerned, knowledge is power. Without knowledge, riparian states are extremely nervous about threats to sovereignty, especially when another riparian (particularly, but not necessarily, upstream) is deemed to have that knowledge and is therefore “powerful.” In this situation, any attempts at rational negotiations are seriously hindered. At the same time, basin development paradigms will tend to be those of the stronger riparian,

often inadequately recognizing the needs of others. It is in the interests of both powerful and less powerful riparians to increase the parity of skills and information of the concerned parties. Impressions of dominance of decisions in favor of one or more strong riparians need to be replaced with trust and partnership based on recognizing and sharing common goals. At times this can mean counter-intuitive behavior by a powerful riparian such as ceding leadership to other cooperating parties on issues. Building confidence and capacity is a slow process. Although the issues will be with cooperating countries and commissions for decades, efforts to build capacity and confidence cannot wait.

25. Downstream Linkages to Estuaries and Coastal Zones. Increasing attention should be given by commissions to the implications of current and proposed water resources development strategies on estuaries and coastal zones. At the heart of transboundary water management is the strong and complex hydrologic linkage between freshwater management, coastal and marine resources, and environmental and socio-economic conditions in these areas, which are used intensively worldwide – an estimated 70 percent of the population in developing countries lives in the coastal zone. Key impacts from water development programs often include significant changes in the volume of freshwater reaching the coast, shifts in the timing of flows due to regulation, pollution, degradation of natural habitats and risks for aquaculture and mariculture operations. Without proper evaluation of these critical “downstream impacts” the work of commissions may be effective in managing and protecting the freshwater resources of rivers and lakes at the expense of important estuarine and coastal resources that provide a livelihood for currently large and rapidly growing populations.

26. Vulnerability of Lakes and Reservoirs. The special challenges of sustainably managing lake and reservoir ecosystems require special vigilance and timely cooperative action. Because these ecosystems commonly trap and recycle nutrients and other contaminants, they are particularly vulnerable to environmental degradation that is often difficult and costly to reverse. The strategy of dilution or low flow management to solve water quality and pollution problems is unsustainable in the presence of reservoirs and lakes, and may have disastrous consequences. Consequently emphasis must be placed on preventive actions and establishment of effective joint management institutions to facilitate such actions.

27. Expanding Cooperation – Broadening the Range of Partners. Expanding cooperation with a broader range of partners can enhance the long-term success of commissions. This should include increased work with municipal and local government; private sector involvement; active participation of stakeholders and civil society institutions in a manner that encourages dialogue and discussion; and effective use of the media and other forms of information dissemination.

- *Working with Municipal and Local Government.* Municipal and other forms of local government are the most direct form of representation for the demands and expectations of the population. Increasing their participation in the design and implementation of the commission's actions and policies would facilitate public support for the commission's role and mobilize political support. A major problem in many countries, especially those in developing and transition economies, is the technical weakness of local governments. The commissions can play an important role in strengthening this capacity and the awareness of local authorities concerning the realities and challenges they face in relation to water resources management. Municipal and local governments, in many countries, have the primary long-term responsibility within drainage basins for the operation and maintenance of water supply and wastewater treatment systems.
- *Providing for Private Sector Involvement.* The private sector can be a source of resource mobilization, complementing its comparative advantages to manage the design, construction and operation (both technical and financial) of water and energy facilities located in transboundary drainage basins. In addition to mobilizing investment and management efficiency, the private sector can be an important source of innovation and creativity. Private-public partnerships can be encouraged by developing an enabling environment for involvement of the private sector in financing interventions promoted by the commissions. This includes national legal frameworks that provide credibility and security, and reduce political risks. The use of an open decision making process for major activities and policies developed by the commissions also provides an opportunity for constructive involvement of the private sector. An example is the adoption of transparent environmental impact assessment procedures, with full public consultation that provides an opportunity for the views of all parties to be expressed.

