



International Rivers and Lakes

A Newsletter prepared jointly by the Department for Economic and Social Affairs, United Nations, New York and the Economic Commission for Latin America and the Caribbean, Santiago, Chile

No. 39

June 2003

CONTENTS

I. International organisations urge Group of Eight leaders to allocate funds to promote cooperation over transboundary waters.....	2
II. Four nations guard giant South American aquifer.....	4
III. Asia's potential water conflicts.....	6
IV. Excerpts from proceedings of the seminar held by the Permanent Court of Arbitration on resolution of international water disputes	8
V. Note of the European Court of Auditors on funding of environmental projects	11

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The editor encourages contributions of news items for an exchange of information with interested readers.

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I. International organisations urge Group of Eight leaders to allocate funds to promote cooperation over transboundary waters²

Transboundary water and security

A number of international non-governmental organizations presented an appeal to the leaders of the Group of Eight (G8) major industrialized countries to support cooperation over transboundary waters. The main elements of the appeal are reproduced below.

Sustainable water resources management is essential for achieving the Millennium Development Goals, ecosystem protection and social and political stability across the world. Water is a possible cause of tension but also, more importantly, a powerful source of cooperation. However, many longstanding water-related disputes still remain unresolved, and the growing demand for finite freshwater resources heightens the risk of future conflicts.

The sustainable management of the 263 transboundary rivers or lakes and many hundreds of aquifers, the basins of which contain more than half the territory and population of the world, presents major challenges and is of strategic importance in the immediate and long-term future. There are 59 transboundary river basins in Africa alone, accounting for 80% of the continent's surface water resources. Management of these essential shared resources is crucial for poverty reduction strategies.

Sustainable transboundary water resources management requires: (a) sharing water-related benefits among nations for regional economic integration rather than polarised claims for water; (b) balancing competing uses of basin and aquifer resources, especially upstream and downstream uses, in a transparent and participative way for local and regional sustainable development; (c) focusing on poverty reduction, public participation and gender balance to ensure equitable access to water for livelihoods; (d) recognising the fundamental need of freshwater ecosystems for resource protection and natural risk prevention; (e) protecting watercourses during wars and conflicts and post-conflict rehabilitation of water resources; (f) improving our knowledge about the causes of conflicts and potential policy responses to prevent conflicts triggered by competition for the resource among different uses and users, and environmental concerns such as pollution; and (g) developing capacity building on integrated water resources management (IWRM). Unfortunately, international law and development support for cooperation in transboundary river, lake and aquifer basins are currently insufficient to meet these challenges.

The vast majority of States did not take the opportunity to reconfirm their commitment to cooperate over transboundary water basins by either including this goal in the outcomes of the

¹² Right to Water (rightwater@iatp.org). Global Water Partnership, Green Cross International, The World Conservation Union (IUCN), International Network of Basin Organisations, International Secretariat for Water, Programme Solidarit @ Eau, World Water Council and World Wide Fund for Nature. Posted: 05/28/2003 by svarghese@iatp.org.

World Summit on Sustainable Development (Johannesburg, August 2002) or in the Ministerial Declaration of the 3rd World Water Forum (Kyoto, March 2003).

Greater political will and actions are urgently needed, as manifested in earlier declarations, such as those signed in Rio (1992), Paris (1998), the Hague (2000) and Bonn (2001).

Integrated transboundary water resources and basin management

As a resource that transcends political and administrative boundaries, the world's freshwater resources must be shared amongst individuals, economic sectors, intrastate jurisdictions and sovereign nations, while respecting the need for environmental sustainability. The implementation of IWRM (integrated water resources management) needs political will and long-term financial commitment.

This should include: (a) the development and adoption of new national water laws which introduce or reinforce IWRM and basin management techniques; (b) the establishment of national and international river basin organisations; (c) the adoption of international conventions, treaties, and/or declarations concerning the management of freshwater; (d) the implementation of coherent systems of monitoring, exchange of appropriate information and the setting up of relevant databases; (e) the elaboration and adoption of national and regional master plans for water; and (f) the creation of sound funding systems based on common causes and solidarity within basins.

