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FROM WATER'WARS' TO WATERRIOTS'? - LESSONS FROM TRANSBOUNDARY WATER MANAGEMENT

PROCEEDINGS OF THE INTERNATIONAL CONFERENCE, DECEMBER 2003, DIIS, COPENHAGEN

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Contents

Preface and Acknowledgements

In May 2003, Danida asked Department of Development Research, Danish Institute for International Studies (DIIS) to undertake a study on *Conflict Prevention and Mitigation in Water Resources Management – lessons learned and challenges ahead*. The objectives of the study are to take stock of the current understanding of water-related conflicts and lessons learned with respect to governance, conflict prevention and resolution in integrated water resources management.

As part of this study, DIIS arranged the conference 'From water 'wars' to water 'riots'? The role of the poor and implications for water management institutions in future water related conflicts' held in Copenhagen, December 3, 2003. Annex I contains the conference programme.

The present volume contains papers presented at this conference as well as two overview papers[1] prepared as part of the study commissioned by Danida. In addition the present volume, a separate report on conflicts, governance and the poor in water resources management is under preparation as part of the study commissioned by Danida.

On behalf of DIIS and the Water and Conflict Study group which consists of Jannik Boesen, Stig Jensen, Poul Erik Lauridsen, Helle Munk Ravnborg and Olaf Westermann, I would like to thank the authors of presentations given at the conference, the authors of the papers contained in the present volume and the conference participants who contributed to making the discussion sessions lively and inspiring. Annex II contains a list of the conference participants. Last but not least, I would like to thank Danida, and in particular Kurt Mørck Jensen, Leif Hommelgaard, Jørgen Jensen and Ole Winkler Andersen, for taking the initiative to this study, for taking part in discussions throughout the study and for providing financial support for the study.

Copenhagen, May 2004

Helle Munk Ravnborg
Study Coordinator

[1] These are the papers entitled Transboundary Water Management in the Mekong: River of Controversy or River of Promise? written by Poul Erik Lauridsen and Interstate Collaboration, Local Conflicts and Public Participation in the Nile River Basin prepared by Olaf Westermann.

About the Authors

Helle Munk Ravnborg (Ph.D.) is a senior research fellow with the Danish Institute for International Studies (DIIS). Her research focuses upon institutions shaping the access to and management of natural resources, including water, in Latin America and to a lesser extent in Eastern Africa. She is the coordinator of the study *Conflict Prevention and Mitigation in Water Resources Management – lessons learned and challenges ahead*, commissioned by Danida.

Jannik Boesen, a senior research fellow at DIIS and formerly Centre for Development Research (CDR), Copenhagen, also worked extensively as a water resources management consultant and researcher for the World Bank and DANIDA. At CDR he was in charge of the 'People, society, and nature' research area. He is presently doing research on reforms of agricultural services, agricultural technology development and rural poverty in Africa, work which is and has been mainly related to East Africa. Water related publications include: 'Local level participation in land and water resources management in Rufiji River Basin, Tanzania.' In: *Putting Dublin/Agenda 21 into practice: Lessons and new approaches in water and land management*, eds. J. Lundquist and T. Jønch-Clausen. Linköping.1995. *Improving Water Resources Management in Subsaharan Africa through Institutional Capacity Building*. With P. Stone. Washington DC: The World Bank. 1995. 'Norms, organisations and actual practices in relation to land and water management in Ruaha River Basin, Tanzania.'. With F. Maganga and R. Odgaard. in *Managing the Globalised Environment*. ed. Tiia Riitta Granfelt. London: Intermediate Technology Publications. And *Water as human right and a global public good*. With P. E. Lauridsen. Forthcoming at Danish Institute for Human Rights, 2004.

Bjørn Møller holds an MA in History and a Ph.D. in International Relations, both from the University of Copenhagen. From 1985 to 2002 he was (senior) research fellow and programme leader at the Copenhagen Peace Research Institute (COPRI, formerly Centre for Peace and Conflict Research), since 1 January 2003 part of the Danish Institute for International Studies. In the academic year 2003/04 he is guest lecturer at the research centre on Development and International Relations (DIR) at the University of Aalborg (AUC). He served as Secretary General of the International Peace Research Association (IPRA) from 1997 to 2000, and has been External Lecturer at the Institute of Political Studies, University of Copenhagen since 1992 and at the Centre of African Studies since 2002. He is the author of numerous articles, editor of seven anthologies (most recently *Oil and Water. Cooperative Security in the Persian Gulf*, 2001), and the author of three books: *Resolving the Security Dilemma in Europe. The German Debate on Non-Offensive Defence* (1991);

Common Security and Nonoffensive Defense. A Neorealist Perspective (1992); and *Dictionary of Alternative Defense* (1995).

Poul Erik Lauridsen is a research fellow at the Danish Institute for International Studies. He holds a MA in Anthropology and Sustainable Natural Resource Management and his research has focussed on conflicts over natural resources in Latin America and watershed management in Southeast Asia. Poul Erik is the author of the overview paper for the Mekong: 'Transboundary Water Management in the Mekong: River of Controversy - or River of Promise?' included in this volume.

Malee Traisawasdichai Lang is a former environmental journalist with The Nation Newspaper in Bangkok where she has been working for nine years since 1988. For four years, she was the author of the weekly Mekong Watch column in The Nation, where she followed and commented on development politics in the Mekong region, covering reports on local livelihoods in Thailand, Laos and Vietnam, and analysing issues such as the Mekong River Commission's water usage agreement, conflicts among member states within the MRC framework, hydropower trade between Thailand and Laos and the shift in the region's development ideology through the Greater Mekong Subregion programme. She also covered various development and environment issues in Thailand, including environmental conflicts arising from state-imposed conservation policy, national reforestation plans, the military's relocation and land distribution schemes and the construction of the Pak Mool Dam as well as the grassroots response to state policy through the community forestry movement and popular struggle against dam projects.

During her journalism career, she has been awarded with several fellowships, including one at Reuter Foundation in Oxford and an environmental fellowship at the Lisbon University, where she focussed on transboundary water conflicts between Spain and Portugal. She is now associated with Aalborg University in Denmark, where she is carrying out her PhD research project on popular participation in the development planning process in Thailand and Laos - looking for ways to integrate aspects of livelihood, culture and community rights into the planning process.

Philip Hirsch is Associate Professor of Geography at the University of Sydney, where he has taught since 1987. He is Director of the Australian Mekong Resource Centre, a research and outreach unit engaged in critical and collaborative work in support of more socially just and ecologically sustainable development outcomes in the Mekong (www.mekong.es.usyd.edu.au). Professor Hirsch has published widely on social, developmental and environmental issues in Thailand and the wider Mekong Regions. His books include *Development Dilemmas in Rural Thailand* (OUP 1990); Political Economy of Environment in Thailand (JCA Press 1993); [with

Richard Howitt and John Connell] *Resources, Nations and Indigenous Peoples* (OUP 1996); *Seeing Forests for Trees: Environment and Environmentalism in Thailand* (Silkworm 1996); [with Carol Warren] *Politics of Environment in Southeast Asia: Resources and Resistance* (Routledge 1998); and [with Mahfuzzudin Ahmed] *Common property in the Mekong: issues of sustainability and subsistence* (ICLARM and AMRC 2000). He has also written widely on livelihood impacts of dams in Southeast Asia. His current work includes involvement with an international project on *River Basin Management: a negotiated approach*, with the NGOs Both Ends and Gomukh, involving case studies from Latin America, Africa and Asia. He has recently commenced a research initiative on political ecology of risk in river basin development through a case study of the Mekong.

Olaf Westermann is a PhD candidate at the Danish Institute for International Studies and at the Department of Environment, Technology and Social Studies at Roskilde University, Denmark. His Ph.D. research is on social capital aspects of collective action and conflict in water management in the Andean Region of Bolivia. From 1998-2002 he held a position as research fellow at the International Center for Tropical Agriculture (CIAT) in Colombia where his work, including a number of publications and capacity building workshops, focused on collective action, stakeholder analysis, participation and participatory monitoring and evaluation in natural resource management. Fieldwork has been carried out mainly in Colombia, Nicaragua and Honduras but he has also experience from Brazil, Ghana and Cape Verde. Olaf Westermann holds a degree of M.Sc. (1997) from the Institute for International Studies and Department of Environment, Technology and Social Studies, Roskilde University, Denmark.

Nabil El-Khodari, a medical doctor by training, is the chief executive officer of the Nile Basin Society. Alarmed by the high rates of kidney failure in Egypt, he joined the NGO Association of Health and Environmental Development in Cairo. As an environmental and social activist, he has given critical presentations of the environmental and social consequences of e.g. the North Sinai Agricultural Development Programme (NSADP, El-Salam Canal) and Nile River Basin Development and has founded the Nile Basin Society, Canada, a regional organization which includes both Diaspora and Nile Basin citizens and local NGOs.

1. Introduction: From Water 'Wars' to Water 'Riots'?

Helle Munk Ravnborg

> 'If there is to be water related violence in the future, it is much more liable to be like the 'water riots' against a Bechtel development in Bolivia [Cochabamba] in 1999 than 'water wars' across national boundaries' (Wolf et al. 2003:50)

DOES WATER SCARCITY LEAD TO WATER-RELATED CONFLICT?

Over the last decade, water scarcity has increasingly been coupled with international security. Due to the nature of water – a fluid life-necessity and a key ingredient in economic development, driven by gravity across boundaries – it has been anticipated that water may trigger international conflicts – the so-called water wars – in the future.

In 1995, the World Bank vice-president Ismail Serageldin said that '…many of the wars of this century were about oil, but wars of the next century will be about water' (New York Times, August 10, 1995). In a similar vein, in 2000, UN secretary general Kofi Annan suggested that '… fierce competition for freshwater may well become a source of conflict and war in the future'.

These 'warnings' have been supported by research undertaken within the field of 'environmental security'. Wolf (1998) mentions several authors who have suggested that 'competition for limited … freshwater … leads to severe political tensions and even to war' (Westing 1986), and 'history is replete with examples of violent conflict over water' (Butts 1997) and have thus contributed to the commonly held notion of water scarcity leading to international conflict. The basic argument behind this notion is that because water is such a vital and yet finite resource, scarcity of water, often measured through the use of the Water Stress Index (Falkenmark 1989), leads to intense political pressures. Because water ignores political boundaries, such political pressures might spill over and lead to international conflicts. The thinking within the environmental security research field is further discussed in the papers by Møller and Hirsch in this volume.

Conceptually, this notion of water scarcity leading to international conflict is overly simplistic due to its focus on the supply side while ignoring social and political issues related to water

management and distribution (Metha 2001). Implicit in the water scarcity narrative is the assumption that water scarcity – and water abundance – is equally distributed within a nation (or a basin). This, however, is far from always the case. As most states tend to represent only part of the interests related to water within the national boundaries, it is not all situations of water scarcity which are equally likely to lead them into situations of international conflict (or cooperation) but mainly those related to their most important political constituencies.

However, according to Wolf and his colleagues such claims of a direct causal relationship between water scarcity and international insecurity or war are based on anecdotal and rather selective evidence. In the literature, there has been a tendency to select case studies from the 'hottest' basins such as the Jordan, Tigris, Euphrates, Indus and the Nile, thus making attempts of generalizing the conclusions from these case studies to international basins as a whole questionable. Moreover, there has been a tendency to exclude cooperative events from studies on the relationship between water scarcity and international relations which makes tests of causality incomplete (Wolf *et al.* 1998:31) in that the counter-hypothesis – that water scarcity leads people to cooperate – is totally ignored.

In order to fill these empirical gaps, researchers from Oregon State University in collaboration with Northwest Alliance for Computational Science and Engineering have developed the Transboundary Freshwater Dispute Database (TFDD – www.transboundarywaters.orst.edu) which contains a comprehensive inventory of all reported cases of international water related events between 1948 and 1999.[2] This inventory covered all of the world's international river basins (=261 basins covering 45.3% of the land surface of the earth (Wolf *et al.* 1999)[3] and every reported interaction between two or more nations, whether conflictive or cooperative, which involved water as a scarce and/or consumable resource or as a quantity to be managed, i.e. where water is the driver of the event (Wolf *et al.* 1998:32). All of these events – a total of 1,831 – are characterized according to a 'water event intensity scale' ranging from 'formal declaration of water' (-7) through to 'voluntary unification into one nation' (+7) (Table 1) as well as according to a range of other variables such as the issue area.

[2] Besides the water events database, the TFDD comprises a treaties database containing over 400 water-related treaties, along with the full text of each (see also UNEP and Oregon State University 2002) and an annotated bibliography of the state of the art of water conflict resolutions, including approximately 1,000 entries (see also Wolf 2002).

[3] Due to the splitting up of countries, the world today has 263 international basins (Wolf *et al.* 2003:45).

Table 1. Water Event Intensity Scale

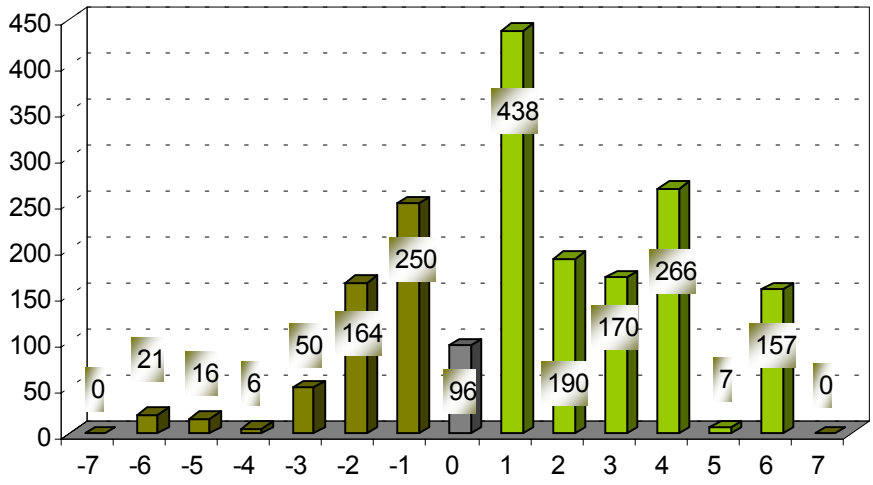
Description of conflictive events	Score	Description of cooperative events
Formal declaration of war	-7 ■ 7	Voluntary unification into one nation
Extensive military acts causing deaths, dislocation or high strategic cost	-6 ■ 6	International freshwater treaty; major strategic alliance (regional or international)
Small scale military acts	-5 ■ 5	Military economic or strategic support
Political-military hostile actions	-4 ■ 4	Non-military economic, technological or industrial agreement
Diplomatic-economic hostile actions	-3 ■ 3	Cultural or scientific agreement or support (non-strategic)
Strong verbal expressions displaying hostility in interaction	-2 ■ 2	Official verbal support of goals, values or regime
Mild verbal expressions displaying discord in interaction	-1 ■ 1	Minor official exchanges, talks or policy expressions – mild verbal support
Neutral or non-significant acts for the inter-nation situation	0	Neutral or non-significant acts for the inter-nation situation

Source: http://www.transboundarywaters.orst.edu/projects/events/bar_scale.html. The Water Event Intensity Scale has been modified from Azar's COPDAB (Conflict and Peace Data Bank) International Conflict and Cooperation Scale.

Overall, two-thirds of the recorded internal water related events (1,228 events) were cooperative, while 28 per cent (507 events) were conflictive with the remaining five per cent (96 events) being neutral or non-significant. Moreover, no events were found at the extremes of the intensity scale – no formal declaration of war over water and no countries voluntarily unifying into one nation over water (Yoffe *et al.*, 2001). Figure 1 summarizes the overall profile of the international water

events. This overall picture of cooperative events outweighing conflictive events in numerical terms holds true for all regions except one, namely the Middle East/North Africa region which is also the region with by far highest number of events, cooperative as well as conflictive.[4]

Figure 1. Number of international water events by water event intensity scale, N=1,831 events

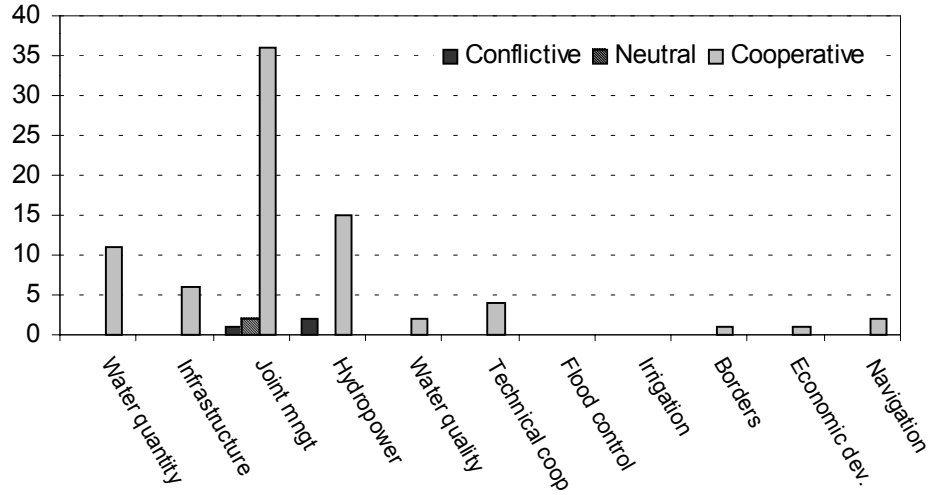


Source: Yoffe *et al.* 2001, Figure 4.1.