- *Encouraging Active Participation of Stakeholders and Civil Society.* Translating actions called for in the commission’s work on the international level into subnational activities on the local level is not an easy task. Commissions should focus participation broadly on civil society to ensure that vested interests or the lack of organization and communication skills do not marginalize important stakeholders. Participation of nongovernmental organizations in partnership with commission processes can harness the energy of community organizations, scientific and applied research groups, and other stakeholders to promote local implementation of key measures. At the international level their participation can also assist in achieving transparency in the work of commissions, ultimately improving trust and generating a commitment for action. The participation of stakeholders and civil society institutions allows the objectives of agreements and work programs of commissions to benefit from a “bottom up” rather than a “top down approach,” making them more responsive to the aspirations and needs of current beneficiaries and future generations.
- *Expanding Relationships with the Media.* Commissions need to rally support for their actions and policy proposals. To do so, they need to communicate and make available to the media, and through the media to the civil society, information and data necessary for the understanding of water as a natural resource, its specific ecological contexts, the type of interventions proposed and the results obtained. The media is a potential ally, but also an important reviewer of the effectiveness of the commission, a role that must be recognized and requires open and transparent access to information to allow objectivity.

D. ISSUES FOR THE FUTURE

28. The work of commissions will need to address a wide range of issues in the future arising from new economic, social and environmental conditions. Representative examples include:

- *Innovations in Institutional Arrangements.* It will be increasingly important for commissions and the parties that supervise their work to be open to innovations in institutional arrangements, management techniques and use of technology. In order to meet changing conditions periodic reviews should be undertaken of the responsibilities, work programs and priorities of commissions.

- *Increased Decentralization.* The process of decentralization is being undertaken in many countries, requiring commissions to establish a variety of new arrangements for coordination and cooperation. This process increases management responsibilities at the local level and provides new opportunities for commissions to work with a broader range of institutions.
- *Climatic Variability.* Recent El Niño cycles and possible climate change have resulted in widespread variations in climate manifested by significant flooding and droughts in many river and lake basins. Predictions of climatic trends and incorporation of these findings into management programs may be a new activity undertaken by some commissions.
- *Large-Scale Inter- and Intra-Basin Water Transfers.* In a number of regions large-scale inter- and intra-basin water transfers have been implemented, are under construction or are being studied. The implications of such actions for water resources management, environmental quality and ecosystem maintenance, and socio-economic conditions are diverse and far ranging, which mandates careful review and debate prior to their implementation.
- *Pollution Prevention and Wastewater Reduction.* Increased attention should be given to development and implementation of actions by commissions to promote pollution prevention and wastewater reduction. These proactive measures both conserve water and reduce costs for wastewater collection, treatment and disposal.
- *Wastewater Reuse and Recycling.* Commissions operating in both humid and arid areas should anticipate that expanded emphasis will be placed on wastewater reuse and recycling as an integral element of water resources management programs. Water reuse and recycling should be anticipated to involve restricted application for agriculture, industry, shelter belts and maintenance of aquatic ecosystems.
- *Transboundary Groundwater Resources.* Growing demands for water in many areas will increase pressure on commissions to undertake activities for integration of groundwater resources into what traditionally have been programs focused on surface water. Addressing the management of groundwater will require commissions to have access to groundwater

management specialists and the development of data collection and monitoring programs.

- *Land Use and Watershed Management.* Greater recognition of the complex and diverse impacts of land use problems, such as urbanization and deforestation, on water quantity, water quality and aquatic ecosystems creates increased demands for commissions to include activities in these areas as elements of their work programs. This means that the mandate of some commissions may need to be broadened to include a stronger emphasis on terrestrial issues.
- *Environmental Demand for Water.* Significant efforts will be required to include provisions for meeting the environmental demand for water as an integral element of transboundary water resources management programs. Current management frameworks for shared river basins should be reviewed to ensure that they adequately recognize environmental needs for water for aquatic ecosystems, related aquatic and terrestrial biodiversity and the people who directly rely on these resources for survival.
- *Control of Alien Species.* In many regions the control of alien species in drainage basins, watercourses and lakes is emerging as a major and highly costly transboundary management problem. Invasive alien vegetation in drainage basins, especially near water courses, consumes excessive amounts of water and produces particularly low flow in the rivers. These introduced alien species, both plant and animal, have a diversity of impacts on terrestrial and aquatic ecosystems and can cause changes in species composition and structure.
- *Rapid Development of Megacities.* The rapid development of megacities in developing countries, in both interior and coastal settings, will present issues related to water supply, water quality and maintenance of ecosystems that may challenge the traditional assumptions used in planning, finance and technology of water resources management interventions, and require identification of innovative solutions.