Transboundary water law and institutions improved governance

The establishment of transboundary basin organisations has been a success in many basins at the international and subnational levels, such as the Rhine, Lake Geneva, the Great Lakes and St Lawrence (US/Canada), the Senegal, the Mekong and the Murray Darling, but many transboundary basin institutions do not have sufficient authority, capacity or resources. What is worse, the majority of transboundary basins have no interstate water institutions at all. The need for widespread establishment and reinforcement of basin organisations to improve governance and facilitate stakeholder participation is in line with recommendations of the international community to elaborate a common vision for basin management.

Guiding principles and recommendations

Greater political will and integrated pragmatic actions which respect cultural and geographic diversity are urgently needed to alleviate poverty and sustain ecosystems, with particular emphasis on the following:

Sharing benefits

Discussions on transboundary cooperation should be based on a recognition of interdependence and highlight the myriad benefits of integrated management at the river, lake, basin, and aquifer levels for all States involved. Redistribution of these shared benefits at the national level needs stakeholder participation and integration of poverty reduction strategies.

Environment

The importance of the integrity of ecosystems must be incorporated within interstate and basin agreements.

Healthy and functioning ecosystems are vital to safe and clean water supplies and risk prevention. Moreover, the biodiversity of rivers and lakes is a vital element of food security in many parts of the world. Goals for equitable water access and cooperation will remain insignificant if investment in the health of rivers as the source of water for people and nature is ignored. Steps need to be taken to implement environmental flows, where sufficient and non-polluted water is allocated to maintain healthy river systems, estuaries and coastal areas for the benefit of people and the environment.

Participation and capacity building

The value and importance of stakeholder involvement in decision-making should be enhanced. Transparency and information sharing should help stakeholders to gain full participation in the development of basin and aquifer strategies, agreements and institutions. Awareness raising and education, including training of mediators, should be implemented to ensure that all stakeholders learn how best to take up the challenges of sharing water.

Law

International conventions and national laws should become more powerful tools in transboundary water conflict prevention and resolution, management, and environmental protection. There is a need for integrated and more effective management agreements among states in all transboundary river, lake or aquifer basins. Additional measures are needed to clarify and strengthen the protection of water systems from armed conflict and terrorist attacks.

Facilitation and mediation

Access to water mediation needs to be established to avoid or resolve conflicts in collaboration with basin organisations, governments and other stakeholders.

Financial support

International assistance can promote cooperation in transboundary river and aquifer basins by financing and facilitating communication and the creation of joint institutions, or reinforcements of existing ones between basin states and stakeholders. In many regions of the developing world there is no infrastructure for even the collection and exchange of data with neighbouring countries. International financial commitment is vital and should be increased. Funding mechanisms should be coordinated and adapted to support all activities related to transboundary water bodies.

If 50 transboundary river, lake and aquifer basins were to be identified as priorities of international security, and assuming that US\$2 million would be needed per year over ten years to establish permanent, stable and reliable cooperation mechanisms and institutions in each of them, the total investment would be US\$1 billion.

II. Four nations guard giant South American aquifer³

On 29 May 2003, the Mercosul countries—Brazil, Argentina, Uruguay, and Paraguay—launched a project in Montevideo for the preservation of the Guaraní Aquifer, one of the largest underground water reserves in the world. Uruguay President Jorge Battle and government officials from the three other countries involved attended the launch ceremony.

³ Andr Muggiati. Posted: 05/28/2003. <http://ensnews.com/ens/may2003/200303.asp>. Montevideo, Uruguay, 29 May 2003 (ENS).

Located mainly in Brazil, the Guaraní Aquifer covers around 1.2 million square kilometres (463,323 square miles). The aquifer, named in honor of the Guaraní Indian Nation, extends over a total area greater than that of Great Britain, France and Spain together. Water from the Guaraní Aquifer flows cleanly from deep underground. The underground aquifer could be a sustainable source of water for more than 20 million people. It contains around 37 billion cubic metres of water, and its depth varies from 50 to 1,500 metres (164 to 4,921 feet).