While the cooperative international water events take place with reference to a wide variety of issues, ranging from water quantity, joint management of water sources, infrastructure, hydropower etc., two issues, namely water quantity, i.e. the sharing of water, and infrastructure account for 86 per cent of all registered conflictive water events (Figure 2).

[4] As much as 531 (29%) of the 1,831 international water event contained in the database relate to basin in the North Africa/Middle East region followed by South Asia and Eastern Europe from where 231 (13%) and 210 (11%) events have their origin, respectively.

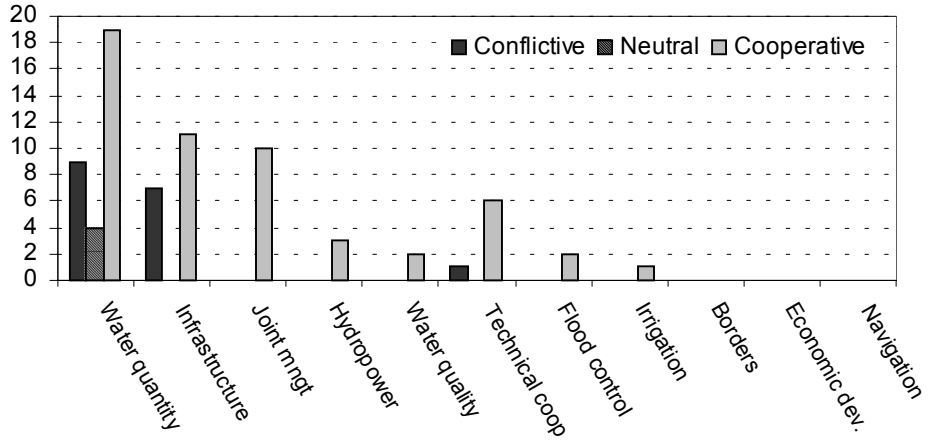
Figure 2. Number of cooperative, neutral and conflictive international water events by issue area (N=1,831 events)



Source: Yoffe *et al.* 2001, Table 4.3.

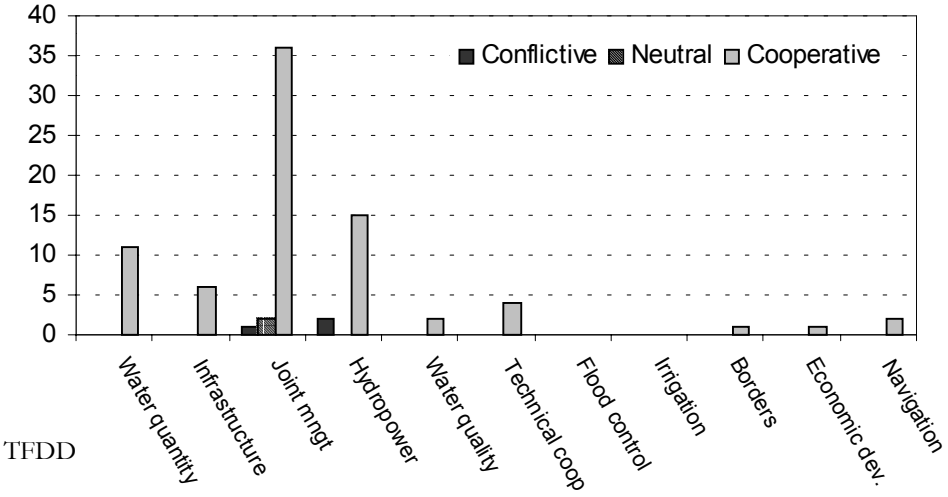
Also in the two international river basins dealt with in more detail in several of the papers contained in this report, namely the Nile and the Mekong river basins, the cooperative international water events by far outnumber the conflictive events (Figures 3 and 4). In the Nile basin, the conflictive events constitute 23 per cent of all registered international water events, while in the Mekong River Basin conflictive events constitute merely four per cent of the 83 registered international water events.

Figure 3. Number of cooperative, neutral and conflictive international water events in the Nile River Basin by issue area (N=75 events)



Source: TFDD

Figure 4. Number of cooperative, neutral and conflictive international water events in the Mekong River Basin by issue area (N=83 events)



Source: TFDD

The Nile and the Mekong River Basins also resemble the overall picture in the sense that whereas cooperative events take place with respect to a wide range of issues, the conflictive international events relate to a more limited set of issues. While hardly any conflictive events are registered in the Mekong River Basin (two events relating to hydropower and one event relating to joint management), the conflictive events recorded in the Nile River Basin relate to water quantity (nine events), infrastructure (seven events) and water quality (one event).

Thus, at least when judging on the basis of such descriptive profiles of water events in transboundary water basins, the conclusion is that the fact that two or more nations share freshwater sources till date has been more likely to make them cooperate than to enter into conflict. Moreover, nine out of ten of the conflictive international events which have been registered between 1950 and 1999 have been in the form of verbal expressions or diplomatic or economic hostile actions,[5] but with no military actions. However, digging one step deeper, using the data generated through the TFDD, Yoffe and her colleagues have tried to test some of the assumptions relating to the narrative of 'water scarcity leading to water wars' as well as alternative factors which might contribute to explain whether conflicts might occur with respect to transboundary water sources.

As described above, water scarcity is often measured using Falkenmark's Water Stress Index (WSI), which basically divides the volume of available water resources for each country by its

[5] i.e. ranging -1, -2 or -3 according to the water event intensity scale.

population[6]. If the resulting average amount of water available per inhabitant falls short of a certain threshold value (1,700 m^3 per year), the country is considered to be 'water stressed' while if falling short of 1,000 m^3 per person per year, it is considered 'water scarce' and finally, if falling short of 500 m^3 per person per year, it is considered 'water poor'. Based upon the TFDD, Yoffe and her colleagues (2001) calculated the WSI at the basin scale in order to analyze the extent to which water scarcity could predict cooperation and conflict over freshwater resources. The result was negative, meaning that no significant association was found between water scarcity and the occurrence of conflictive, neutral or cooperative events related to freshwater resources. Neither was climate – another factor often mentioned as a cause of water conflict – found also to be associated with the occurrence of water-related conflict or cooperation in a basin. Hence, the TFDD does *not* support the hypothesis of water scarcity – whether in absolute terms, i.e. in terms of the amount of water available to a country or in relative terms, i.e. the average amount of water available per person in a country – leading to water-related conflict, including water 'war'.

ALTERNATIVE FACTORS POTENTIALLY CAUSING WATER-RELATED CONFLICTS

Another factor commonly considered to be associated with water-related conflict is the character of overall relations among the countries sharing a water source. Basins with overall unfriendly relations were found to also be more likely to conflict over water issues. Interestingly, with the exception of the North Africa/Middle East region, countries appear to enjoy friendlier relations over water than they do overall (Yoffe *et al.,* 2001:81-82). Moreover, 'countries with more rapidly growing populations tended to be more internationally conflictive overall, but not more conflictive over water resources' (*ibid.*). These findings, Yoffe and her colleagues state 'suggest that the drivers of water conflict and cooperation are not the same as for overall conflict and cooperation' (*ibid.*:82).

As an alternative to the hypothesis of water scarcity causing water conflicts and wars, Wolf and his colleagues propose that increases in the magnitude and amount of physical or institutional change relative to the capacity to absorb such changes, increase the likelihood and intensity of conflict in a basin (Wolf *et al.* 2003). From an institutional point of view, the most radical change, they say, would be the internationalization of basins, i.e. the division of basins whose management institution was developed under one single jurisdiction into two or more nations. Wolf and his colleagues show that the periods of intense internationalization e.g. in the Middle East and South Asia (during the dismantlement of the British Empire) and in Eastern Europe

[6] When launching the water stress index, Falkenmark expressed it as number of persons per 1,000,000 m^3 of water per year.

and the former Soviet Union have been significantly more conflictive for the respective regions than more stable periods. Hence they suggest that '…recent internationalization seems to be one of the most significant indicators of dispute' (Wolf *et al.* 2003:44).

From a physical point of view, the most rapid change would be the development of a large-scale dam or diversion project, i.e. one of the two dominant issues associated with conflictive international water events (cf. figures 2-4). Interestingly, basin development, using dam density as an indicator, does not in itself predict water-related conflicts. As noted by Wolf and his colleagues here too institutional capacity to ameliorate the political impacts of such physical change makes the difference (*ibid.*). Hence, they find that unilateral basin development in the absence of a cooperative transboundary institution, e.g. a treaty, significantly increases the likelihood of conflictive water events.

This is, therefore, a strong argument in favour of continued support to facilitate negotiation of transboundary treaties on the sharing of water and benefits, on shared investment plans and shared responsibility for implementation and monitoring of the agreements as a necessary albeit not in itself sufficient element in efforts to prevent water-related conflicts. Currently, less than half (117) of the world's 263 international basins have treaties (Wolf *et al.* 2003:45).

Using the indicators which were found to be significantly associated with the occurrence of conflictive events, the TFDD was used to identify basins at risk for future conflict over freshwater resources (Table 2 and Figure 5). The indicators used are:

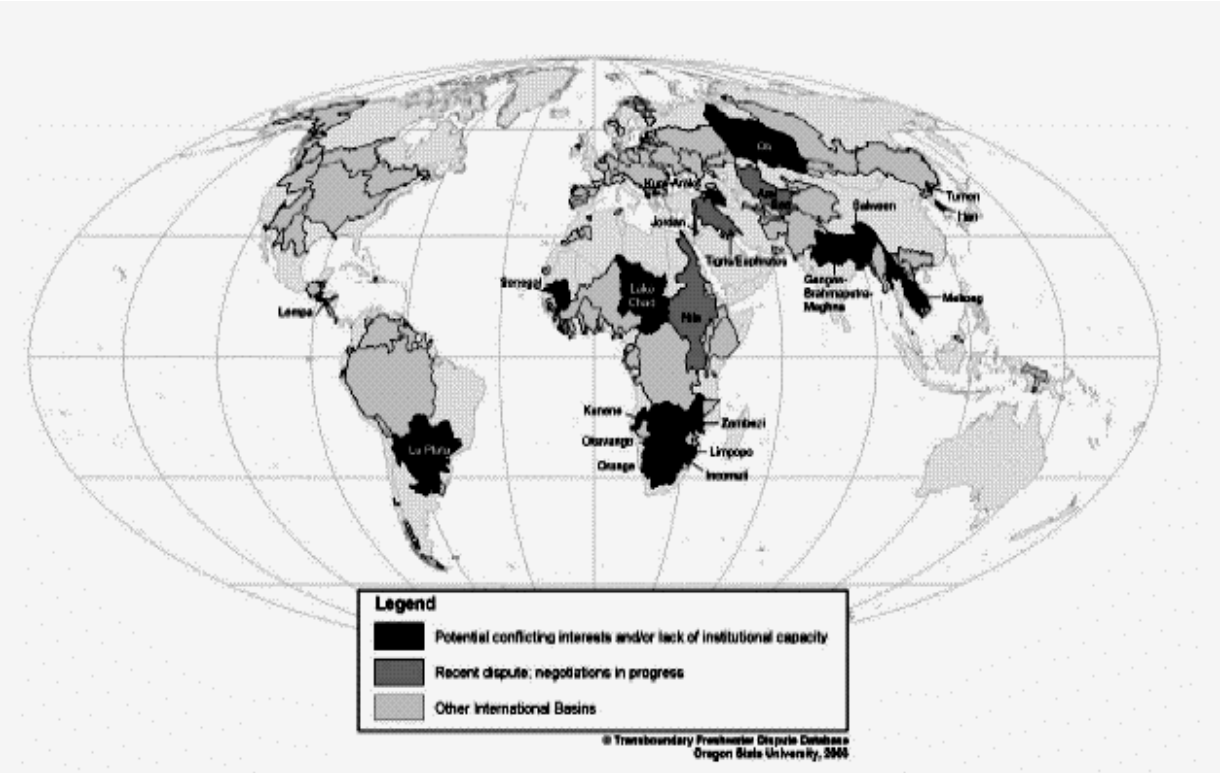
- high population density (more than 100 persons/km^2);
- low per capita income (less than US$765/person/year);
- overall unfriendly relations;
- politically active minority groups that may lead to internationalization;
- proposed large dams or other water development projects; and
- no or only limited freshwater treaties.

Table 2. Basins at risk

Basin name	Basin riparian countries
Potential conflicting interests and/or lack of institutional capacity:	
Lempa	El Salvador, Guatemala, Honduras
La Plata	Argentina, Bolivia, Brazil, Paraguay, Uruguay
Senegal	Guinea, Mali, Mauritania, Senegal
Lake Chad	Algeria, Cameroon, Central African Republic, Chad, Libya, Niger, Nigeria, Sudan
Kunene	Angola, Namibia
Okavango	Angola, Botswana, Namibia, Zimbabwe
Orange	South Africa, Namibia, Botswana, Lesotho
Incomati	South Africa, Mozambique, Swaziland
Limpopo	Botswana, Mozambique, South Africa, Zimbabwe
Zambezi	Angola, Botswana, D.R. Congo, Malawi, Mozambique, Namibia, Tanzania, Zambia, Zimbabwe
Kura-Araks	Armenia, Azerbaijan, Georgia, Iran, Turkey
Ob	China, Kazakhstan, Russia
Han	North and South Korea
Ganges-Brahmaputra-Meghna	Bangladesh, Bhutan, Burma, China, India, Nepal
Salween	China, Burma, Thailand
Mekong	Burma, Cambodia, China, Laos, Thailand, Vietnam
Tumen	China, North Korea, Russia
Recent disputes; negotiations in progress:	
Nile	Burundi, D.R. Congo, Egypt, Eritrea, Ethiopia, Kenya, Randa, Sudan, Tanzania, Uganda
Jordan	Israel, Jordan, Lebanon, Palestinians, Syria
Tigris-Euphrates	Iran, Iraq, Jordan, Saudi Arabia, Syria, Turkey
Aral Sea	Afghanistan, China, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

Source: Wolf *et al.*, 2003:47 and Yoffe *et al.* 2001:100.

Figure 5. Basins at risk



Source: Wolf *et al.* 2003:47

THE NEED OF EXTENDING THE FOCUS BEYOND TRANSBOUNDARY WATER-RELATED CONFLICTS

However, far from all situations of water-related conflict and cooperation are international in their origin or are best dealt with at the international level. First, some conflicts regarded as transboundary conflicts are essentially local conflicts which just happen to take place in a transboundary basin. An example is the conflict registered in the Senegal River basin in 1999 in which thirteen people died in communal clashes along the border between Mauritania and Mali. The conflict started when herdsmen in a village in west-Mali refused to allow a Mauritanian horseman to use a watering hole. The horseman returned with some of his clansmen, attacking the Malian village causing two deaths. In the retaliation that followed, eleven more died (TFDD). It is hard to imagine how to prevent and manage such 'transboundary' conflicts without locally negotiated agreements. Only to the extent that the claims made by the conflicting communities are backed by their respective states and these essentially communal conflicts develop into international conflicts, international agreements might become needed as well.

Second, water-related conflicts (as well as cooperation) take place within nations whether in transboundary river basins or not among different interest groups or stakeholders and affect the

lives of millions of people. One of the suggestive conclusions coming out of the research undertaken by Wolf and his colleagues is that water-related violence in the future is much more liable to be in the form of 'water riots', such as those against a Bechtel development in Cochabamba, Bolivia[7] than 'water wars' across national boundaries and that conflicts increasingly are being driven by internal or local pressures (Wolf *et al.* 2003:50-51). States, however, tend to represent only part of the water-interests within the national boundaries and unfortunately, it tends to be the same types of interests which go unrepresented by different states, such as the interests of the poor rural and urban consumers, artesian irrigators and fishers, people living close to dams and environmental concerns. The likelihood is that no or only inadequate institutions exist for negotiating such local conflicts, i.e. conflicts which are nationally contained, whether they take place in a transboundary basin or not.

As was the case with respect to transboundary water-related conflicts before the development of the Transboundary Freshwater Dispute Database, only sporadic information exists today with respect to local conflicts and cooperation. Thus, there is a lack of systematic knowledge of the character, extent and the social, political and economic implications of local water-related conflicts.[8]

Though not pretending to represent a comprehensive overview of local water-related conflict and experiences of conflict prevention and mitigation, the conference *From water 'wars' to water 'riots'? The role of the poor and implications for water management institutions in future water related conflicts* held in Copenhagen in December 2003 set out to explore the architecture of tomorrow's water-related conflicts; the way in which the poor will be involved in such conflicts; and the potential contribution of research and development assistance. The conference was held as part of a study *Conflict Prevention and Mitigation in Water Resources Management – lessons learned and challenges ahead* which was commissioned by Danida.