E. AGENDA FOR THE FUTURE

29. In the context of the process initiated during the Petersberg Dialogue Forum and continued with the Berlin Round Table, it is proposed that a series

of actions be undertaken during the short term to further strengthen the basis for effective operation of commissions. These would include development of easily accessible information on commissions, activities for sharing their knowledge and experience, and continuing the global dialogue on trans-boundary water management, including conduct of two Round Tables at the regional level. It is planned that these activities would promote development of the Integrated Water Resources Management Window of the Global Water Partnership and further the use of this approach as a basic element in the strategies adopted and implemented by commissions.

Information on Commissions

30. Expanded Cooperation with Commissions. Action should be taken to expand cooperation with commissions in the context of the work of the Integrated Water Resources Management Window of the Global Water Partnership. This would establish a framework to support increased communication and sharing of information among the large number of existing organizations. This framework could be developed on an incremental basis and be linked to the evolving work programs of the Regional Technical Advisory Committees of the Global Water Partnership. Dissemination of information concerning work with the commissions could be provided in hard copy and electronically through the Global Water Forum and other mechanisms.

31. Reference Book on Commissions. Preparation of a Reference Book on River and Lake Commissions would facilitate opportunities for improved knowledge of established commissions and provide a better basis for cooperation between commissions and with other organizations. It would include standardized information on legal status, membership, activities and coordinates. The Reference Book would be prepared in the context of the Global Water Partnership and in cooperation with a range of interested organizations. It could be disseminated in hard copy and electronically through the Global Water Forum and other mechanisms.

Topics for Further Evaluation and Assessment

32. A Series of Priority Issues. The Round Table identified a series of topics that would benefit from further evaluation and assessment in order to identify lessons learned, review good practices and prepare information for

dissemination to commissions, cooperating parties, international financial institutions, donor organizations, nongovernmental organizations and civil society institutions. These include:

- *Sustainable Financing of Commissions.* A comparative study should be prepared examining the current financing of the work of commissions and identifying what types of approaches can be taken to make these organizations financially sustainable. Special attention would be given to assessment of approaches and issues that should be considered in the establishment of new commissions.
- *Use of Incentives.* A review should be prepared of the use of financial incentives in cooperatively funded activities to support cost effective approaches to transboundary water resources management and environmental protection programs. This would include development of case studies of commissions that have used incentives in operational programs.
- *Mechanisms for Sharing Benefits.* The development of a new paradigm for regional cooperation based on the sharing of benefits rather than the sharing of water provides a significant opportunity to reduce conflict, enhance cooperation and improve the efficiency of resource use. This would include an overview of the types of interventions and benefits associated with this approach. Supporting case studies would be identified and prepared showing examples of this approach at the operational level.
- *Moving from Supply-Side to Demand Management.* Guidelines would be developed for use by commissions, their cooperating parties, water resources planners and consultants, and stakeholders concerning practical methods for moving from supply-side to demand management at the river or lake basin level. This would include a review of the risks associated with continued use of supply-side approaches and the benefits from demand management.
- *Enhancing Stakeholder and Civil Society Participation.* The experience of stakeholder and civil society participation in commissions is highly variable and significant opportunities exist to enhance such participation through a variety of interventions. A series of case studies concerning good practice in stakeholder and civil society participation should be prepared and actively disseminated to enhance the role of these parties in develop-

ment and implementation of strategies, priority action programs and operational activities. It should identify actions that can be taken to support civil society institutions to develop their capacities to effectively and constructively participate in dialogue and discussion of these issues.

- *Experience from National Transboundary Water Management.* An evaluation should be made of the experience of national transboundary water resources management programs in selected countries to provide lessons that could be applied to international programs and to assess the potential application of international experience to national transboundary issues. The review should examine representative national transboundary water resources management institutions, identify key concerns at the planning and operational level and provide selected case studies.

Continuation of the “Petersberg Process”

33. Deepening and Expanding the Dialogue. The Petersberg Dialogue Forum and Berlin Round Table have begun a process of dialogue on transboundary water resources management that will be deepened and broadened. While there is not one model for cooperation among riparian states, the questions and issues that have emerged during these dialogues and the very real value of lessons learned from examination of current experience show that more in-depth analysis, comparative study and dialogue would greatly benefit countries that are developing frameworks for cooperation and stimulate those that need to move in this direction.

34. Round Table on the Baltic Sea Region. It is planned that the Government of Germany, Helsinki Commission and the World Bank would support a Round Table on the Management of Transboundary Waters in the Baltic Sea Region in 1999. The focus of the Round Table would be on the status of and experience from a series of activities being undertaken for cooperative management of transboundary rivers, lakes, coastal lagoons and wetlands in the region. This Round Table would be an element of the preparation process for the proposed Baltic Sea Regional Project that is being supported by the Global Environment Facility. It would also be linked with implementation of the Joint Comprehensive Environmental Action Program and development of the work program of the Global Water Partnership in the region.