The new project, called the Guaraní Aquifer Environmental Protection and Sustainable Development Plan, is estimated to cost US\$26.7 million. It will be financed by the World Bank, the governments of the Netherlands and Germany, the International Atomic Energy Agency and the Organization of American States.

The project will unfold in three stages: (1) a basic map of the Guaraní Aquifer System use and recovery will be constructed; (2) an information system of the aquifer will be implemented; and (3) managers will receive training and institutional reinforcement, including in pilot project areas.

The project aims to protect the reserve from overexploitation, as it could be a crucial source of drinking water in the near future. Currently, the waters of the Guaraní Aquifer are being used; however, there is no control over this usage, or any record of how much water is being withdrawn.

The annual recharge of the Guaraní Aquifer by the infiltration of rainwater is some 160 billion litres, and the annual sustainable withdrawal is about 40 billion litres. The process of infiltration takes decades, during which the soil filters the water, making it clean. This water is of excellent quality for use as public drinking water.

The project will also try to answer some important questions regarding the future of the aquifer, such as whether there is a need to restrain agricultural and industrial activities in adjacent areas. Contamination by fertilizers and pesticides may compromise the quality of the underground waters. Other activities, like garbage dumping, gasoline stations or construction of cemeteries in these areas, can also contaminate the aquifer and may have to be restricted. With the data resulting from these investigations, project staff will map areas where such activities are dangerous to the aquifer and should be restricted.

Another question concerns the excellent quality of the aquifer's water. Some researchers believe that water of such high quality should not be used by agriculture and industry. Project officials may therefore forbid access by agriculture and industry. These sectors would then have to use only surface water for their activities.

On the other hand, in arid parts of Brazil, the use of the underground water may be authorized for the irrigation of crops. Another possible agricultural use is to warm the surface of land with the deeper, warmer water to avoid the loss of crops due to winter frosts. These waters, which can be as warm as 50°C, may be approved for use as hot springs in the tourism industry, which has been growing in recent years.

The building of an aqueduct to provide water for the São Paulo metropolitan area, which lies outside the aquifer, is also being considered, in spite of the fact that such a system could be wasteful due to leakages. The city, of over 18 million inhabitants, is due to face a severe water shortage in the near future, as its main water reserves are threatened by pollution and constant growth of settlements without wastewater treatment.

Other metropolitan areas of Mercosul, such as Buenos Aires, Argentina, may also be authorized to use water from the Guaraní Aquifer.

III. Asia's potential water conflicts⁴

As many as 57 river basins in Asia are viewed as potential flashpoints for conflict between riparian neighbours as population and development pressures strain dwindling water resources. A landmark study released in June 2003 by two United Nations agencies and Oregon State University warned that cooperation over shared waters was “inconsistent or absent.” Compiled as part of the Third World Water Forum, which ended in Kyoto last March, the Atlas of International Freshwater Agreements identifies conflict over drinking water, intensive irrigation, fisheries and hydropower. While there is a long history of the negotiated settlement of disputes, 158 of the world's 263 international basins, including most of those in Asia, lack a feasible cooperative management framework.

“We have found that cooperation between countries over the past 50 years has outnumbered conflicts by more than 2:1. But things can go wrong,” says Professor Aaron T. Wolf of Oregon State University. “Since 1948, there have been only 37 incidents worldwide involving water resources that led to actual violence, and 30 of these were confined to Israel and one or more of its neighbours. However, tensions are rising in less developed regions—especially in Asia and Africa—as economic development furthers the growth of intensive agriculture and imposes severe population pressures. The International Water Management Institute (IWMI) has predicted that 2.7 billion people, or one third of the world's projected population, will not have access to enough water by 2025.”