[7] For more information on the Cochabamba riots, please refer to the paper by Westermann (2004) made as part of this study on Conflict Prevention and Mitigation in Water Resources Management.

[8] Obviously, it would not be practically possible to undertake a complete inventory of all local conflicts. However, even an inventory confined to a specific time period and to a certain number of countries would provide important insights into the nature, magnitude and causes of local water-related conflicts from which important policy lessons could be drawn with respect to conflict prevention and mitigation.

ABOUT THIS VOLUME

This volume consists of papers presented and discussions held at this conference in Copenhagen. Moreover, it contains two papers (the papers prepared by Poul Erik Lauridsen and Olaf Westermann) which were not presented at the conference but form part of the study commissioned by Danida.

Following this introduction, Bjørn Møller, Guest Lecturer, Department of History, International and Social Studies, Aalborg University, provides a general overview of the linkages between freshwater sources, security and conflict, including an overview of conflict resolution mechanisms.

Geographically, this volume focuses on two transboundary basins, namely the Mekong and the Nile basins. The Mekong section consists of three papers and is introduced by a paper written by Poul Erik Lauridsen, member of the DIIS study team, entitled *Transboundary Water Management in the Mekong: River of Controversy or River of Promise?* In the paper, Lauridsen outlines the history of collaboration in the Mekong and analyzes the role of the Mekong River Commission in face of some of the more recent conflictive events which have occurred in the Mekong River Basin. Some of these conflictive events are further analysed in the papers by Lang and Hirsch. Lauridsen suggests that while the likelihood of interstate conflicts in the Mekong is low due to the complex interdependencies that exist among the Mekong countries, both with respect to water and other issues, conflicts between local populations and national authorities are likely to escalate as the Mekong countries move forward with their plans to exploit the development potentials of the Mekong River.

The paper by Malee Traisawasdichai Lang, a former journalist of The Nation, Thailand, and presently a Ph.D. candidate at the Centre for Development and International Relations, Aalborg University, focusses on the civil protest relating to the construction and opening of the Pak Mool Dam in Thailand and analyzes how the anti-Pak Mool Dam movement succeeded in creating space for producing and presenting their own research-based evidence of the negative cultural, economic, environmental and social impacts of the dam and in enforcing changes in water and dam management.

In the third paper in the Mekong section, Philip Hirsch, Associate Professor of Geography at the University of Sydney, Australia, examines the axes of tension and conflicts over water and argues that the main tensions over water are constituted socially, culturally, economically and politically at higher degrees of resolution than the transboundary level and that the main

conflicts are more likely to lead to social unrest and contestation between civil society and state actors than to military conflict between states.

The Nile section consists of two papers. In his paper, Olaf Westermann, member of the DIIS study team, discusses the reasons why, despite meeting all the theoretically defined criteria for being a river basin 'at war', the Nile River Basin is gradually moving into a promising situation of interstate collaboration through the Nile Basin Initiative (NBI). The paper, however, warns that a gap might be opening between visions and actions within the NBI and suggests that the key to prevent this gap from developing may be to ensure public and civil society participation in Nile Basin water management decisions through information sharing and consultation.

Nabil El-Khodari is the Chief Executive Officer of the Nile Basin Society, a civil society organization based in Canada. In his paper, El-Khodari discusses the role of Nile water management in the context of overall international relations within the region as well as with neighbouring Israel.

Finally, the conclusion summarizes some of the main points from the three discussion sessions held at the conference.[9]

REFERENCES

Butts, K. (1997). 'The strategic importance of water'. *Parameters*. Spring 65-83.

Metha, Lyla (2001). 'Water for the Twenty-First Century: Challenges and Misconceptions'. *IDS Working Paper* 111. Sussex: Institute of Development Studies.

UNEP, FAO and Oregon State University (2002). *Atlas of International Freshwater Agreements*. Nairobi, Kenya: UNEP.

Westing, A.H. Ed (1986). *Global Resources and International Conflict: Environmental Factors in Strategic Policy and Action*. New York: Oxford University Press.

Wolf, Aaron T. Ed. (2002). 'Conflict Prevention and Resolution in Water Systems'. *The Management of Water Resources* 5. Cheltenham, UK: Elgar Publishing Inc. Pp. 823.

Wolf, Aaron T.; Shira B. Yoffe and Mark Giordano (2003). 'International waters: identifying basis at risk'. *Water Policy* 5, pp. 29-60.

Yoffe, Shira; Aaron T. Wolf and Mark Giordano (2001). 'Conflict and cooperation over international freshwater resources: Indicators and findings of the Basins at Risk project'. http://www.transboundarywaters.orst.edu/projects/bar/BAR_chapter4.htm.

[9] Mette Lykke Knudsen, Kim Raben and Sigurd Arnfred Larsen assisted in recording the discussions held at the conference.

2. Freshwater Sources, Security and Conflict: An Overview of Linkages

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ABSTRACT

Water issues impact on security at the various levels, albeit most directly on 'human security'. Hence, it is a potential source of conflict. Following a prelude of water and 'the human condition', the paper presents an analytical survey of the various aspects of the water-conflict-security nexus, describing how water may cause or constitute security problems, and how conflicts and the quest for security may cause problems with water. Not only may water be a direct cause of insecurity; it may also constitute an indirect security threat by virtue of its potential for causing conflicts which may, in turn, represent security threats to states as well as societal groups and individuals. Conversely, the very 'securitisation' of water issues, i.e. their being referred to by relevant actors as urgent and of existential importance, may lead to conflict, as scope is thereby created for resorting to 'extraordinary measures' such as going to war. Based on this analysis of how water problems and conflicts are linked, the concluding sections are devoted to the question what might be done to break the vicious circles – or even better, to transform them into 'benign circles' where the resolution of water problems may help prevent violent conflicts and the prevention of conflict help solve water problems.

FRESHWATER AND CONFLICT

Freshwater as a source of conflict

'Water security' may be seen as a species of the genus 'environmental security'. In a similar vein, water conflicts may be seen as a species of the genus 'resource conflicts' (sometimes called environmental conflicts), which have received a good deal of attention in recent years, referring to conflicts over scarce and/or valuable natural resources (Klare 2001; Homer-Dixon 1999; Berdal 2002; Jean and Rufin 1996). Presumably, just as armed conflicts may be waged over natural resources such as oil, timber, diamonds and various minerals or game (e.g. Global Witness 2002; Palm 1999; Duffy 2000; Lind and Sturman 2002), they may be waged over the control of

water.

Freshwater conflicts

Although both high seas and narrow straits may give rise to conflicts, freshwater is even more likely to do so, if only because it is in so much more limited supply and so much more indispensable for mankind.

One should, however, guard against excessive pessimism and 'alarmism'. As repeatedly pointed out by Aaron Wolf and his colleagues, no actual water wars have occurred between nations for more than 4,500 years, i.e. since a war between two Mesopotamian city-states around 2,500 BC. Moreover,

> [T]he record of acute conflict over international water resources is overwhelmed by the record of cooperation. (...) Overall, shared interests, human creativity and institutional capacity along a waterway seem to consistently ameliorate water's conflict-inducing characteristics. Furthermore, once cooperative water regimes are established through treaties, they turn out to be impressively resilient over time, even when between otherwise hostile riparians, and even as conflict is waged over other issues (Wolf *et al.* 2003:30).[10]

The following analysis is therefore not intended to show that water wars are likely, but merely to identify where and how they might happen, 'unless the parties stop to think', as aptly formulated by Lewis Fry Richardson (Richardson 1960).

Control over lakes is in most respects similar to that over oceans, albeit usually on a smaller scale and with clear links to rivers. There have been disputes over the demarcation of lake territories by riparian states, but there seem to have been no violent confrontations over this issue (yet). A special case is that of artificial lakes created by the damming of a river, either for hydroelectric or irrigation purposes. However, while certain countries have suffered from the actions of other states, e.g. when Egypt created the huge Aswan Dam, the problem was rather related to the effects on the Nile than to the lake itself (Elhance 1999), and there appear to have been no violent disputes over artificial lakes as such.

There have, on the other hand, been numerous disputes over rivers and other streams, both within and between countries. As far as international conflicts are concerned, some have related to the river as a boundary, as was the case of the conflict between the USSR and China over the Ussuri River in 1969, which (according to some accounts) was close to leading to a nuclear war

[10] See also Postel and Wolf (2001).

(Steel 1984; Holloway 1983; Austin and Muraviev 2000; Nathan and Ross 1997). Most conflicts, however, have been related to the distribution of river water, issues of pollution and to some extent about navigation rights. Most disputes have pitted upstream against downstream countries. Other things equal, those upstream obviously have the upper hand, as they are in a position to divert waters for their own purposes, thereby depriving those downstream of their shares, and to pollute rivers, thus letting downstream riparians bear the costs of their pollution. Downstreamers, however, have some control over navigation, as they are in a position to prevent (or perhaps impose duties on) transit through their territory to the ocean or other destinations.

How likely issues such as these are to produce armed conflict depends, according to Thomas Homer-Dixon, on several factors such as the dependency of the countries involved on these rivers and the balance of power between them (Homer-Dixon 1994; 1998). As far as the Nile is concerned, for instance, the country which is most dependent on its unimpeded flow is downstream Egypt which is, however, also militarily much stronger than both Ethiopia and Sudan. Hence, neither of these two upstream countries is likely to provoke Egypt to a military confrontation by depriving it of water – and Egypt is not in a position to affect the water supplies of any of the upstreamers. The reverse is the case of the Euphrates-Tigris rivers, pitting Turkey as the upstream country against Syria and Iraq – a conflict to which we shall return below.

As discussed in the introduction, the aforementioned Aaron Wolf has presented quite a strong case for another set of parametres of conflict-proneness. According to his findings, conflict is most likely to erupt when 'the rate of change within a basin exceeds the institutional capacity to absorb that change. 'Such situations may occur e.g. as a consequence of physical constructions, influencing the flow of water.or the sudden dissolving of countries (as when Yugoslavia and the USSR broke up), which may overnight transform a national river basin into one shared by several sovereign states. Unless an institutional setting (e.g. a treaty) is available to handle disputes in such cases, they may conceivably escalate, perhaps even to the point of war (Wolf *et al.* 2003; 2001; Giordano *et al.* 2003).

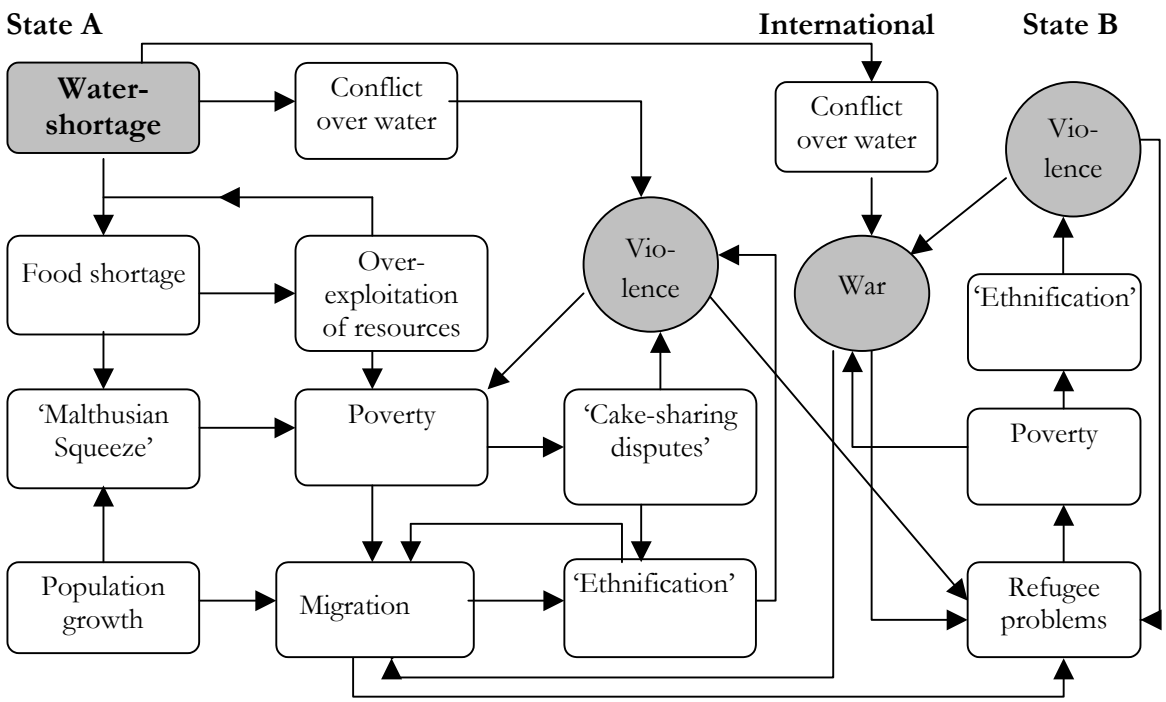
Causal paths of freshwater conflicts

Even though international conflicts over riverine resources are thus entirely conceivable, a more likely scenario may be that of intra-state armed conflicts over freshwater resources which may, in their turn, be internationalised, producing what might be called transnational water conflicts.

A possible conflict path is illustrated in Figure 1, which features a number of feedback loops which might also be labelled vicious circles.

A possible starting point of a conflict may be a simple mismatch between population and natural resources, *in casu* freshwater suitable for human utilisation – which is, of course, partly a result of political decisions rather than of nature as such. This mismatch may either directly produce a water conflict at a local level, say between tribes over grasing rights or the property right over wells (as has e.g. happened in Ethiopia) (e.g. Flintan and Tamrat 2002) or a national conflict over the construction of a dam or canal which may impact on the availability of water for major groups (as with the Jonglei canal project in Sudan) (Goldsmith *et al.* 2002; Johnson 2003) (see also paper by Westermann in this volume); or even an international conflict with other countries sharing the same river.

Figure 1. Illustrative causal path of violent freshwater conflicts



Source: Inspired by, but different from, the systemic charts in Homer-Dixon (1994) and Hauge and Ellingsen (2001).

It may also produce conflict in a more indirect manner. Because of the insufficient food production due to the water shortage, and in combination with the population growth which continues to characterize most Third World countries (ECA 2001), it may produce what may be called a 'Malthusian squeeze'.[11] This in turn exacerbates the problems in the coming years as well as, in the medium-to-long-term, contributing to a depletion of water supplies, deforestation, desertification and other environmental problems.

[11] Named after Malthus (1989).

One of the consequences of this is poverty, manifested in malnutrition and occasional famines, which may, in their turn produce migration flows, either domestically or into neighbouring countries. In the latter case, they tend to place greater strains on the resources of the neighbours in question as, paradoxically, 'poverty refugees' tend to end up in host countries almost as poor as the ones they are leaving as illustrated by the statistics from the Horn of Africa in Table 1.

Table 1. Refugees in the Horn of Africa Region
(thousands, only included if exceeding 5,000 in at least one year)

From	Asylum in	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Djibouti	Ethiopia	-	0.0	18.0	18.0	18.0	8.0	3.0	1.5	1.6	0.1
Eritrea	Sudan	502.6	424.5	419.3	282.8	328.3	315.0	342.3	342.1	367.7	324.5
Ethiopia	Sudan	200.9	173.2	160.6	48.1	51.5	44.3	35.6	35.4	34.1	16.1
Somalia	Djibouti	20.0	17.7	20.6	21.3	23.0	21.5	21.6	21.6	21.7	21.7
Somalia	Ethiopia	406.1	228.1	269.7	305.4	287.8	249.2	195.3	180.9	121.1	67.1
Sudan	Ethiopia	25.6	44.4	51.8	61.1	75.7	56.9	58.6	70.3	71.7	80.9

Source: Figures from UNHCR: Statistical Yearbook 2001 (2002).

Both internal and international migration of people fleeing from poverty (labelled internally displaced persons (IDPs) and refugees, respectively) tend to cause problems, either in the form of simple 'cake-sharing disputes' over the distribution of scarce resources or via an 'ethnification' of these disputes. Hardships are simply blamed on 'aliens' or 'foreigners', thus adding an ethnic dimension (i.e. a framing of a conflict as one over values) to what is basically a conflict of interests.[12] This tends to add extra venom to the conflict and to make a resort to violence more likely, as it is easier to justify the use of violence against aliens than against one's own kin (e.g. Roe 1999).

[12] On the distinction see Kriesberg (1998).

Not only does such ethnification thus make violence more likely, thereby perhaps further swelling the ranks of IDPs and refugees with people fleeing the struggle. It also gives neighbouring states reasons to intervene, either in order to stem the flow of refugees into their respective countries or in order to aid their ethnic kin across the border (Midlarsky 1992; Lake and Rothchild 1998; Brown 1996; Carment and James 1997). Such an internationalisation automatically transforms what was initially an intra-state conflict into a transnational one.

There are thus many ways in which the scarcity of freshwater (mostly from rivers, but in principle also pertaining to groundwater) might produce both local, nation-wide and international conflicts – and the causal links are often complex, featuring several possible feedback loops and vicious circles, which makes the prevention, management and resolutions a very complex matter, as we shall see below. Before proceding with this, however, a real-life illustration of some of the problems seems in order, for which purpose the conflict-ridden Middle East (including the Persian Gulf region) seems well suited.