35. **Nile River Basin Round Table.** It is anticipated that the Government of Germany, in cooperation with the Council of Ministers of Water Affairs of the Nile Basin States, would support a Round Table on Management of Transboundary Waters in the Nile Basin. The Round Table would be an element of the on-going Nile Basin Initiative and contribute to the development and dissemination of the “Shared Vision Strategy” of the riparian countries. It would also be linked with the development of the work program of the Global Water Partnership in these countries.

36. **International Conference on Global Water Politics – 2002.** Germany will host an International Conference on Global Water Politics in 2002 which will be in the context of the process leading to the Rio + 10 Summit to be held later in the year. The aim of this major conference is to examine the implementation of Agenda 21 and the outcome of the 6th Meeting of the Commission on Sustainable Development held in 1998 which focused on water, and make a series of proposals for follow-up actions. Transboundary management of international rivers and lakes is planned to be an important element of this Conference and the activities supported under the “Petersberg Process” are anticipated to contribute significantly to the deliberations at both the Conference and the Summit.

Programme

Venue and Accommodation:

German Foundation for International Development (DSE)
Villa Borsig, Reiherwerder
D-13505 Berlin
Germany

Sunday, 27 September 1998

7:30 p.m. Reception and Dinner at Villa Borsig
on the invitation of the German Foundation
for International Development

Welcome

Heinz Bühler

Director-General, German Foundation for
International Development

Dinner Speech

Berlin as a Transboundary City

Lothar de Maizière

Former Prime Minister, First Freely Elected
Transitional Government of the German Democratic Republic
(in the context of German reunification)

Monday, 28 September 1998

9:00 a.m. **Opening Session**

Ms. Gudrun Kochendörfer-Lucius

Director, Development Policy Forum/DSE

Introduction: Aims and Objectives

Fritz Holzwarth

Deputy Director-General for Water Management,
Soil Protection and Clean-up of Contaminated Sites,
BMU, Bonn

Rapporteur: **Stephen F. Lintner**, World Bank

Monday, 28 September 1998 (cont.)

9:20 a.m. **Session I**

Mechanisms and Instruments for Cooperation and Development

Sustainable, integrated management of transboundary rivers and lakes must compete with riparian states' various claims on use of those resources. Increasingly assertive claims on utilization, national attempts to manage water resources single-handedly and a diversity of utilization and protection needs compound to generate short-, medium- and long-term social, ecological and economic impacts. This session will engage in identifying the points of departure for transboundary water management emerging from the context of the Komati. At the same time, it will examine how this form of regional cooperation is integrated into the wider Southern African context of SADC, the principal purpose of which is to promote economic cooperation among its member states. These experiences will then be contrasted with those of the Senegal River Commission from West Africa. Cooperation between commissions on the one hand, and external support agencies on the other, might proceed from the following points of departure: facilitating exchange of experiences, strengthening institutional structures and human resources of commissions and providing advisory services for structural reforms and national frameworks.

Chair: **Rainer Lotz**
Head of Infrastructure Division, BMZ, Bonn

Speakers: **Paul Roberts**
Deputy Director-General, Development Department of Water Affairs and Forestry, South Africa and Chairman of the Committee on Shared Rivers, International Commission on Large Dams (ICOLD) and **Robin Clanahan**
Chief Executive Officer, Komati Basin Water Authority, South Africa
Sechocha Makhoalibe
Chief Engineer, SADC Water Sector, Lesotho
Cheickna Seydi Ahamadi Diawara
High Commissioner, Senegal River Commission, Dakar

Discussion

10:30 a.m. Coffee Break

Monday, 28 September 1998 (cont.)

11:00 a.m. **Session I (cont.)**

Mechanisms and Instruments for Cooperation and Development

adjourn: noon

12:30 p.m. Lunch at Villa Borsig on the invitation of the Development Policy Forum/DSE

2:00 p.m. **Session II**

Mechanisms and Instruments for Decision-Making on Issues Involving Energy, Agriculture and Poverty Alleviation

The cooperative management of the Ganges River in South Asia and the Mekong River in Southeast Asia provides examples of the complex issues of energy development, agricultural production and poverty alleviation for large populations. The session will examine the experience to date of the Mekong River Commission in supporting member countries to effectively develop this large river, which has major hydropower potential, complex demands for agriculture and fisheries and biologically diverse ecosystems. The challenges in management of the Ganges River will be discussed from the perspective of the Bangladesh Secretariat and Indian Secretariat. This will include a review of the recent agreements reached between the riparians, the new cooperative management structure, and issues related to management of water quantity and improvement of water quality.