It is estimated that irrigation and other forms of farm use will have to increase by 15-20% in the next 25 years to maintain food security, while water consumption will need to be reduced by 10% to protect natural watercourses. Professor Frank Rijsberman, the Director-General of the IWMI, believes that if current trends continue, the shortage of water will extend well beyond the semi-arid and arid regions. Expanding demand for water will drain some of the world's major rivers, leaving them dry throughout most of the year. Urban centres will experience severe water shortages, but the rural poor will suffer the most serious consequences. Drier basins in Central Asia are among those most at risk. The IWMI also lists Cambodia and Bhutan as nations with an acute vulnerability to water shortages: their populations already subsist on an average of less

⁴ By Alan Boyd, in Indus Pak Resource Centre for South Asian and Pakistani Affairs, Editor Ayaz Latif Palijo Sindh. Research Council, Tuesday 3 June 2003. All Rights Reserved.
<http://www31.brinkster.com/induspak/General.htm>

than 10 litres per person per day.

Climatic changes linked to global warming, including shorter rainy seasons and longer droughts, will affect other areas during coming decades, provoking new economic, social and health crises. In a foretaste of the climatic upheavals that may be expected, Afghanistan has recorded an unusually severe drought in the past year, and much of Southeast Asia has been afflicted by intense flooding. The countries suffering the worst shortages are likely to be those that are already near the bottom of the socio-economic scale, partly because they do not have enough storage facilities. Vietnam, China, Nepal, Bhutan, Myanmar, Papua New Guinea and Cambodia have Asia's most inadequate water management, according to an index compiled by the World Panel on Financing Water Infrastructure. All face formidable investment challenges due to a low availability of water resources, insufficient storage capacity and the deterioration of environmental conditions.

About 20% of Asians have no easy access to water, many of whom are located in economically important urban areas that will experience a doubling of their populations over the next 25 years. The infrastructure panel reported that to meet the needs of a larger world population, the area of irrigated land will have to increase by 22%, and water withdrawals by 14%. Compounding the problem of water quantity is one of quality: 19% of Asians do not have safe drinking water, and 52% lack sanitation facilities, even though the overall supplies may be adequate.

Bangladesh and India generally have enough water, but 47% of children in both countries are suffering from malnutrition or are exposed to infections, according to the United Nations Children's Fund (UNICEF). Child malnutrition levels are also critically high in the Democratic Republic of Korea (60%), Afghanistan (48%), Nepal (47%) and Cambodia (46%). Meeting supply shortages and improving quality standards is expected to consume the bulk of development funds in the next 25 years. But it may not be as simple as harnessing more water. While dams might offer a solution to supply shortages and help mitigate the effects of flooding, they are often opposed on environmental grounds. Also, governments are on uncertain legal ground if proposed reservoirs target multilateral basins.

Only 30% of hydropower potential has been exploited in Asia, compared with 70% in Europe and North America and 40% in South America, reflecting the ambiguous status of shared river resources. Even China, with its system of government and relatively extensive access to capital, has utilized only 20% of available storage potential, though it has recently pushed ahead with a string of dams in the Mekong River basin. There have been attempts to set up a workable management system, most notably with the establishment of the Indus Water Commission between India and Pakistan in 1960 and the Mekong River Committee in 1957. However, the mandate of multilateral agencies is often limited to negotiating navigation or fishing rights, raising doubts over their ability—or even willingness—to enter the sensitive realm of water-sharing rights.

At a basin level, the study at the University of Oregon found that few treaties had adequate reference to “water quality management, monitoring and evaluation, conflict resolution, public participation and flexible allocation methods... As a result, most existing international water agreements continue to lack the tools necessary to promote long-term holistic water management,” the study reported. Notable exceptions include a 1996 water-sharing treaty

between India and Bangladesh on the Ganges River and two treaties between India and Nepal in 1959 and 1966 that also touched on hydropower and irrigation. Agreements are also in force for the Amur, An Nahr Al Kabir, Aral, Asi/Orontes, Atrakn, Fly, Ganges, Brahmaputra, Meghna, Har Us Nur, Indus, Yenisey, Jordan, KuraAraks, Lake UbsaNur, Mekong, Ob, Ural and Pu Lun T'o basins.