Example: Middle East – The Euphrates/Tigris and Jordan Basin Conflicts
Needless to say, conflicts such as those described above are much more likely to occur in an environment with acute water shortages than in one where water is plentiful. Moreover, they are most likely to break out in a hostile and unstable environment than within otherwise stable countries or among states accustomed to peaceful relations with each other.

The Middle East, alas, definitely belongs to the former category, featuring intense hostilities, not merely between Israel and the Arab states, but also between Iran and Turkey and their respective Arab neighbours, as well as among the Arab states themselves – to say nothing about the numerous intra-state cleavages in all states of the region. As a corollary of these conflicts, the region also features a number of partial alliances, e.g. between Turkey and Israel, Iran and Syria, etc. All of them are, however, 'marriages of convenience' or of necessity (usually motivated by shared fears of common enemies) rather than based on lasting ties of amity. Hence they are also unlikely to be stable features of the regional political landscape (e.g. Chubin and Tripp 1996; Bahgat 2000; Agha and Khalidi 1995; Ehteshami and Hinnebusch 1997; Picard 1993; Waxmann 1999; Priess 1996; Graz 1990; Nonneman 1990; Faour 1993; Perthes 1993; Awad 1994; Tow 1990; Jentleson and Kaye 1998).

The Middle East also suffers from severe water shortages, most of the region relying on two major river basins, i.e. those of the Euphrates and Tigris and the much smaller one of the Jordan, the latter related both to a number of aquifers and to the Lake Tiberias. Even though the countries of the Arabian Peninsula are even less well endowed with freshwater, we can safely leave them out of the analysis as their needs could not under any circumstances be met from

riverine resources, but only from desalination projects or perhaps by imports of water (maybe even in the form of ice).

The Euphrates-Tigris basin caters for Turkey as the upstream country as well as for Iraq and Syria as downstream countries – with Iran in both roles, yet merely as a minor player (Elhance 1999). Whereas Iraq is heavily dependent on the shared river, Syria is somewhat less so, in addition to which it is also in an upstream position by virtue of its having one of the main tributaries to the Euphrates within its territory. Turkey enjoys a dominant position and seems determined to exploit this by proceeding with its GAP (Greater Anatolian Project) featuring the building of several major dams, which threatens to deprive Syria and Iraq of a large part of 'their' water (Kemp and Harkavy 1997; Elhance 1999). The conflict has thus far mainly been rhetorical, but there have been occasional troop movements and military threats. What will happen when Iraq, at some stage, regains its sovereignty, presumably without any sanctions to prevent it from rebuilding its military strength, remains to be seen, but it would probably be too optimistic to imagine that the underlying problems will simply have dissipated with the change of the regime in Baghdad (Jonejatti 1996; Naff 1995; Scheumann 2003). A related dispute is that between Iraq and Iran over the Shatt al-Arab, a tidal river formed by the confluence of the Euphrates and Tigris and flowing into the Persian Gulf. The perennial conflict over this waterway was a contributory cause of the major war between the two countries from 1980 to 1988 (Kemp and Harkavy 1997; Walker 1995; Schofield 1997a; 1997b).

The relationship between Israel and its neighbours as well as the Palestinians in the occupied territories is also strained by both other conflicts and by water issues (Allan 2003; Morris 1998; Shapland 1995). First of all, Israel's water consumption per capita far exceeds that of its neighbours and thus places a great strain on the total resource pool, as emerges from Table 2. Secondly, most of this 'pool' consists of shared resources, i.e. the Jordan river, aquifers in the Gaza Strip, the West Bank and in southern Lebanon, and the Lake Tiberias (Elhance 1999; Farinelli 1997).

Table 2. Current water availability and use (1997, km^3/yr)

	Israel	Jordan	Lebanon	Syria
Internal renewable surface and groundwater resources	2.2	1.7	5.6	53.7
River flows from other countries	0.5	0.4	0.6	29.9
Total for renewable water resources	2.7	2.1	6.2	81.6
Annual water withdrawals	1.85	0.45	0.75	3.34
Population (1955)	5.63	5.44	3.01	14.66
Water withdrawals p.c. (1997, m^3)	329	82	249	228
Population (2025 projection)	7.81	12.04	4.42	33.51

Source: Farinelli (1997).

- As far as the Jordan river as such is concerned, the main factor which has prevented conflict between the Hashemite kingdom and Israel may have been the Israeli military preponderance, as Jordan is critically dependent on the river and thus vulnerable to Israeli water withdrawals, yet unable to do much about it. [13]
- As far as the Palestinians are concerned, they suffer from an even more pronounced inferiority, not even having a state to safeguard their interests – and the negotiations with Israel have provided no satisfactory results, even though the agreements have also touched upon water issues. The severe water shortages in the Gaza and on the West Bank (except for the Jewish settlements) are an important contributory factor in the overall misery of the Palestinian population,[14] hence may also be among the motives spurring the present *al-Aqsa Intifada*.

[13] Salameh 1996. On the Jordan-Israel peace see Lukacs 1999. The treaty itself is available at www.mfa.gov.il/mfa/go.asp?MFAH00pa0, including the article 6 and Annex II, both devoted to the water issue.
[14] See Roy 1995; Lowi 1993; Robinson 1997. On the negotiations see Rouyer 1997; Corbin 1994; Makovsky 1996; King 1994; Giacama 1998; Lalor 2001; Pundak 2001.

- As far as Syria is concerned, a major motive for Israel's continuing occupation of the Golan Heights since 1967 may well be its wish to retain control of the Lake Tiberias as well as the aquifers in the heights themselves. The unwillingness of Israel to relinquish this control within the framework of a peace settlement with Syria (which would have to entail a return of the Golan to its rightful owner) is undoubtedly a partial explanation of the failure of the negotiations (Shuval 1998; Rabinovich 1998; Inbar 1999).

We have thus seen that water issues feature quite prominently in the several Middle Eastern conflicts. We shall return, in due course, to how joint efforts to mitigate the water problems may, conceivably, be an important element in the hope for a brighter future that might help bring along peace.

Conflict as a Source of Water Problems

Just as water, as the independent variable, may be a cause of conflict (as the dependent variable), the inverse is also true, i.e. that conflict may create or at least exacerbate water problems.

First of all, we have the direct effects of conflict such as the pollution of waters. This happened in an uncanny manner when a number of corpses of the victims from the Rwandan genocide ended up in wells, rivers and streams, thereby polluting them and causing risks of infectious diseases (Jennings 2000; Gourevitch 2000; Prunier 1999). There was also a certain pollution of the Danube river during the conflicts in the former Yugoslavia, both in Bosnia and even more so in the war over Kosovo, in addition to which the river was rendered unusable for transport for a protracted period (Daalder and O'Hanlon 2000; Pfoh 2000). In other instances, dams and dikes have been the targets of aerial bombing and other attacks.

Secondly, there are indirect effects of armed conflicts, both intra-state and international. These include, for instance, the environmental strains (also on water resources) caused by large flows of refugees and IDPs fleeing from war and armed conflict.

Thirdly, we have a number of 'opportunity costs' of armed conflict, i.e. endeavours not undertaken because of armed conflict or the preparations for it.[15] Even though there are some interesting examples of joint water management continuing despite an ongoing open conflict (e.g. Garb and Whiteley 2001), in most cases it does not. Rather the outbreak of violence puts

[15] On the concept see Buchanan, James M.: *Cost and Choice. An Inquiry in Economic Theory*, here cited from the online edition (www.econlib.org/library/Buchanan/buchCv6Contents.html). See also Gilpin 2001; Balaam and Veseth 1996; Gold 1997.

everything 'on hold' – at best. At worst, violence spoils mutual confidence among the parties to a conflict to such an extent that it militates strongly against future collaboration.

The 'shadow of a war', however, not only extends forward into the future but also backwards into the past in the sense that the expectations of a violent conflict (which may never actually occur) may hamper collaboration in the present on otherwise mutually beneficial issues such as joint water management. In the expectation of conflict, parties (be they states, ethnic or other groups, or even individuals) tend to worry about 'relative gains', i.e. about the distribution of the absolute gains accruing from collaboration, as this will affect power relations.[16] Should one side stand to benefit disproportionately from collaboration, its gains may be transformed into military strength or other implements of power. For instance, a jointly operated hydroelectric power plant at a shared river may provide both sides to a potential conflict with electricity, thereby representing significant absolute gains for both. However, if one side receives a larger share of the power, or if it is simply better at exploiting this power for the production of export commodities, its export earnings will not only grow disproportionately, but it will also be able to use the revenue for the purchase of weaponry. However, this link between collaborative projects (e.g. water management) and expectations of conflict may also be turned upside down, as entering into joint ventures and thus creating mutual dependencies may be viewed as 'confidence-building measures' reducing the likelihood of conflict.

BREAKING THE VICIOUS CIRCLES

Having now analysed how water problems and conflicts may be linked, and shown how water issues may cause conflicts as well as how conflict may hamper the solution to water problems, we are left with the question what can be done to break these vicious circles – or, even better, how they might be transformed into 'benign circles' where the resolution of water problems can help prevent violent conflicts and the prevention of conflict help solve water problems.

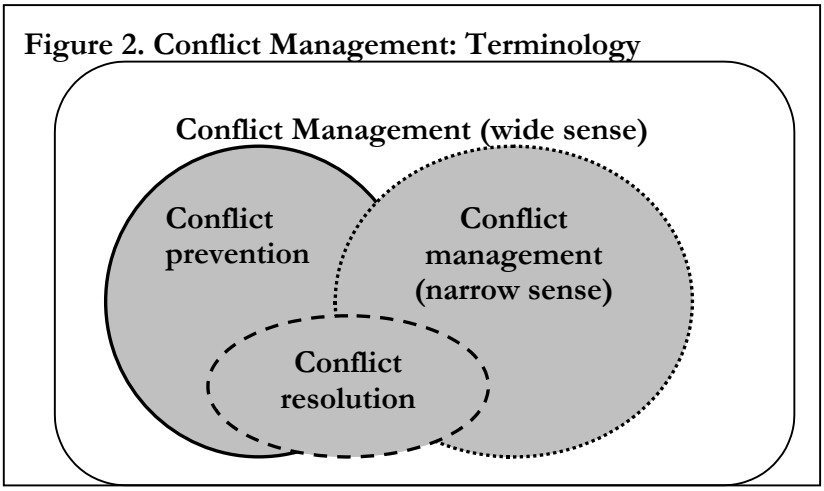
Water Conflict Prevention, Management and Resolution

'Conflict management' is sometimes used as a generic term for what might be done to prevent, mitigate, terminate or resolve a conflict. Alternatively, we may distinguish between conflict prevention, conflict management in a narrower sense and conflict resolution (see Figure 2). This is the terminology which shall be used in the following, while acknowledging that the three overlap to a certain extent (e.g. Kriesberg 1998; Wallensteen 1994; 2002; Lipsey 1997; Miall *et al.*

[16] On the importance of relative and absolute gains for international relations see Snidal 1993; Powell 1993. For a critique of Realism's view on relative gains see Vasquez 1998.

1999; Rupesinghe 1998; Crocker *et al.* 1996; 2001; Reuchler and Paffenholz 2001; Jeong 1999; Sandole and Merwe 1993; Vasquez *et al.* 1995; Lindgren *et al.* 1993).

Figure 2. Conflict Management: Terminology

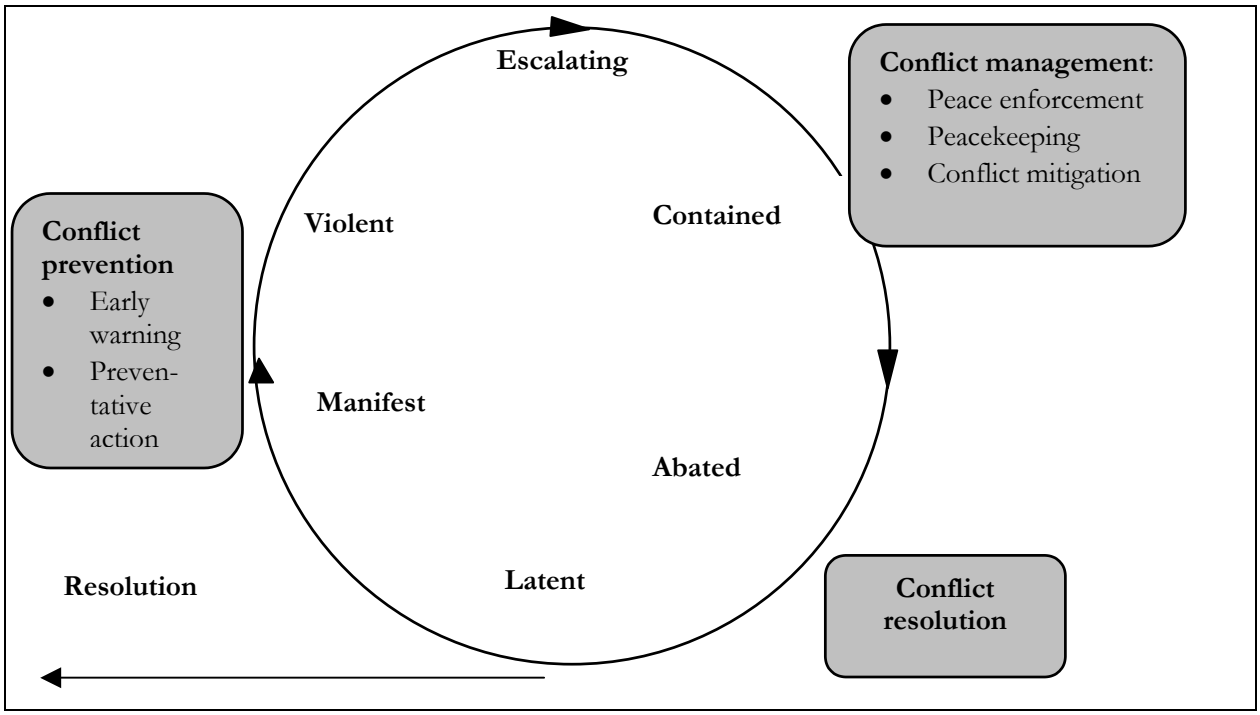


'Conflict prevention' is actually a misnomer, as it is not a matter of preventing conflicts as such, but of preventing them from being fought out violently or in otherwise undesirable ways.

- 'Conflict management' is about dealing with a conflict in progress, either by trying to bring fighting to an end, extending a temporary truce or mitigating the effects of the conflict.
- Conflict resolution, in its turn, is about dealing with the root causes of a conflict, thereby preventing a new round of the same conflict. In a certain sense, conflict resolution is thus the ideal form of conflics prevention.

As illustrated in Figure 3, however, the three main categories may also be ordered temporally as they may impact on different sectors of what might be called the 'conflict cycle'. In the following we shall briefly outline relevant strategies and instruments for dealing with water-related conflicts, either by preventing, managing or resolving them with a main emphasis being placed on prevention.

Figure 3. The Conflict Cycle



Preventing International Water Conflicts

It stands to reason that prevention is better than cure (Brown and Rosecrance 1999a; 1999b), also with regard to water conflicts. Hence the attraction of 'nipping in the bud' an impending conflict, preferably as early as the latent phase, i.e. even before the relevant parties have come to express their grievances, or even prior to their becoming aware of the conflicting interests.

A useful conceptual framework is that of the Carnegie Commission on Preventing Deadly Conflict, which distinguished between structural and operational prevention, i.e. 'strategies to address the root causes of deadly conflict' and 'strategies in the face of crisis', respectively (Carnegie Commission on Preventing Deadly Conflict 1997). It is, furthermore, useful to distinguish between the preventative action as such and the information on which it may be based, i.e. early warning.

As opposed to many other types of conflict, the data from which early warning indicators about impending international water conflicts may be derived, e.g. from a number of government and international agencies as well as NGOs and independent research institutions. Relevant data have to do with demand and supply factors for water, quality indicators and the like – all of which will be valuable for structural conflict prevention, which is to a very large extent tantamount to narrowing the gap between demand and supply, at least at the national level. As far as operational

prevention is concerned, relevant indicators will be actions taken by governments and other actors, e.g. affecting the flow of rivers or the consumption of water; grievances expressed by, *inter alia*, governments or political parties; and reports on disturbances over water issues.

When it comes to *preventive action*, however, complications arise, especially as far as *structural prevention* is concerned, i.e. with regard to solving water problems. Here we encounter some rather profound structural impediments related to politics concerning water.

First of all, water tends to suffer from what has been referred to as 'the tragedy of the commons' (Hardin 1968). As there is usually (and certainly not on the level above that of states) no correspondence between production and consumption of this 'public good' (or at least 'club good')[17] actors have an incentive to consume without inhibition, but to fail with regard to 'production', i.e. to 'free-ride' on the respective others.