Chair: **Walter Garvey**
Principal Water Resources Specialist,
Europe and Central Asia Region, World Bank

Speakers: **Yasunobu Matoba**
Chief Executive Officer, Mekong River Commission,
Phnom Penh
Presentation of the paper drafted by
Hon. Abdur Razzaq, Minister of Water Resources,
Government of the People's Republic of
Bangladesh and Chairman, Indo-Bangladesh
Joint Rivers Commission by **Walter Garvey**
Anil Agarwal
Member, National River Conservation Authority,
India and Director, Centre for Science and
Environment

Monday, 28 September 1998 (cont.)

3:45 p.m. Coffee Break

4:30 p.m. **Session III**

Mechanisms and Instruments for Quantitative and Qualitative Water Resources Management

The need to reach agreement on quantitative and qualitative management of available water resources in river basins is one of the driving forces of transboundary cooperation in water management. In areas characterized by water scarcity and in regions with irregular runoff rates, questions related to quantitative use of available water resources naturally bear a significant potential for conflict. Problems in international cooperation concerning water use can also be the result of a host of different interests. Drinking water extraction, agricultural irrigation, conservation of aquatic ecosystems or the use of water bodies as receiving waters each have different requirements for water quality and thus quality management. The work of the river basin commissions in these sensitive areas has gained even more importance as a result of the adoption of the new Water Framework Directive, which aims at achieving a uniform water policy in the European Community. Among others, the work of the Elbe Commission will be analyzed in order to examine in detail the Commissions' experience with water quantity and water quality management systems and draw conclusions for successful future work.

Chair: **Ms. Christiane Markard**
Head of Water Protection Division,
Federal Environmental Agency, Berlin

Speakers: **Peter Lischke**
Director-General, Secretariat of the International
Commission for the Protection of the Elbe
(ICPE), Magdeburg

Helmut Blöch
Head of Sector Water Protection,
European Commission, Brussels

Pedro Cunha Serra
Member, Spanish-Portuguese International Rivers
Commission and Presidente do Instituto da Agua,
Portugal

Discussion

adjourn 6.15 p.m.

Monday, 28 September 1998 (cont.)

- 6:30 p.m. Sightseeing: “*Berlin: two cities re-emerge as one*”
- 7:30 p.m. Dinner next to Brandenburg Gate at Opern Palais on the invitation of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Tuesday, 29 September 1998

- 9:00 a.m. Departure from Villa Borsig by bus
- Excursion:** Water Management Challenges in Berlin after German Reunification (1990)
- 12:15 p.m. Lunch at Villa Borsig on the invitation of the Federal Foreign Office

Tuesday, 29 September 1998 (cont.)

2:00 p.m. Session IV

Mechanisms and Instruments for Balancing Interests and Arbitration

Cooperative management of transboundary rivers requires use of a range of instruments for balancing interests between various user groups and for effective arbitration of issues between parties in an international context. Examples of cooperation on these issues in North and South America will be examined in this session, drawing upon the long-term experience from the Rio Grande and more recent lessons from the Amazon. Special attention will be given to the mechanisms that have been applied between the United States and Mexico for resolution of issues related to river-based boundaries, allocation of water under conditions of stress and maintenance of water quality. Recent developments for funding of water management improvements along the Rio Grande in the context of the North American Free Trade Agreement (NAFTA) will also be reviewed. Methods for balancing interests when considering the complex issues of hydropower development, conservation of biodiversity and the concerns of local populations will be discussed in the context of the Amazon.

Chair: **Gerhard Fulda**
Deputy Director-General for Economic Affairs,
Federal Foreign Office, Bonn

Speakers: **Arturo Herrera Solis**
Commissioner, Mexican Section of the
International Boundary and Water
Commission, CD Juarez
John M. Bernal
Commissioner, United States Section of the Inter-
national Boundary and Water Commission, El Paso
Comments by Manuel Marino, Senior
Environmental Engineer, Water and Sanitation
Division, World Bank based on the paper by
Ambassador Victor Carazo, Pro Tempore
Secretariat, Amazon Cooperation Treaty

Discussion

3:45 p.m. Coffee Break

Tuesday, 29 September 1998 (cont.)