Communiqués have been exchanged for the Fenney, Helmand, Ili/Kunes, Hem, Karnaphuli, Nahr El Kebir, Sepik and Tigris-Euphrates/Shatt al Arab basins, but there are no specific undertakings on sharing water. A modest 20% of basin agreements are viewed as offering sufficient safeguards; most are flawed because they involve only some of the affected riparian nations, thus creating tensions with those left out.

South and Southeast Asia, with five and 18 river basins respectively, have recorded the highest incidence of water disputes, though none went beyond an outburst of political rhetoric. The University of Oregon study listed 231 incidents in South Asia and 134 in Southeast Asia, while East Asia had 66 events. In contrast, Africa and the Middle East had 531 incidents.

There have been 237 interactions in South Asia as a result of disputes, 371 in Southeast Asia and 84 in East Asia. Four of the six most-disputed basins in the world are located either in Asia or the Middle East: Ganges-Brahmaputra-Meghna; Jordan; Tigris-Euphrates; and the Mekong.

IV. Excerpts from proceedings of the seminar held by the Permanent Court of Arbitration on resolution of international water disputes⁵

In anticipation of the International Year of Freshwater in 2003, on 8 November 2002, the Permanent Court of Arbitration (PCA) brought together scholars and practitioners in the areas of international law, environment and water dispute settlement for its sixth International Law Seminar, "Resolution of International Water Disputes." In choosing this topic for the seminar, the PCA responded to the call of the UN General Assembly by joining the ongoing discussion of global water resource management, and highlighting an area which has not yet received enough attention from the larger international legal community, namely, the prevention and resolution of international water disputes. The seminar was funded by the Netherlands Ministry of Foreign Affairs and others.

The papers emanating from the seminar constituted the PCA's contribution to the Third World Water Forum held in Kyoto in March 2003. Two weeks after the PCA's November Seminar, a conference sponsored by UNESCO and Green Cross International took place in Delft, The Netherlands.

During both the PCA and Delft conferences, representatives of the PCA and a UNESCO project, from Potential Conflict to Cooperation Potential (PCCP), initiated a dialogue which has resulted in PCA becoming part of PCCP. Furthermore, talks are underway between these two

⁵ Excerpts from the introduction to the proceedings of the Sixth International Law Seminar (8 November 2002) of the Permanent Court of Arbitration/ Peace Palace Papers, "Resolution of International Water Disputes." Edited by the International Bureau of the Permanent Court of Arbitration, Kluwer Law International, 2003, The Hague, London, New York.

organizations about a possible follow-up on the goal of the 2000 Second World Water Forum in The Hague to establish a resolution facility for water disputes, whereby third-party assistance could be provided to parties embroiled in conflicts over shared watercourses. The PCA has more than a century's worth of experience in the dispute resolution field, and it has of late enhanced its ability to administer dispute settlements concerning natural resources in the ways mentioned below. By turning to the PCA, the PCCP coordinators would thus eliminate the need to create a new facility "from scratch." Instead, they would be participating in the enhancement of new conflict resolution methodologies, creating new networks and partnerships within an existing legal institution willing and able to heed the call.

More than 260 river basins may be qualified as international watercourses, being shared by two or more states. In the last century the world population has more than tripled. Meanwhile, because of pollution and over-exploitation, freshwater resources have been seriously depleted. As these factors place a greater strain on the earth's natural resources, disputes over freshwater will pose an ever greater threat to the peace and security of our planet.

The current dispute between Lebanon and Israel over the Wazzani springs is but one example of the need to find peaceful and effective mechanisms tailored to the political and hydrological realities of the watercourse in question. In his paper on the subject, Salman M.A. Salman writes that the intractability of disputes over many international watercourses is "compounded by an upsurge in the competing demands over the waters of such watercourses, and by the different, and oftentimes contradictory, perceptions about water rights and the basic principles of international law in this regard." Thus, despite decades of study by the International Law Commission (ILC), culminating in the 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention), the international legal community still needs to bring more clarity to both substance and procedure in this area of law.