The 'invisible hand' of the market usually fails to produce the results predicted by liberalist economists ever since Adam Smith,[18] in the sense of increasing production and reducing prices, if only because water is not produced and often not prices at all or priced in a way that provides only weak incentives for individual consumers to economize on water. Within the national domain, it is of course possible to privatise and price water, thereby presumably expanding supply and reducing demand. Supply can, for instance, be increased by digging deeper wells, by recycling waste water or by desalination of saltwater; and demand may be reduced by making over-consumption prohibitively expensive. However, such a 'commodification' of water often has other unacceptable concequences, including the risk of depriving the poor of an indispensable good – perhaps even violating a human right to water (e.g. Gleick 1999; Gleick *et al.* 2002). Internationally, even though the 'virtual water' concept may provide clues as to how to define economic rationality with regard to water, it is quite something else to enforce this rationality via the market as pricing is usually impossible.[19]

[17] On public goods see Kaul *et al.* 1999; Desai 2003. On 'club goods' see Cornes and Sandler 1996.

[18] 'Every individual ... generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention.' (Smith, Adam: *The Wealth of Nations*, book IV.2, cited from www.adamsmith.org/ smith/won-b4-c2.htm)

[19] See the chapter on 'The Value of Water' in Green Cross International: *National Sovereignty and International* Watercourses (2000, at www.greencrossinternational.net/pdf/ Sovereignty.pdf), pp. 28-30; or World Water Council: *Virtual Water*, at www.worldwatercouncil.org/ virtual_water/index.shtml. UNESCO has also established a virtual

Secondly, there tends to be a 'governance problem' in the sense of a mismatch between problems (many of which are transnational, regional and global) and actors, which are usually states – which is especially true for international river basins, of which there are no less than 214, covering about 47 per cent of the earth's land surface (Wolf *et al.* 1999). Partly as a result of this, water management exhibits several normative and legal lacunae.[20] Thus with regard to freshwater, there are virtually no binding regulations, probably primarily because freshwater usually resides within the sovereign domain of states (Greencross International 1997). There are, however, a number of treaties and conventions, mainly at the bilateral, subregional and regional level, which provide a certain regulation, and the sum of which may represent a global freshwater management regime *in statu nascendi*.[21] The homepage of the International Water Law Project thus lists the following international agreements:[22]

- The Convention and Statute on the Regime of Navigable Waterways of International Concern (1921).
- The Convention Relating to the Development of the Hydraulic Power (1923).
- The Ramsar Convention on Wetlands of International Importance (1971).
- The United Nations Convention to Combat Desertification (1994).

Other relevant pieces of 'almost international law', i.e. conventions which have yet to enter into force, include the ground-breaking Convention on the Law of the Non-navigational Uses of International Water-courses, adopted by the UN General Assembly in 1997.[23] Among the general principles enshrined in it were the following:

> Article 5 (1) Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.

water trade research programme which is described at www.ihe.nl/vmp/articles/ Projects/PRO-Virtual_Water_Trade.html.

[20] For an overview of regulations on protection water from the impacts of war see Brauch 2003.

[21] On regime theory see Krasner 1982; Müller 1993; Rittberger 1995; Hasenclever *et al.* 1997; Stein 1993; Zartman 2003.

[22] At www.internationalwaterlaw.org/.

[23] At http://waternet.rug.ac.be/convention.htm.

> (2) Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner.

In determining what is equitable, states will be obliged to take into account not only ecological imperatives but also 'the social and economic needs of the watercourse States concerned' (art. 6.1.b). Moreover, they are committed to 'take all appropriate measures to prevent the causing of significant harm to other watercourse States.' (art. 7.1). Article 8 entails a general obligation to cooperate:

> (Article 8.1) Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.

Moreover, should conflicts (over water or other issues) nevertheless erupt, the convention also stipulates that

> (Article 29) International watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules.

Alas, however, this convention, adopted by the UN in 1997 (with 103 votes in favour and a mere three against) has still not been ratified by the 35 states required for it to enter into force, but only twelve countries had, by 2002, ratified or consented to be bound by it, probably because this would infringe upon their sovereign rights (UNEP 2002).

Besides this convention there are a number of regional and subregional agreements listed in Table 3.

Table 3. Selected regional and subregional freshwater agreements[24]

Year	On	Between
Africa		
1963	Act regarding navigation and economic co-operation between the States of the Niger Basin	Cameroon, Ivory Coast, Dahomey, Upper Volta, Mali, Niger, Nigeria, Chad
1968	African Convention on the Conservation of Nature and Natural Resources	
1972	Convention creating the Organization for the Development of the Senegal River	
1973	Agreement on creating a Development Fund of the Chad Basin Commission	
1977	Agreement on the Kagera River Basin.	Rwanda, Burundi, Tanzania
1978	Convention on the Creation of a Gambia River Basin Development Organisation	
1980	Convention between on the creation of the Niger Basin Authority (1980)	Niger, Benin, Chad, Guinea, Ivery Coast, Mali, Nigeria, Cameroon , Upper Volta
1987	Agreement on the Action Plan for the Zambezi River System	
1995	The SADC Protocol on Shared Watercourse Systems[25]	SADC members
Asia		
1993	Agreement on the Aral Sea	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan
1995	The Mekong River Basin Agreement[26]	Cambodia, Laos, Thailand, Vietnam
Europe		
1924	Convention on the Definitive Status of the Danube	
1948	Convention on the regime of navigation on the Danube	USSR, Bulgaria, CSSR, Hungary, Romania, Ukraine, Yugoslavia
1958	Convention on fishing in the Danube	USSR, Yugoslavia, Bulgaria, Romania
1964	International commission for the protection of the Oder	
1992	Convention on the Protection and Use of Transboundary Watercourses and International Lakes[27]	ECE
1994	Convention on the Protection and Sustainable Use of the Danube	
1998	Convention on the protection of the Rhine	Germany, France, Luxembourg, the Netherlands, Switzerland, EU
2000	Framework for Community Action in the Field of Water Policy[28]	
North America		
1950	Treaty on diversion of the Niagara River	
1961	Treaty on cooperative development of the Columbia River Basin	
Latin America		
1969	Treaty of the River Plate Basin	Brazil, Argentina, Bolivia Paraguay, Uruguay
1971	Act of Asunción on the Use of International Rivers	Argentina, Bolivia, Brazil, Paraguay and Uruguay
1978	Treaty for Amazonian Cooperation	Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, Venezuela
1979	Agreement on Parana River Projects	Argentina, Brazil, Paraguay

[24] Unless otherwise indicated, these are cited from www.internationalwaterlaw.org. See also UNEP (United Nations Environment Programme): *Atlas of Environmental freshwater Agreements*, (Nairobi: UNEP 2002)

[25] At www.internationalwaterlaw.org/RegionalDocs/SADC1.htm; and …/SADC2.htm., respectively.

[26] At www.mekongforum.org/vadecla.html.

[27] At www.unece.org/env/water/pdf/watercon.pdf.

[28] http://europa.eu.int/comm/environment/water/water-framework/index_en.html

Furthermore, there are a number of bilateral agreements between states sharing a river or lake, some of which are listed in Table 4.

Table 4. Selected bilateral agreements[29]

Year	On	Between
Africa		
1929	Exchange of notes on the use of the waters of the Nile for irrigation	UK, Egypt
1934	Agreement on water rights on the boundary between Tanganyika and Ruanda-Urundi	Belgium, the UK
1949	Agreement on the construction of the Owen Falls Dam in Uganda.	UK, Egypt
1959	Agreement on the Nile waters	Egypt, Sudan
1986	Treaty on the Senqu/Oranger River System	Lesotho, South Africa
1992	Agreement on the establishment of a permanent water commission	Namibia, South Africa
Asia/Middle East		
1946	Protocol on the Tigris and Euphrates and their tributaries	Iraq, Turkey
1948	Agreement on the Canal Water and West Punjac	India, Pakistan
1953	Agreements on the Yarmuk River	Jordan, Syria
1954	Agreement on the Kosi River	India, Nepal
1956	Agreement on the Amur River Basin	USSR, PR China
1959	Agreement on the Gandak Irrigation and Power Project	Nepal, India
1960	Indus Treaty	India, Pakistan
1964	Agreement on the supply of Kuwait with fresh water	Iraq, Kuwait
1972	Agreement on Technical Cooperation on Water Resources, Land Utilization, and Irrigated Agriculture	PR China, Taiwan
1977	Agreement on the Ganges	Bangladesh, India
1990	Agreement on the Euphrates	Syria, Iraq
1994	Treaty of Peace, including regulations on water (art. 6 and Annex II)	Israel, Jordan
1995	Interim Agreement on the West Bank and the Gaza Strip (art. 40 on water)	Israel, Palestinians
2001	Declaration 'Keeping the Water Infrastructure out of the Cycle of Violence'	Israeli-Palestinian Joint Water Committee
Europe		
1956	Treaty on water economy questions in the frontier region	Hungary, Austria
The Americas		
1944	Treaty on use of waters of Colorado and Tijuana Rivers & Rio Grande[30]	USA, Mexico
1973	Treaty on the hydroelectric use of the Paraná River	Brazil, Paraguay

All of these agreements might be viewed as attempts of structural conflict prevention. If abided by, most of them would indeed provide valuable hedges against conflicts over water, mainly by preventing water problems from arising in the first place, or at least avoiding their reaching serious proportions. Most of them define compromise formulae for the sharing of scarce water resources. By setting standards, they may also (as other regimes) ensure converging expectation of proper behaviour related to water, thereby enhancing transparency, predictability and stability.

[29] Unless otherwise indicated, these are cited from www.internationalwaterlaw.org/. See also UNEP 2002).

[30] www.usbr.gov/lc/region/pao/pdfiles/mextrety.pdf.

Many of the agreements also contain provisions for the resolution of disputes which might count as operational conflict prevention measures. Fora may thus be provided for the expression of grievances and complaints, usually about the respective other side's alleged non-compliance; and mechanisms may be available for fact-finding and sometimes even adjudication in disputes. However, none of the existing water management arrangements seem to provide any means of enforcement in the face of defiance by members. Hence they may well rely on local or regional hegemons for enforcement.[31]

Managing and resolving water conflicts

Conflict resolution, sometimes in the form of 'post-conflict peace-building',[32] is about preventing a dormant conflict from re-erupting – even though it is, needless to say, much preferable to skip the violent phase and proceed straight from prevention to peace-building. A number of strategies and instruments are available for this stage, including the following:

- Power-sharing is usually a fruitful strategy (Lapidoth 1996; Lijphart 1977; McRae 1974; Sisk 1996). In intra-state water conflicts this might be manifested in equitable representation by the competing groupings in whatever organisational manifestation water management may assume. In the case of international conflicts over shared river basins, this will be a matter of ensuring that the water management arrangement includes all stake-holders with an equitable share of influence. This formula, of course, begs the question what equitability means, and arguments could certainly be made for different models (e.g. votes according to total population or to water needs).
- Institutionalisation is usually helpful, if only because it may lend strength to whatever water management regime may be negotiated. Creating a regional institutional capacity for water management, be that by indigenous efforts alone or with foreign assistance, may even pave the way for institutionalisation in other fields, as envisioned by (neo)functionalists – perhaps even for actual integration, in due course.[33] The collaboration around the Mekong River Basin may be a case in point.

[31] On hegemony see Kindleberger 1981; Gilpin 1981; 1987; Balaam and Veseth 1996; Russett 1985; Strange 1987.

[32] This was the terminology used in Boutros-Ghali, Boutros: *An Agenda for Peace. Preventive Diplomacy, Peacemaking and Peace-keeping*. Report of the Secretary-General pursuant to the statement adopted by the Summit Meeting of the Security Council on 31 January 1992' (S/24111), at www.un.org/Docs/SG/agpeace.html Minor amendments of the terminology can be found in idem: *Supplement to An Agenda For Peace*. Position Paper of the Secretary-General on the Occasion of the Fiftieth Anniversary of the United Nations' (A/50/60--S/1995/1, 3 January 1995), at www.un.org/Docs/SG/agsupp.html

[33] On integration see Haas 1966; Nye 1971; Russett 1967; Hodges 1972.

- 'Upping the ante' may well be possible, implying that the formerly conflicting parties cease struggling over their respective shares of the 'cake' in favour of efforts to enlarge it. If only the 'absolute gains' are substantial enough, concerns about 'relative gains' (*vide supra*) may recede into the background. Such absolute gains in the water domain may, for instance, consist in joint water purification or desalination schemes – and third parties may well enlarge the 'cake' further, e.g. by granting development aid for such joint projects, which may help transforming the dispute from a zero-sum into an 'expanding sum conflict' In relation to developing countries, donors may have an important role here.

As the above analysis has, hopefully, shown, conflicts over water, just as any other conflicts, can be both prevented and resolved. However, this is very often a complex venture, as will be illustrated in the concluding section, which revisits the Middle East and Persian Gulf regions, yet now from the analytical angle of possible solutions to the problems described above.

Example: Resolving the conflicts in the Middle East and Persian Gulf

While the conflict(s) over the Jordan river basin may, at first glance, appear to have evolved beyond the stage where conflict prevention is possible, that over the Euphrates and Tigris basin still seems latent and therefore possible to prevent.

A closer analysis of the former, however, may allow for certain optimism. The conflict primarily involves Israel, Jordan, Syria, and the Palestinians, Lebanon being rather a passive party to it. At the heart of the problems is Israel's 'over-consumption' of water combined with its generally tenuous position. Hence it is unlikely to relinquish control over (all of) the Golan or over access to the Jordan and the mountain aquifers unless it can achieve water security in other ways. Ways thus have to be devised to provide Israel with waters from other sources, preferably not taken from anybody else. Joint desalination plants might be one such option, but Israel might also enter into collaboration with the other regional parties (mainly the Palestinians and Jordan) over water purification and saving schemes that would allow all of them a more cost-effective use of the water supplies. Combined with sharing formulas that are not too inequitable this just might improve the situation for all parties, albeit not to the same extent (Shuval 1996; Arloseroff 1996; Abu-Taleb 1994; Dombrowsky 2003; Ratsch 1997; Bowker 1996).

A major problem with such joint ventures is, however, the lack of basic trust among the parties, especially between Israel and the Palestinians. However, if we envision (as anyhow seems most realistic) a solution to the water problems as merely one component of a more comprehensive settlement, a possible solution to this problem becomes obvious. If the comprehensive peace

anyhow presupposes an international military presence as a safeguard against non-compliance by either side (as has been suggested by many analysts)[34] it would seem a small step to also have an international civilian presence within – or perhaps even as the apex of and with supreme authority over – the joint water management institutions.

As far as the Israeli-Syrian conflict over the Golan is concerned, to allow (as suggested by several observers) a narrow strip along the Lake Tiberias to remain under Israeli control would seem an obvious solution. However, this seems to presuppose that Syria's water problems can be solved without access to the lake – at least in the short-to-medium term, whereas in the long-term joint ventures might also be conceivable. Israel's de facto ally Turkey is here in a key position, as it may 'grant' Syria larger shares of the Euphrates which it controls, thereby reducing Syria's dependency on the Jordan basin's aquatic resources. Not only Israel might be able to persuade Turkey to do so, but the European Union may also possess a lever in this respect as it could make such Turkish concessions a *conditio sine qua non* of EU membership.

The conflict over the Euphrates and Tigris is quite complex, if only because it involves three rather substantial powers, i.e. Turkey, Iraq and Syria – and because of its overlap (through Syria) with the above conflict over the Jordan river basin. Because of Turkey's membership of NATO and wish to join the EU, as well as because of the occupation of Iraq, external actors such as the United States and the EU may enjoy unique opportunities for influencing the situation – as they might do by brokering a water management agreement between all three states ensuring them reliable supplies of waters. However, the uncertainties surrounding Iraq's future status would make any predictions highly premature.

CONCLUSION

We have thus seen that water, due not least to its central role in all human activities, has important implications for security at all levels of analysis and that water issues may also be a cause of such conflicts. Fortunately, however, there are ways and means of both prevention and eventually resolving such conflicts.

[34] See, e.g. International Crisis Group (ICG 2003; II: 'How a Comprehensive Israeli Peace Settlement Would Look', *ibid.*., no. 3; and III: 'Israel, Syria and Lebanon – How Comprehensive Peace Settlements Would Look', *ibid.*, no. 4.

REFERENCES

Abu-Taleb, Mahev F. (1994). 'Regional Cooperation in Water Resource Management', in Elise Boulding (ed.): *Building Peace in the Middle East: Challenges for States and Civil Society,* Boulder, CO: Lynne Rienner, pp. 49-62.

Agha, Hussein and Ahmed Khalidi (1995). *Syria and Iran. Rivalry and Cooperation,* London: Royal Institute of International Affairs.

Allan, John Anthony (2003). 'Water Security in the Mediterranian and the Middle East', in Hans Günter Brauch, Peter H. Liotta, Antonio Marquina, Paul Rogers and Mohammed Selim (eds): *Security and Environment in the Mediterranean. Conceptualising Security and Environmental Conflicts,* Berlin: Springer Verlag, pp. 705-717 (especially pp. 715-717).