4:15 p.m. **Session V**

Specific Issues of Transboundary Lakes Management

Management of transboundary lakes is increasingly recognized as a major issue in many areas of the world. This session will provide an opportunity to review the experience and lessons learned from long-established cooperation on Lake Titicaca in the Andes region of South America. The recent experience of Estonia and the Russian Federation in development of a cooperative management framework for Lake Peipus will be discussed to illustrate the challenges in this area. The session will examine issues related to management of shared catchment areas, lakes as water bodies and the discharge of their waters to rivers. Key concerns include management of land use, protection of water supplies, maintenance of water quality, use of fisheries and protection of biodiversity. The role played by a nongovernmental organization in facilitating international cooperation, as demonstrated by the case of Lake Peipus, will also be discussed.

Chair: **Alfred M. Duda**
Team Leader, Biodiversity and International
Waters, Global Environmental Facility (GEF),
Washington

Speakers: **Ambassador Julio Sanjines Goytia**
President, Unidad Operativa Autoridad Binacional
Peru-Bolivia (Lake Titicaca Commission) and
Advisor on Special Projects, Ministry of Foreign
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Rein Ratas
Co-Chairman, Lake Peipsi/Chudskoe Ozero
Commission and Secretary General, Ministry of
Environment, Estonia

Ms. Gulnara Roll
Director, Lake Peipsi/Chudskoe Ozero Project,
Estonia

Discussion

Tuesday, 29 September 1998 (cont.)

6:00 p.m. **Session VI**

Future Prospects for Emerging Commissions

The exchange of experiences between river and lake commissions, also involving international institutions, will provide existing commissions, and most particularly those presently emerging, with opportunities to profit from the experiences of others. The session will reflect on whether, how and to what extent the experiences of river and lake commissions from other parts of the world are helpful to the Nile region. It will also consider what the prospects for future cooperation involving river and lake commissions might be, and how they might be further elaborated.

Chair: **Ms. Gulnara Roll**
Director, Lake Peipsi/Chudskoe Ozero Project,
Estonia

Speaker: **Hon. Mussa Nkhangaa**
Minister of Water, Chairman, Council of
Ministers of Water Affairs of the Nile Basin
States (COM), Tanzania

Discussion

adjourn 6.30 p.m

7:30 p.m. Dinner at Villa Borsig on the invitation of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety

Wednesday, 30 September 1998

9:00 a.m. **Session VII**

Role of International Institutions

Transboundary water management can be strengthened through broad and diverse cooperation between riparian states and international organizations, financial institutions, bilateral development agencies and NGOs. International institutions in particular have a key role to play: they can support regional actors in the quest for integrated solutions to their respective problems, for instance through the exchange of information and transfer of expertise in the domains of environment, development, security, legislation, structural reforms, public-private partnerships and management of financial resources. How this supportive function of international institutions might be optimally attuned to the needs of river and lake commissions and how it might be better coordinated, will be discussed with the key international actors, and practical lessons learned will be identified.

Chair: **Ms. Gudrun Kochendörfer-Lucius**
Director, Development Policy Forum/DSE

Speakers: **Ms. Terttu Melvasalo**
Director, Water Branch, United Nations
Environment Programme (UNEP), Nairobi
Andrew G. Hudson
Principal Technical Advisor, International Waters,
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David R. C. Grey
Lead Specialist, Water Resources Management,
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Torkil Jøneh-Clausen
Chairman, Technical Advisory Committee,
Global Water Partnership (GWP), Denmark
Comments by Paul Roberts in his function as
Chairman of the Committee on Shared Rivers,
International Commission on Large Dams
(ICOLD)

Discussion

11:00 a.m. Coffee Break

Wednesday, 30 September 1998 (cont.)

11.30 a.m. **Agenda for the Future**

Presentation of Recommendations

Chair: **Fritz Holzwarth**
Deputy Director-General for Water Management,
Soil Protection and Clean-up of Contaminated
Sites, BMU, Bonn

Speaker: **Stephen F. Lintner**
Principal Environmental Specialist, World Bank

The findings and recommendations of the International
Round Table compiled by the rapporteur into a
comprehensive text will be presented and discussed.

Discussion

1:00 p.m. Closing

1:30 p.m. Farewell lunch at Villa Borsig

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