Although there has been a great deal of talk in international fora and media about the looming world water crisis in the last decade, not enough has been said about how conflicts over scarce water resources could be averted or dealt with effectively when they arose. The dispute resolution provisions in the UN Watercourses Convention are of course vital, but an appropriate framework for dispute resolution is needed—one that is capable of dealing with complex water disputes rapidly and with a final and binding outcome. Indeed, as noted by Mr. Surya P. Subedi, floor leader during discussions at the seminar, the law of international watercourses "has no permanent standing mechanism to deal with water problems in a comprehensive manner. The challenge for international watercourses law is not only to resolve water disputes between states, but also to facilitate negotiation in order to resolve 'issues' before they become 'disputes.' He recommends that the PCA might be a body capable of offering advice to States at an early stage of the dispute, as a means of averting the 'last resort' of formal adjudication, or arbitration.

The PCA has in recent years become increasingly active in the field of natural resources and environmental dispute resolution. In 2001, its Administrative Council of States Parties adopted the PCA Optional Rules for Arbitrating Disputes Relating to Natural Resources and/or the Environment (Environmental Rules), followed in 2002 by a set of Optional Rules for Conciliation of Disputes Relating to Natural Resources and/or the Environment. A panel of experts in environmental law and a panel of experts in environmental science have been made

available by the PCA's Secretary-General to assist parties or the tribunal. Further, the tribunal can order interim measures of protection to preserve the rights of any party and/or prevent serious harm to the environment. That either set of rules—or even some of the Court's non-subject-specific rules—would lend themselves to the resolution of international water disputes goes without saying. For example, the PCA's Environmental Rules were recently included in the Draft Protocol on Liability and Compensation for Damage Resulting from the Transboundary Effects of Industrial Accidents on Transboundary Waters of the United Nations Economic Commission for Europe (UNECE). Given that the PCA Environmental Rules enjoy wide support and have been deemed appropriate for resolution of water disputes, it is questionable whether framers of future agreements would wish to go to the time and expense of having to draft novel procedures. The UNECE civil liability instrument approach could be an indication of the road future framers of international agreements on transboundary use of water might wish to take.

Furthermore, the PCA stands ready to serve as *ad hoc* Registry and Secretariat, if the parties so desire, in the resolution of a water dispute (be it by arbitration, conciliation, mediation, fact-finding, or assisted negotiation). This can be carried out by persons chosen by the parties or recommended by the PCA, whether the parties in dispute be sovereign states, international organizations, corporations or private persons. At the time of writing, one of the few international watercourse arbitrations in the world is being administered under the auspices of the PCA, namely, the case between the Netherlands and France concerning the Rhine Chlorides Convention.

The panelists and participants in the Seminar were invited to explore a range of related questions on the topic of international water disputes, such as: Which dispute settlement mechanisms are most promising in this field? Is adjudication a suitable method of apportioning water rights which are vital not only to human life, but to the agriculture and industry of every nation on the planet? Given the need for “win-win” solutions to most water disputes, are negotiation and regional cooperation the only realistic and viable methods for settling them? What is the potential role of third parties in resolving water disputes through conciliation, mediation, good offices and other *ad hoc* mechanisms? What is the experience of international judicial proceedings? What are the prospects for the future?

The need for inter-disciplinary approaches is particularly relevant in the law pertaining to natural resources such as water, where technical and scientific expertise may be necessary to craft meaningful solutions to disputes. Furthermore, as international water disputes may be both territorial and global in nature, it is important to underscore the value of diplomacy and other non-confrontational forms of settling them.

But even adjudication may result in further negotiation, as the former President of the ICJ, Stephen M. Schwebel, examines in his paper on the Gabčíkovo-Nagymaros case—that long-standing dispute over Hungary's and Czechoslovakia's (later Slovakia's) ill-fated joint project to build a system of locks on the Danube River. An article by Judge Lucius Caflisch analyzes the various draft stages in the ILC of the dispute resolution provisions of that other milestone of international water law, the UN Watercourses Convention. The article by Stephen C. McCaffrey is “a quest, through 14 international disputed watercourses, for factors that could be said to engender such disputes, and for the appropriate means of resolving them.”