Arloseroff, Shaul (1996). 'Managing Scarce Water: Recent Israeli Experience', in Efraim Karsh (ed.): *Between War and Peace: Dilemmas of Israeli Security*, London: Frank Cass, pp. 239-250.

Austin, Greg and Alexey D. Muraviev (2000). *The Armed Forces of Russia in Asia*. London: I.B. Tauris, pp. 100-101.

Awad, Ibrahim (1994). 'The Future of Regional and Subregional Organization in the Arab World', in Dan Tschirgi (ed.): *The Arab World Today,* Boulder, CO: Lynne Rienner. pp. 147-160.

Bahgat, Gawdat (2000). 'Iranian-Saudi Rapprochement: Prospects and Implications', *World Affairs*, vol. 162, no. 3, Winter, pp. 108-115.

Balaam, David and Michael Veseth (1996). *Introduction to International Political Economy, Englewood Cliffs*, NJ: Prentice Hall, pp. 177-178.

Balaam, David and Michael Veseth (1996). Introduction to International Political Economy. Englewood Cliffs, NJ: Prentice Hall, pp. 106-107.

Berdal, Mats and David Malone (eds.) (2002). *Greed and Grievance. Economic Agendas in Civil Wars*, Boulder, CO: Lynne Rienner.

Bowker, Robert (1996). *Beyond Peace: The Search for Security in the Middle East*, Boulder, CO: Lynne Rienner, pp. 133-151.

Brauch, Hans Günter (2003). 'War Impacts on the Environment in the Mediterranian and Evolution of International Law' in Hans Günter Brauch, Peter H. Liotta, Antonio Marquina, Paul Rogers and Mohammed Selim (eds): *Security and Environment in the Mediterranean. Conceptualising Security and Environmental Conflicts*, Berlin: Springer Verlag, pp. 489-512.

Brown, Michael E. (ed.) (1996). *The International Dimensions of Internal Conflict,* Cambridge, MA: MIT Press.

Brown, Michael E. and Richard N. Rosecrance (1999a). 'Comparing Costs of Prevention and Costs of Conflict: Toward a New Methodology', in Brown, Michael E. and Richard N. Rosecrance (eds.): *The Costs of Conflict. Prevention and Cure in the Global Arena,* Lanham, ML: Rowman and Littlefield, pp. 1-22.

Brown, Michael E. and Richard N. Rosecrance (1999b). 'The Case for Conflict Prevention', in

Brown, Michael E. and Richard N. Rosecrance (eds.): *The Costs of Conflict. Prevention and Cure in the Global Arena*, Lanham, ML: Rowman and Littlefield, pp. 221-232.

Carment, David and Patrick James (eds.) (1997). *Wars in the Midst of Peace. The International Politics of Ethnic Conflict*, Pittsburg, PA: University of Pittsburg Press.

Carnegie Commission on Preventing Deadly Conflict (1997). *Preventing Deadly Conflict. Final Report*, New York: Carnegie Corporation, pp. 39-102.

Chubin, Shahram and Charles Tripp (1996). 'Iran-Saudi Arabia Relations and Regional Order', *Adelphi Papers*, no. 304.

Corbin, Jane (1994). *The Norway Channel. The Secret Talks that Led to the Middle East Peace Accord* , New York: Atlantic Monthly Press.

Cornes, Richard and Todd Sandler (1996). *The Theory of Externalities, Public Goods, and Club Goods*. 2nd ed., Cambridge: Cambridge University Press.

Crocker, Chester A., Fen Osler Hampton and Pamela Aall (eds.) (1996). *Managing Global Chaos. Sources of and Responses to International Conflict*, Washington, DC: United States Institute of Peace Press.

Crocker, Chester A., Fen Osler Hampton and Pamela Aall (eds.) (2001). *Turbulent Peace. The Challenges of Managing International Conflict*, Washington, DC: United States Institute of Peace Press.

Daalder, Ivo H. and Michael E. O'Hanlon (2000). *Winning Ugly. NATO's War to Save Kosovo,* Washington, DC: Brookings Institution Press, p. 200.

Desai, Maghnad (2003). 'Public Goods: A Historical Perspective', in Inge Kaul, Pedro Conceicao, Katell le Goulven and Ronald U. Mendoza (eds.): *Providing Public Goods. Managing Globalization*, Oxford: Oxford University Press, pp. 63-77.

Dombrowsky, Ines (2003). 'Water Accords in the Middle East Peace Process', in Hans Günter Brauch, Peter H. Liotta, Antonio Marquina, Paul Rogers and Mohammed Selim (eds): *Security and Environment in the Mediterranean. Conceptualising Security and Environmental Conflicts,* Berlin: Springer Verlag, pp. 729-744.

Duffy, Rosaleen (2000). *Killing for Conservation. Wildlife Policy in Zimbabwe,* Oxford: James Currey.

ECA (Economic Commission on Africa), Food Security and Sustainable Development Division (2001). *The State of Demographic Transition in Africa*, Addis Ababa: ECA.

Ehteshami, Anoushiravan and Raymond A. Hinnebusch (1997). *Syria and Iran. Middle Powers in a Penetrated Regional System*, London: Routledge.

Elhance, Arun P. (1999). *Hydropolitics in the 3rd World. Conflict and Cooperation in International River Basins*. Washington, DC: United States Institute of Peace Press, pp. 74-79.

Faour, Muhammad (1993). *The Arab World after Desert Storm,* Washington, DC: United States Institute for Peace, pp. 55-97.

Farinelli, Xavier Henri (1997). 'Freshwater Conflicts in the Jordan River Basin', Annex 4 to Green Cross International: *International Freshwater Conflict: Issues and Prevention Strategies* (1997), at

www.greencrossinternational.net/GreenCrossPrograms/waterres/gcwater/jordan.html.

Flintan, Fiona and Imeru Tamrat (2002). 'Spilling Blood over Water? The Case of Ethiopia', in Jeremy Lind and Kathryn Sturman (eds.): *Scarcity and Surfeit. The Ecology of African Conflicts,* Pretoria: Institute for Security Studies, pp. 242-319.

Garb, Paula and John M. Whiteley (2001). 'A Hydroelectric Power Complex on Both Sides of a War: Potential Weapon or Peace Incentive', in Joachim Blatter and Helen Ingram (eds.): *Reflections on Water. New Transboundary Conflicts and Cooperation,* Cambridge, MA: MIT Press, pp. 213-237.

Giacama, George and Dar Jørund Lønning (eds.) (1998). *After Oslo. New Realities, Old Problems*, London: Pluto Press.

Gilpin, Robert (1987a). *War and Change in World Politics*, Cambridge: Cambridge University Press, passim.

Gilpin, Robert (1987b). *The Political Economy of International Relations*, Princeton, NJ: Princeton University Press, pp. 72-92.

Gilpin, Robert (2001). *Global Political Economy. Understanding the International Economic Order*, Princeton, NJ: Princeton University Press, pp. 48-49.

Giordano, Meredith A. and Wolf, Aaron T. (2003). 'Sharing Waters: Post-Rio International Water Management', *Natural Resources Forum,* no. 27 (2003) www.transboundarywaters.orst.edu/publications/narf_051_ Giordano.pdf), pp. 163-171.

Gleick, Peter H. (1999). 'The Human Right to Water', *Water Policy*, vol. 1, no. 5, available at www.pacinst.org/human_right_to_water.pdf

Gleick, Peter H., Gary Wolff, Elilzabeth L. Chaecki and Rachel Reyes (2002). *The New Economy of Water. The Risks and Benefits of Globalization and Prizing of Water,* Oakland, CA: Pacific Institute for Studies in Development, Environment, and Security.

Global Witness (2002). 'The Logs of War. The Timber Trade and Armed Conflict', *Fafo-Report*, no. 379 at www.globalwitness.org/reports/download.php/00044.

Gold, David (1997). 'Opportunity Costs of Military Expenditures: Evidence from the United States', in Jurgen Brauer and William G. Gisse (eds.): *Economics of Conflict and Peace*, Aldershot: Avebury, pp. 109-124.

Goldsmith, Paul, Lydia A. Abura and Jason Switzer (2002). 'Oil and Water in the Sudan', in Lind and Sturman (eds.): *Scarcity and Surfeit. The Ecology of African Conflicts*, Pretoria: Institute for Security Studies, pp. 186-241 (especially pp. 204-205).

Gourevitch, Philip (2000). *We Wish to Inform You that Tomorrow We Will Be Killed with Our Families. Stories from Rwanda,* London: Picador.

Graz, Liesl (1990). 'The GCC as Model? Sets and Subsets in the Arab Equation', in Charles Davies (ed.): *After the War: Iran, Iraq and the Arab Gulf,* Chichester: Carden Publications, pp. 2-24.

Haas, Ernst B. (1966). *International Political Communities*, New York: Anchor Books.

Hardin, Garrett (1968). 'The Tragedy of the Commons', *Science*, no. 162, pp. 1243-1248.

Hasenclever, Andreas, Peter Mayer and Volker Rittberger (1997). *Theories of International Regimes*, Cambridge: Cambridge University Press.

Hauge Wenche and Tanja Ellingsen (2001). 'Causal Pathways to Conflict', in Paul F. Diehl and Nils Petter Gleditsch (eds.): *Environmental Conflict,* Boulder, CO: Westview, pp. 36-57.

Hodges, Michael (ed.) (1972). *European Integration. Selected Readings*, Harmondsworth: Penguin Books.

Holloway, David (1983). *The Soviet Union and the Arms Race*. 2nd ed., New Haven, NJ: Yale University Press, pp. 86-87.

Homer-Dixon, Thomas F. (1994). 'Environmental Scarcities and Violent Conflict. Evidence from Cases', *International Security*, vol. 19, no. 1 (Summer), pp. 5-40

Homer-Dixon, Thomas F. (1998). 'Environmental Scarcity and Intergroup Conflict', in Michael T. Klare and Yogesh Chandrani (eds.): *World Security. Challenges for a New Century*. 3rd ed., New York: St. Martin's Press, pp. 342-365.

Homer-Dixon, Thomas F. (1999). *Environment, Scarcity, and Violence*, Princeton, NJ: Princeton University Press.

Inbar, Efraim (1999). *Rabin and Israel's National Security,* Baltimore, ML: John Hopkins University Press, pp. 143-149.

Jean, François and Jean-Christophe Rufin (eds.) (1996). *Économie des guerres civiles*, Paris: Hachette.

Jennings, Christian (2000). *Across the Red River. Rwanda, Burundi and the Heart of Darkness,* London: Phoenix.

Jentleson, Bruce W. and Dalia Dassa Kaye (1998). 'Security Status: Explaining Regional Security Cooperation and Its Limits in the Middle East', *Security Studies*, vol. 8, no. 1 (Autumn), pp. 204-238.

Jeong, Ho-Won (ed.) (1999). *Conflict Resolution: Dynamics, Process and Structure*, Aldershot: Ashgate.

Johnson, Douglas H. (2003). *The Root Causes of Sudan's Civil War*, Oxford: James Currey, pp. 47-49.

Jonejatti, Muffat (1996). 'Water Politics as High Politics: The Case of Turkey and Syria', in Henri J. Barkey (ed.).: *Reluctant Neighbour. Turkey's Role in the Middle East,* Washington, DC: United States Institute of Peace Press, pp. 131-146.

Kaul, Inge, Isabelle Grunberg and Marc A. Stein (1999). 'Defining Global Public Goods', in Kaul, Inge, Isabelle Grunberg and Marc A. Stein (eds.): *Global Public Goods. International Cooperation in the 21st Century*, Oxford: Oxford University Press, pp. 2-19.

Kemp, Geoffrey and Robert E. Harkavy (199/). *Strategic Geography and the Changing Middle East,* Washington, DC: Brooking Institution Press, pp. 101-108.

Kindleberger, Charles P. (1981). 'Dominance and Leadership in the International Economy. Exploitation, Public Goods, and Free Rides', *International Studies Quarterly*, vol. 25, no. 2, June,

pp. 242-254.

King, John (1994). *Handshake in Washington. The Beginning of Middle East Peace* , Reading: Garnet Publishing.

Klare, Michael (2001). *Resource Wars. The New Landscape of Global Conflict*. 2nd ed. New York: Henry Holt & Co.

Krasner, Stephen D. (ed.) (1982). *International Regimes*, Ithaca, NY: Cornell University Press.

Kriesberg, Louis (1998). *Constructive Conflicts. From Escalation to Resolution*, Lanham, ML: Rowman & Littlefield, pp. 7-11.

Lake, David A. and Donald Rothchild (eds.) (1998). *The International Spread of Ethnic Conflict. Fear, Diffusion and Escalation,* Princeton, NJ: Princeton University Press.

Lalor, Paul (2001). 'Annex 2C: The Palestinian-Israeli Peace Process in 2002', *SIPRI Yearbook 2001*, pp. 162-173.

Lapidoth, Ruth (1996). *Autonomy. Flexible Solutions to Intrastate Conflicts*, Washington, D.C.: United States Institute of Peace Press.

Lijphart, Arend (1977). *Democracy in Plural Societies,* New Haven: Yale University Press.

Lind, Jeremy and Kathryn Sturman (eds.) (2002). *Scarcity and Surfeit. The Ecology of African Conflicts,* Pretoria: Institute for Security Studies, *passim*.

Lindgren, Göran, Kjell-Åke Nordquist and Peter Wallensteen (eds.) (1993). *Experiences from Conflict Resolution in the Third World,* Uppsala: Department of Peace and Conflict Research..

Lipsey, Roderick K. von (ed.) (1997). *Breaking the Cycle. A Framework for Conflict Intervention*, New York: St. Martin's Press

Lukacs, Yehuda (1999). Israel, Jordan and the Peace Process, 2nd ed., Syracuse: Syracuse University Press.

Makovsky, David (1996). *Making Peace with the PLO. The Rabin Government's Road to the Oslo Accords,* Boulder, CO: Westview Press.

Malthus, Thomas Robert (1989). *An Essay on the Principle of Population or a View of its Past and Present Effects on Human Happiness with an Inquiry into Our Prospects Respecting the Future Removal or Mitigation of the Evils which it Occasions*, Cambridge: Cambridge University, vols. 1-2.

McRae, K. (ed.) (1974). *Consociational Democracy: Political Accommodation in Segmented Societies*, Toronto: McLelland and Stewart.

Miall, Hugh, Oliver Ramsbotham and Tom Woodhouse (1999). *Contemporary Conflict Resolution: The Prevention, Management and Transformation of Deadly Conflict*, Cambridge: Polity Press.

Midlarsky, Manus I. (ed.) (1992). *The Internationalization of Communal Strife,* London: Routledge.

Morris, Mary E. (1998). 'Water Scarcity and Security Concerns in the Middle East', *The Emirates Occasional Papers*, no. 14, Abu Dhabi: The Emirates Center for Strategic Studies and Research.

Müller, Harald (1993). *Die Chance der Kooperation. Regime in den internationalen Beziehungen*, Darmstadt: Wissenschaftliche Buchgesellschaft.

Naff, Thomas (1995). 'Sources of Potential Conflict in the Persian Gulf: The Water Factor', in

Geoffrey Kemp and Janice Gross Stein (eds.): *Powder Keg in the Middle East. The Struggle for Gulf Security,* Lanham, ML: Rowman and Littlefield, pp. 295-318.

Nathan, Andrew J. and Robert S. Ross (1997). *The Great Wall and the Empty Fortress. China's Search for Security*, New York: W..W. Norton, p. 44.

Nonneman, Gerd (1990). 'Iraq-GCC Relations: Roots of Change and Future Prospects', in Charles Davies (ed.): *After the War: Iran, Iraq and the Arab Gulf,* Chichester: Carden Publications, pp. 25-76.

Nye, Joseph S. (1971). *Peace in Parts: Integration and Conflict in Regional Organization*, Boston: Little, Brown & Co.

Palm, Anne (ed.) (1999). *Cooperation or Conflict: Ways of Managing Scarce Natural Resources in Africa.* Helsinki: KATU, Citizens' Security Council, pp. 86-125.

Perthes, Volker (1993). 'Innerarabische Ordnungsansätze', in Albrecht Zunker (ed.): *Weltordnung oder Chaos? Beiträge zur internationalen Politik,* Baden-Baden: Nomos Verlagsgesellschaft, pp. 347-360.

Pfoh, Bernhard (2000). 'Eine Bilanz des Luftkriegs der NATO gegen Jugoslawien', in Joachim Krause (ed.): *Kosovo. Humanitäre Intervention und kooperative Sicherheit in Europa,* Opladen: Leske.

Picard, Elizabeth (1993). 'Relations between Iraq and its Turkish Neighbour: from Ideological to Geostrategic Constraints', in Derek Hopwood, Habib Ishow and Thomas Koszinowski (eds.): *Iraq. Power and Society*, Reading: Ithaca Press, pp. 341-356.

Postel, Sandra L. and Wolf, Aaron T. (2001). 'Dehydrating Conflict', *Foreign Policy*, September/October, pp. 60-67.

Powell, Robert (1993). 'Absolute and Relative Gains in International Relations Theory', in David A. Baldwin (ed.): *Neorealism and Neoliberalism. The Contemporary Debate*, New York: Columbia University Press, pp. 209-233.

Priess, David (1996). 'Balance-of-Threat Theory and the Genesis of the Gulf Cooperation Council: An Interpretative Case Study', *Security Studies*, vol. 5, no. 4 (Summer), pp. 143-171.

Prunier, Gérard (1999). *The Rwanda Crisis. History of a Genocide.* 2nd ed., Kampala: Fountain Publishers.

Pundak, Ron (2001). 'From Oslo to Taba: What Went Wrong?', *Survival*, vol. 43, no. 3, Autumn, pp. 31-45.

Rabinovich, Itamar (1998). *The Brink of Peace. The Israeli-Syrian Negotiations,* Princeton, NJ: Princeton University Press, p. 19-20., 141.

Ratsch, Ulrich (1997). 'Wasserregime im Jordan-Bechen', in Margaret Johannsen and Claudia Schmid (eds.): *Wege aus dem Labyrinth? Friedenssuche im Nahost,* Baden-Baden: Nomos Verlagsgesellschaft, pp. 241-254.

Reuchler, Luc and Thania Paffenholz (eds.) (2001). *Peacebuilding. A Field Guide*, Boulder, CO: Lynne Rienner.

Richardson, Lewis Fry (1960). *Statistics of Deadly Quarrels*. Pittsburg: Boxwood Press.

Rittberger, Volker (ed.) (1995). *Regime Theory and International Relations*, Oxford: Clarendon Paperbacks, 1995.

Roderick K. von (ed.) (1997). *Breaking the Cycle. A Framework for Conflict Intervention*, New York: St. Martin's Press.

Roe, Paul (1999). 'The Intrastate Security Dilemma: Ethnic Conflict as Tragedy', *Journal of Peace Research*, vol. 36, no. 2 (March), pp. 183-202.

Rupesinghe, Kumar (1996). *Civil Wars, Civil Peace. An Introduction to Conflict Resolution*, London: Pluto Press.

Russett, Bruce (1967). *International Regions and the International System*, Chicago: Rand McNally.

Russett, Bruce (1985). 'The Mysterious Case of Vanishing Hegemony; or, Is Mark Twain Really Dead?', *International Organization*, vol. 39, no. 2, Spring, p. 207-231.

Salameh. Elilas (1996). *Water Quality Degradation in Jordan. Impacts on Environment, Economy and Future Generations Ressource Base*, Bonn: Friedrich Ebert Stiftung..

Sandole and Hugo van der Merwe (eds.) (1993). *Conflict Resolution Theory and Practice. Integration and Application,* Manchester: Manchester University Press.

Scheumann, Waltina (2003). 'The Euphrates Issue in Turkish-Syrian Relations', in Hans Günter Brauch, Peter H. Liotta, Antonio Marquina, Paul Rogers and Mohammed Selim (eds): *Security and Environment in the Mediterranean. Conceptualising Security and Environmental Conflicts,* Berlin: Springer Verlag, pp. 745-760.

Schofield, Richard (1997a). 'Boundaries, Territorial Disputes and the GCC States', in David E Long and Christian Kock (eds.): *Gulf Security in the Twenty-First Century*, Abu Dhabi: Emirates Center for Strategic Studies and Research, pp. 133-168.

Schofield, Richard (1997b) 'Border Disputes in the Gulf: Past,. Present, and Future', in Gary G. Sick & Lawrence G. Potter (eds.): *The Persian Gulf at the Millennium. Essays in Politics, Economy, Security and Religion*, New York: St. Martin's Press, pp. 137-165 (especially pp. 136-141).

Shapland, Greg (1995). 'Water and Politics in the Middle East', in M. Jane Davis (ed.): *Politics and International Relations in the Middle East. Continuity and Change*, Aldershot: Edward Elgar, pp. 73-89.

Shuval, Hillel I. (1996). 'Towards Resolving Conflicts over Water: The Case of the Mountain Aquifer', in Efraim Karsh (ed.): *Between War and Peace: Dilemmas of Israeli Security*, London: Frank Cass, pp. 215-238.

Shuval, Hillel I. (1998). 'Water and Security in the Middle East: The Israel-Syrian Water Confrontation as a Case Study', in Leonore G. Martin (ed.): *New Frontiers in Middle East Security,* London: Macmillan, pp. 183-216.

Sisk, Timothy D. (1996). *Power Sharing and International Mediation in Ethnic Conflicts,* Washington, D.C.: United States Institute of Peace

Snidal, Duncan (1993). 'Relative Gains and the Pattern of International Cooperation', in David A. Baldwin (ed.): *Neorealism and Neoliberalism. The Contemporary Debate*, New York: Columbia

University Press, pp. 170-208.

Steele, Jonathan (1984). *The Limits of Soviet Power. The Kremlin's Foreign Policy – Brezhnev to Chernenko.* 2nd ed., Harmondsworth: Penguin, pp. 131-148.

Stein, Arthur (1883). 'Coordination and Colalboration: Regimes in an Anarchic World', in David A. Baldwin (ed.): *Neorealism and Neoliberalism. The Contemporary Debate*, New York: Columbia University Press, pp. 29-59.

Strange, Susan (1987). 'The Persistent Myth of Lost Hegemony', *International Organization*, vol. 41, no. 4, Autumn, pp. 551-57.

Tow, William T. (1990). *Subregional Security Cooperation in the Third World* , Boulder, CO: Lynne Rienner, pp. 45-56.

UNEP (United Nations Environment Programme) (2002). *Atlas of International Freshwater Agreements*, Nairobi: UNEP, p. 6.

UNHCR: (2002). *Statistical Yearbook 2001 Refugees, Asylum-seekers and other Persons of Concern. Trends in Displacement, Protection and Solutions*, Geneva: UNHCR, pp. 82-94

Vasquez, John (1998). *The Power of Power Politics. From Classical Realism to Neotraditionalism*, Cambridge: Cambridge University Press, pp. 307-310.

Vasquez, John, James Turner Johnson, Sanford Jaffe and Linda Stamato (eds.) (1995). *Beyond Confrontation. Learning Conflict Resolution in the Post-Cold War Era,* Ann Arbor, MI: University of Michigan Press.

Walker, Julian (1995). 'Boundaries in the Middle East', in M. Jane Davis (ed.): *Politics and International Relations in the Middle East. Continuity and Change*, Aldershot: Edward Elgar, pp. 61-72;.

Wallensteen Peter (2002). *Understanding Conflict Resolution. War, Peace and the Global System*, London: Sage; Lipsey.

Wallensteen, Peter (1994). *Från krig till fred. Om konfliktlösning i det globala systemet*, Stockholm: Almquist & Wicksell.

Waxmann, Dov (1999). 'Turkey and Israel: A New Balance of Power in the Middle East?', *The Washington Quarterly*, vol. 22, no. 1 (Winter), pp. 25-32.

Wolf, Aaron T., Jeffrey A. Natharius, Jeffrey J. Danielson, Brian S. Ward and Jan K. Pender (1999). 'International River Basins of the World', *International Journal of Water Resources Development,* vol. 15, no. 4, pp. 387-427.

Wolf, Aaron T., Shira B. Yoffe and Mark Giordano (2003). 'International Waters: Identifying Basins at Risk', *Water Policy*, vol. 5, no. 1, pp. 29-60 (quote from p. 30).

Zartman, I. William (2003). 'Negotiating the Rapids: The Dynamics of Regime Formattion', in Bertram I. Spector and I. William Zartman (eds.): *Getting It Done. Post-Regime Negotiation and International Regimes*, Washington, DC: United States Institute of Peace Press, pp. 13-50.

3. Transboundary Water Management in the Mekong: River of Controversy or River of Promise?

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ABSTRACT

The Mekong is often referred to as a 'best practise' case in transboundary river basin management and remarkably few transboundary conflicts over water have occurred between the riparian countries in this otherwise conflictive region. When transboundary water conflicts have occurred in the Mekong, they have had the form of political tensions rather than violent conflicts. When conflicts have escalated, they have not been played out between nation states but rather between the state and civil society.

The regional river basin management institution, the Mekong River Commission (MRC), has played a major role in preventing regional conflicts over water both in terms of long-term planning and, though to a lesser extent, in terms of contributing to conflict resolution in water-related conflicts. In this respect, important lessons can be learned from the Mekong River Basin. The Mekong is, however, a less successful example as to how to involve local stakeholders in decision-making processes related to water development projects. In fact, the conflicts that have escalated in the Mekong have related to poor people experiencing the negative impacts from water development projects threatening their livelihoods. In order to prevent this type of conflict in the future there is a need to find ways in which to involve civil society in the development process.

INTRODUCTION

The Mekong River – the mother of waters – is the largest river in Southeast Asia. On its way from the Tibetan Plateau to the South China Sea, the Mekong ties together the six riparian countries of the region (China, Myanmar, Laos, Thailand, Cambodia and Vietnam) in a complex and tightly woven web of interdependencies. People depend on the river for their living in a number of ways; for fishing, irrigation, navigation, transportation, electricity, and for bathing – just to mention the most visible services the Mekong must deliver to the more than 50 million

people living in the Basin.

A remarkable characteristic about the Mekong is the extent to which the river is 'international' in nature; not only is it a boundary river for over 1,000 km, but it also constitutes nearly all the water resources for Laos and Cambodia, as well as for the Northeastern part of Thailand and irrigates the extensive Vietnamese rice production in the Mekong Delta. Indeed there are incentives for states to cooperate on river basin management in order to maintain the ecological balance of the river, to secure a minimum of water flow in the dry season, and to prevent severe consequences from flash floodings during the wet season. Even so the Mekong is often referred to as a *virgin river* – in the sense that the productive potential of the river has remained undeveloped up until present day.

The Mekong has seen remarkably few conflicts over water, and when occurring, these have had the form of political tensions rather than involving violent confrontation between riparian countries. It is likely that the early foundation of the Mekong Committee has played an important role in facilitating cooperation rather than violent conflict in river basin politics and experts often refer to a special *Mekong Spirit* of cooperation when writing the history of regional hydropolitics. Indeed there are a number of lessons to learn from transboundary water management in the Mekong River Basin, and the 1995 Mekong Agreement has been regarded as a milestone in international water resource management treaties due to its emphasis on joint development, ecological protection and a dynamic process of water allocation (Radosevich and Olson 1999:1). In fact the 1995 Agreement goes beyond the minimum requirements set by international water law, and the Agreement is the first (and so far the only) example ever of integrating a precise definition of a 'reasonable and equitable use' based on the 1966 Helsinki rules into an international agreement.

The early years (1957-1970) of Mekong cooperation were productive and a number of studies were carried out. In particular the construction of large-scale dams was viewed as the key to economic development in the region both in terms of hydropower and improved irrigation systems. Very few large-scale projects have, however, been implemented and the main stem of the Mekong River remains unobstructed by manmade structures (except from a few bridges) from the Mekong Delta until the Yunnan province in China where a cascade of dams is under construction.

However, with time the technological and financial foundation has matured for realising formerly planned large-scale projects, that will make countries capable of controlling the flow of water in the Mekong to a much higher extent than previously, and it is likely that competition for Mekong waters will increase in the near future, in particular in the dry season where semi-droughts occur.

In the words of Joakim Öjendal: "The previous almost euphoric atmosphere surrounding the type Mekong Cooperation – 'The Mekong Spirit' – that made regulation of activities 'easy', has shifted to a more 'normal' situation of diverging interests, increasing the need for governance in order to avoid the 'tragedy of the commons' (Öjendal *et al.* 2002:10).

Whether diverging interests in water resource management will trigger future conflicts between states is difficult to predict; however taking a look at past and recent water related conflicts in the region give indications as to what types of conflict we can expect in the future, who will be involved, how conflicts work, how they can be resolved and how they affect the core target group of development assistance, the poor.

GEOGRAPHY AND HYDROLOGY

The Mekong River is the dominant hydrological feature of mainland Southeast Asia. Originating on the Tibetan Plateau, in Qinghai Province, China, at an elevation of over 5000 m, the Mekong river flows through or forms the border of six countries: China, Myanmar (Burma), Laos, Thailand, Cambodia, and Vietnam before it divides into the 'Nine Dragons' delta and empties itself into the South China Sea.

Globally the Mekong ranks 8th in terms of discharge (475 BCM/year), 12th in terms of length (4,200 km) and 21st in terms of catchment area (795.000 km^2).

The Mekong River is typically divided in the upper and lower basin, which refers to whether the basin is upstream (the upper Mekong) or downstream (the lower Mekong) from the common border of Laos, Myanmar and Thailand (The Golden Triangle). Seventy-seven per cent of the total catchment area is located in the lower Mekong River Basin, including the countries Laos, Thailand, Cambodia, and Vietnam. For an overview of water resources in the Mekong River Basin see Table 1.

Map 1. The Mekong River Basin

Source: Probe International, 2003

Table 1. Water resources in the Mekong River Basin

Country (Region)	Catchment			Average Flow	Flow Contribution
	Area *km²*	Share of country %	Share of total basin %	*m³/sec*	%
China (Yunnan)	165,000	38	21	2,410	16
Myanmar	24,000	4	3	300	2
Laos	202,000	97	25	5,270	35
Thailand	184,000	36	23	2,560	17
Cambodia	155,000	86	20	2,860	19
Vietnam	65,000	20	8	1,660	11
Total	795,000	–	100	15,060	100

Source: MRC 1998; cited in Ringler 2001a:5)

The Yunnan Province of China constitutes 21 per cent of the catchment area. and contributes 16 per cent to Mekong total water flow. Myanmar has the lowest contribution both in terms of water flow and catchment area whereas the Mekong drains almost all of Laos (97 per cent) and accounts for a quarter of the total catchment area.

Water resources in the wet season are more than adequate to fulfil basin needs and irregular floodings are a threat to the lives of the river basin inhabitants[35] and agricultural production, whereas regional water shortages occur in the dry season (from November to April) where only 1-2 per cent of the annual flow[36] reaches the delta (Ringler 2001a:1).

Water resources in the Mekong are thus still regarded as abundant in the wet season, where heavy rainfalls make the water levels rise rapidly sometimes triggering flash flooding and inundation of large areas. Noteworthy in this respect is the Tonlesap lake (Great Lake) in Cambodia, which increases its surface area from 2,000 km^2 in the dry season to approximately 13,000 km^2 in the wet season. The Tonlesap River, which links the Great Lake and the Mekong River, reverses its flow twice every year leading water from the Mekong into the lake in the rainy season and from the lake back into the river during the dry season where water is released from the lake. In this

[35] Every year, the rising water levels of the Mekong put people's lives at risk. In fall 2000, a major inundation in the lower Mekong basin took more than 600 lives and caused substantial material damage (Ringler 2001b:1).
[36] The Mekong River displays huge variation in annual discharge. At the Pakse station in Laos, close to the Cambodian border maximum discharge has been measured to be of 57,800m^3/sec in the wet season which is more than 30 times the minimum discharge of 1,600 m^3/sec during the dry season (Ringler 2001a:9).

way, the Tonlesap acts as a natural buffer against flooding further down in the wet season and the release of water in the dry season makes an important contribution to dry season water flow in the Mekong Delta. Although water availability appears to be high when measured in km^3/year (see Table 2), water shortages often occur in the dry season.

Table 2. Water availability and withdrawals

	Availability		Withdrawals		*Withdrawal share of availability*	*GDP per Capita**
Country, province	km^3/yr	m^3/ cap/yr	Km^3/yr	m^3/ cap/yr	%	US $
China, Yunnan	2,812	2292	500	407	18	5,000
Myanmar	606	13,024	4	86	<1	1,700
Laos	270	55,305	1	205	<1	1,800
Thailand	210	3,559	33	559	16	7,000
Cambodia	88	8,585	1	98	1	1,600
Vietnam	318	4,479	65	915	20	2,300

Source: Adapted from ESCAP, cited in Ringler 2001a

* The CIA World Factbook 2003, http://www.odci.gov/cia/publications/factbook/index.html)

In general the richer countries (in terms of GDP per capita) withdraw a higher share of the water available than do the poorer countries. China, Thailand and Vietnam withdraw 18, 16 and 20 per cent respectively of the Mekong river water available in these countries whereas the poorer countries (Laos, Cambodia and Myanmar) withdraw one per cent or less of the available river water in country. In general water is an important ingredient in the recipes for the higher economic growth rates of China/Yunnan, Thailand and Vietnam where irrigation has been used extensively to increase agricultural production. In the future, it is likely that poorer countries like Cambodia and Laos will seek to increase the level of their water with-drawals for irrigation purposes. Likewise the richer countries have a number of plans involve-ing increasing water withdrawals of Mekong River. This future scenario stipulates the need for coordinated planning and integrated water resources management across sectors and national boundaries in the Mekong River Basin.