Laurence Boisson de Chazournes explains in her article that there are four main pillars to an integrated approach to water management under the UN Watercourses Convention: the sharing of international waters; the obligation of riparian States to cooperate; the protection of the environment; and dispute settlement. She adds a fifth pillar, which is emerging as perhaps ultimately the most important one, namely, participation by non-state actors in decision-making.

Attila Tanzi and Cesare Pite provide an overview of the role of non-state actors whose participation under international water agreements is the rare exception and not the rule, despite the fact that, “water-related problems as a rule affect individuals, institutional and economic actors at the local level.” The authors note several possible avenues for public participation at the domestic and international level, including participation by non-governmental organizations (NGOs) in compliance with review procedures built into various water or environmental treaties.

Similarly, Paulo Canelas de Castro, in his study, stresses the value of access to information and participation by NGOs, particularly at the regional, subregional and local levels. Likewise, he views the PCA, with its broad range of services, as well suited to providing greater openness to and increasing involvement by parties other than states, especially in the environmental/natural resources area.

Following an expert account by Salman M.A. Salman of India and Pakistan’s use of the good offices of the World Bank four decades ago to successfully solve their Indus River dispute—the only example of the use of mediation in international watercourse disputes—Eyal Benvenisti discusses the need for “regional solutions to transboundary water management and disputes in contexts where traditional treaty-making may be too slow and cumbersome to respond to the challenges of sustainable management of shared freshwater.”

Transboundary water resources are simultaneously local and international in scope, and vital to both community and commerce across every region of the planet. With the thought-provoking papers presented at the seminar and published in this volume under review, the PCA hopes to encourage continued discussion and debate on the most effective means of settling water disputes.

V. Note of the European Court of Auditors on funding of environmental projects⁶

The following notice relates to a request to the Group of Eight industrialized countries by a group of international institutions for greater attention and resources for international river basins. The European Court of Auditors carried out an audit to assess the effectiveness aid to the environment by the Programme for Harmonised Air Traffic Management Research in Eurocontrol (PHARE) and the Internet Service Providers Association (ISPA). The audit covered

⁶ Information note of the European Court of Auditors on the Special Report No 5/2003 concerning the Programme for Harmonised Air Traffic Management Research in Eurocontrol (PHARE) and the Internet Service Providers Association (ISPA) funding of environmental projects in the candidate countries (ECA/03/9 Date: 21/05/2003). The full special report, as adopted by the Court of Auditors, is available on its internet site and will be published shortly in the C series of the Official Journal of the European Communities. See http://www.eca.eu.int/EN/RS/2003/rs05_03en.pdf

projects financed during the 1995-2000 period and examined their implementation up until the end of 2001. All the supreme audit institutions in the candidate countries of Central and Eastern Europe participated in the audit.

The audit found that the European Commission's assistance to support institution building in the environment sector has been only partially successful. The Court's audit confirmed the view, expressed by the Commission in its 2001 and 2002 enlargement strategy papers, that there is still a need for candidate countries to further strengthen their administrative capacities in the environment sector to comply with the EU environmental standards.

This situation partly reflects the limited scale of funding committed to institution building, despite the special challenges in this sector, as well as the modest impact of the "Twinning" and technical assistance projects that have been funded. The Commission's institution-building strategy has relied too much on the Twinning instrument, which is not always the most effective method to overcome underlying structural problems in candidate countries.

Candidate countries did not have sufficient institutional capacity to develop environmental and financing strategies at an early stage. This led to inadequate identification of priority projects and efficient financing. The Commission has sought to lower ISPA grant levels below the 75% ceiling and has cooperated effectively with the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD) and other international finance institutions to achieve this. Nevertheless, the Court considers that there remains further scope for reducing grant levels to allow an increase in the number of projects.

Limited institutional capacity has also caused problems in project preparation and contract tendering for environmental infrastructure projects. The Commission did not always address these issues effectively, with the result that by the end of 2001, only one ISPA construction contract had been signed. However, in the case of the earlier PHARE infrastructure projects examined, it was found that, once tendering had been completed, actual implementation progressed relatively smoothly in most cases.

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