THE MEKONG SPIRIT OF COOPERATION

The Mekong has been noted mostly for the exceptions rather than the similarities to other river basins such as the Nile and the Euphrates. For instance it has been argued that the Mekong 'does not have the sharp management conflicts between well-watered upstream riparians and their water-poor downstream neighbours' and that 'allocations per se are not a major issue' because the region is well-watered (TFDD 2003a). Hence the specific hydro-logical and geographical characteristics of the Mekong may have prevented the development of transboundary conflicts over Mekong waters. However the presence of a regional institution (Mekong River Commission) with a comprehensive approach to planning

development of the Mekong is generally also attributed a major role in preventing regional conflicts over water (Öjendal 2000; Wolf *et al.* 2003a).

The fact that regional cooperation was not triggered as a consequence of a flash point but instead initiated in foresight (as means to formalise cooperation in the region) by the UN with participation from the lower riparian countries is also remarkable and reflects the strong international efforts made to stabilize the otherwise conflictive region. In fact the cooperation and meeting activity of the Mekong Committee continued throughout periods of political and military conflict between and within the riparian states. Even though the Mekong Committee was established to coordinate and investigate the development of water resources, other issues of regional politics have also been played out in the Committee, which has thus served as a medium for regional cooperation and stabilisation in general. Due to these various incidents of positive collaboration between the riparian states in an otherwise historically very conflictive region the Mekong cooperation has often been referred to as 'the Mekong Spirit (of cooperation) (Li-Huu *et al.* 2003; Takahashi 1974).

The Mekong Committee was established in 1957 with support from the United Nations when the four lower riparians Thailand, Laos, Cambodia and Vietnam signed the 'Statute of the Committee for Co-ordination of Investigations of the Lower Mekong Basin' (usually referred to as the Mekong Committee).[37] From 1957-1975 the Mekong Committee mainly financed by the UN and supported by the Mekong Secretariat had the status of a regional UN body and therefore non-UN member states such as China and Myanmar, although important upstream states, were not invited to participate. The mandate of the Committee was technical and oriented towards planned development of considerable hydroelectric potential (Arcadis and ODI 2001:33).

Although most of the data sharing (at least in the early stages) only included information of little political sensitivity (related to hydrology, geography, soil, aerial use, fishery etc.), it is important to note that the collection and sharing of information served to establish formal channels of communication – also on non-water related issues (Li-Huu *et al.* 2003:51). Mekong cooperation gained considerable momentum in the early years and extensive databases were established,

[37] In fact the Mekong Committee when established in 1957 was named 'The Committee for Coordination of Investigations of the Lower Mekong', which reflects that the initial cooperation between the four riparians of the lower Mekong was mainly focussed on gathering information rather than executing any extra-national political authority.

although only few extensive projects have been implemented, and none yet on the mainstream.

Box 1. Timeline of cooperation in the Mekong River Basin

Year	Event
1952	United Nations regional body for Asia – ECAFE – publishes a report outlining the potential for integrated development in the Lower Mekong River Basin.
1957	The four lower riparian states of Cambodia, Laos, Thailand and The Republic of South Vietnam adopts the *Statute of the Committee for Coordination of Investigations in the Lower Mekong Basin* entailing the establishment of the *Mekong Committee* (MC) with the limited mandate to promote, coordinate, supervise and control the planning and investigations of water resource development projects. Shortly after the *Mekong Secretariat* is formed to facilitate the administrative and technical work of the MC.
1957-1970	A number of studies gather information on river hydrology, aerial use, geography, rainfall etc., with a view to implement large-scale hydropower schemes.
1975	Joint declaration of Principles for Utilization of Waters of the Lower Mekong Basin is ratified. The MC is given a stronger mandate to create Project Agencies for the implementation of mainstream projects (dams at the main stem of the river). Large-scale projects needed approval by all riparian states – each state had the right to veto. The road is paved for the realisation of the Indicative Basin Plan of 1970, outlining plans for a system of seven mainstream reservoirs. Despite the war in Vietnam cooperation continues.
1975-1991	Civil war in Cambodia; war in Vietnam (until 1976); Vietnamese invasion (1979) of Cambodia in order to support the Cambodian government fight the Khmer Rouge movement. The development agenda of the MC is weak and few projects are implemented.
1978	In the lack of a representative Cambodian Government, Mekong cooperation proceeds in an *Interim Mekong Committee* (IMC) made up of the three other riparian countries.
1991	After the ending of the civil war Cambodia requests re-admission and re-activation of the original MC. Thailand is reluctant to accept the re-activation of the MC and the cooperation is continued under the framework of the IMC although with the participation of Cambodia. Thailand has several planned large-scale river diversion projects and is therefore not willing to return to an agreement where other countries can veto this type of project.
1995	After three years of preparations and mediation by UNDP *The Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin* is signed by Thailand, Laos, Cambodia and Vietnam and the new *Mekong River Commission* (MRC) replaces the IMC and the MC.

Source: MRC 2002; Radosevich and Olson 1999:8.

The initial momentum of the Mekong cooperation dropped of by the early seventies and wars kept river basin development projects at a minimum.

War and instability – this time in Cambodia – was also the main reason why the committee in 1978 was transformed into an Interim Committee (IMC), this time without the participation

of Cambodia, which lacked a representative government, but included the reunified Vietnam. Later, in 1991, when Cambodia wanted to re-enter the Mekong cooperation, Thailand opposed this out of strategic concerns related to the power balance in the region. Thailand initially made Cambodia's re-entry conditional on the inclusion of China and Myanmar in the Mekong cooperation. Being a midstream country Thailand is directly affected by water management in upstream countries such as China and Myanmar.

Countries downstream from Thailand had raised concerns about Thai plans for large-scale water diversion projects planned to divert water from the Mekong River Basin to the Korat Plateau of Northeastern Thailand[38] but also inter-basin diversion of water into the Chayo Praya River basin[39] in order to increase water supply in the Bangkok area. Under the framework of the Mekong Committee, Laos, Cambodia and Vietnam had the right to veto these Thai projects, and Thailand,[40] therefore, tactically used the re-entry of Cambodia as an opportunity to renegotiate the right to veto. Finally in 1995 the new 'Agreement on Co-operation for sustainable development of the Mekong River Basin' was signed between the four lower riparian countries who established the Mekong River Commission to coordinate transboundary river management in the lower part of the MRB. China is not part of the agreement but China has status as observant in the Mekong River Commission and takes part in meetings of the Hydrological Network and has shown a general interest in generating and sharing hydrological data. However, it is generally regarded as unlikely that China will become a full member of the MRC as this may compromise national sovereignty in the Chinese part of the Mekong River Basin.

With the new 1995 'Agreement on Co-operation for sustainable development of the Mekong River Basin' and the transformation of IMC into the Mekong River Commission (MRC), the mandate of the regional institution changed. As the right to veto development plans has been cancelled, the agreement gives greater room for manoeuvre for individual countries. However, at the same time, the agreement also has a greater scope for joint regulation and is allowed to play a greater role in shaping institutions for regulating resource use (Öjendal *et al.* 2002:18). The 1995

[38] The Khong-Chi-Mun Project

[39] The Kok-Ing-Nan and Kok-Ing-Yom-Nan projects

[40] According to the 1995 Agreement, Thailand should have sought permission from the other riparian countries, but has not done so, arguing that the preparation of these projects started prior to the 1995 Agreement.

Agreement was supplemented by a protocol that describes the structure of the new Mekong River Commission, currently consisting of three permanent bodies:

- *The Council* is a political decision-making body consisting of one member from each state at the Ministerial and Cabinet level who is empowered to make policy decisions on behalf of his/her government. Chairmanship rotates on an annual basis.
- *The Joint Committee* is a technical decision-making and management body consisting of one member from each country at department head level. The joint Committee takes care of the implementation of decisions and of the Council and supervises the Secretariat. Chairmanship rotates on an annual basis.
- *The Secretariat* provides technical and administrative services to the Council and Joint Committee. The primary functions of the Secretariat are to procure international assistance, administer projects, and undertake selected tasks such as maintaining a hydrological database (Browder and Ortolano 2000:524).

At a national level, the MRC is accompanied by National Mekong Committees (NMC's) which constitute the official entry points for the MRC in each country. The Committees are expected to formulate national policies and to provide co-ordination between national line agencies and the MRC. In practice the NMC's have had difficulties in getting the mandate they were supposed to derive from national line ministries and the role of the NMC's has therefore been debated. The key principles of the 1995 Mekong Agreement are described in Box 2.

Box 2. The principles of the 1995 Mekong Agreement

The 1995 Agreement is the principal document governing transboundary water management in the Mekong. It follows the provisions of customary international law on transboundary water management and in particular the 'Helsinki Rules on the Uses of International Rivers'[41] and the UN Convention on the on the Law of Non-navigational Uses of International Watercourses. Some of the key characteristics are:

- The 1995 Agreement does not include the previous right for a country to *veto* a development project in another country. Hence the Agreement provides a higher degree of freedom for member states to develop water resources in the wet season and on the tributaries and the document thus provides the MRC with less authority than was previously vested in it with the 1975 'Joint Declaration of Principles for the Utilisation of Waters of the Lower Mekong River Basin'.
- Instead the Agreement includes a principle on the *Duty to co-operate*, which outlines the mutual commitment to co-operate on all aspects of water management. The Basin Development Plan (BDP) now being developed under the MRC will provide further guidance on this issue.
- The 1995 Agreement emphasizes the *Principle of reasonable and equitable utilisation of water*. The agreement does not have detailed rules on the division of water – instead it emphasises that there has to *prior consultation* between the countries on the use of dry season flows. This also applies to inter-basin transfers in the wet season. The riparian countries should develop a Water Utilisation Plan (WUP) outlining the provisions for exchange of information, monitoring, and a more specific interpretation of the rules for *prior notification and consultation*.
- Another important provision in the Mekong Agreement is the *Obligation not to cause significant harm,* to e.g. aquatic eco-systems and ecological balance in terms of water quantity and quality. This rule reflects the increased focus on environmental sustainability in development planning Mekong Agreement as compared to earlier agreements in the Mekong River Basin.

Sources: MRC 1995; Browder and Ortolano 2000; Arcadis and ODI 2001

Soon after its establishment in 1995, the MRC identified its two highest priorities as (1) drafting a the Basin Development Plan (BDP) which is the planning tool and process for MRC to identify and prioritise transboundary projects in the Mekong basin, and (2) to develop a Water Utilization Program (WUP). These core programs of the MRC are, however, facing big challenges.

[41] The Helsinki Rules were developed by the International Law Association in 1966.

The BDP once agreed upon should prevent and mitigate conflicts of interest among member states. The primary potential conflict is related to regulations in water utilization whereby certain amounts of water will be allocated to each country according to seasonal river flows. In particular the dry season water allocation is subject to conflict as water is scarce and irrigation requirements are high. Hence the MRC's agreement on a framework for water utilization is crucial for the success of the BDP. The reluctance among member states of the MRC to endorse the transboundary EIA guidelines developed by the Mekong Secretariat indicates that final agreement on the BDP and WUP may not be straight forward.

Nevertheless the commitment to deal with the issues of water allocation demonstrates that with time, transboundary river basin management has matured in the Mekong where it now focuses not only on less conflictive information gathering as in earlier eras, but also deals with the conflictive question of water allocation. The BDP may become an important document in the overall planning and coordination of development within and between different sectors (fishery, irrigation, hydropower, industrial, etc.) where conflicting interests exists.

TYPES OF CONFLICTS IN THE MEKONG

Although the Mekong has been noted for the high degree of cooperation over transboundary water issues, a number of conflicts have emerged. Based on the data available from the Transboundary Freshwater Dispute Database (TFDD) developed by Oregon State University in collaboration with Northwest Alliance for Computational Science and Engineering (also discussed in the introduction to this volume), Table 4 provides a summary of the international water events recorded between 1950 and 2000.

Table 4. Summary of international water events in the Mekong River Basin 1950-2000 by issue and water event intensity scale[42]

	Conflictive										Cooperative			
Type of event (Typology)	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	SUM
Border issues											1			1
Economic Development											1			1
Flood control/Relief														
Hydro-power/hydro-electricity						2		4	2	4	3		2	17
Infrastructure/Development								1	3	1	1			6
Irrigation														
Joint Management					1		2	16	15	3	2			39
Navigation								1			1*			2
Technical cooperation/Assistance										2	2			4
Water Quality									1		1			2
Water Quantity								2	2	1	5		1	11
Total sum of events on the BAR-Scale					1	2	2	24	23	11	17		3	83
	4% of all events are negative (conflictive) on the BAR-Scale							94% of all events are positive (cooperative) on the BAR-Scale						

Source: TFDD 2003b. Results filtered for (i.e. not including) multiple registrations of the same event.

*This specific event concerns the signing of four country navigation agreement between Laos, Thailand, Myanmar and China in April, 2000. Wolf describes this event as marking *'the end of decades of political and geographical barriers that prevented cross-border navigation along that section of the river*'. Although this event is described as a very positive event (BAR-Scale 4) by Aaron T. Wolf and his team, this event also caused political tensions between Vietnam/Cambodia and the four signatory countries of the agreement. These tensions are not reflected in the Transboundary Freshwater Dispute Database. However, in the 'Navigation' section below these political tensions are described in more detail.

The table verifies that very few conflicts have indeed taken place in the Mekong River Basin. In fact only four per cent of all events, i.e. three events registered in the database have been conflictive whereas 94 per cent of all events have been cooperative. On the conflictive side, two of the events were related to hydropower and one event to joint management. Thus, in contrast to the global picture of international water events, according to which approximately 90 per cent

[42] The water event intensity scale is described in Table 1 of the introduction to this volume.

of all very conflictive events (-6) concern water quantity (Wolf *et al.* 2003:42), none of the international Mekong conflicts were related to water quantity. On the contrary, the Mekong has only witnessed cooperative events regarding water quantity, and cooperative joint management events have in general dominated the interaction between the riparian countries.

It is, nevertheless, important to note that examples of cooperation over hydropower also exist in the Mekong. For instance Thailand and Laos signed a convention between the two countries for the supply of power in 1965 (Bar-Scale 6 event). Several concrete projects have also demonstrated a certain level of mutual trust and willingness to cooperate between the riparian countries. This goes for the Nam Ngum hydropower station, which was built in Laos with funds mainly from Thailand. Since its construction, the dam has supplied electricity to the Thai grid without interruption even in periods of critical relationships between the two countries.

RIPARIAN COUNTRIES' INTERESTS

Although the Mekong River Basin has thus become noted for the high level of cooperation over transboundary water issues and the riparian countries are tied together in a web of interdependencies, the from this perspective, apparently stable region is home to a number of conflictive interests and unequal power relationships which are always a factor in regional interaction. Strategic alliances exist in the basin and have been shaped by the historical processes such as the cold war and periods of war and armed conflict during the 20th century. Vietnam and Thailand are the dominant nations in the lower Mekong Basin and their relations have been affected by rivalry over military, economic and ideological dominance in the region. Both countries have a strong interest in getting a larger share of the Mekong waters which is regarded as a prerequisite for increased agricultural production and economic growth in southern Vietnam as well as in north-eastern Thailand.

As smaller and weaker nations (both in terms of military power, economy, and geographical extent) Laos and Cambodia have a common interest in seeking consensus in decision-making in order for them to stay at good terms with their 'bigger brothers'. At present, Thailand has developed all its hydropower potential, and has therefore made agreements with neighbouring countries in particular Laos and Cambodia about hydropower, but also with Myanmar regarding natural gas. In this way Thailand depends on collaboration with its neighbours despite its economic and political power. As a mid-stream country, Thailand has the upper hand in relations with the downstream countries Cambodia and Vietnam whereas Thailand is dependent on up-stream countries, China, Myanmar and Laos, for a stable flow of water in the Mekong River.

Thailand differs from the other three members of the MRC in the way it has pursued a capitalist market economy in contrast to the Indochinese (and socialist) countries Laos, Cambodia and Vietnam where communist regimes took over power in 1973, 1975 and 1976, respectively. Some have argued that sub-regional cooperation is an option but not a necessity for Thailand (Öjendal 2000:185) which is supported by the fact that Thailand blocked the re-entry of Cambodia in the Mekong Committee for several years trying to get rid of the right for member countries to veto project plans in other countries of the Mekong River Basin.

In the context of Mekong, being the upstream country with the second largest economy, the largest surface area and population in the world, China per se has the upper hand in regional politics, where it is also by far the dominant military power. Nevertheless some commentators have argued that is likely to seek cooperation rather than conflict. First of all China has demonstrated increasing interest in regional river management[43] (Horowitz 2000:40, Elhance 1999:213); secondly, China's growing need for hydropower, export markets for the Yunnan Province, and access to the South China Sea, all of which its downstream neighbours can provide, place China in a less hegemonic position than could be expected (Elhance 1999:213).

Irrigation

Agriculture still remains the backbone of commercial production accounting for approximately 80 per cent of all water withdrawals[44] in the MRB where more than one third of the population is working within this sector in each of the four lower riparian countries. However, estimates indicate that only 7-10 per cent of the cultivated area is irrigated there. In Cambodia irrigation systems have been destroyed during periods of war, which partly explains the low level of water withdrawals per capita in Cambodia (see Table 2). In the future, it is likely that Cambodia will increase water withdrawals for irrigation purposes. Another area which is likely to increase its water withdrawals for irrigation is the Korat Plateau in north eastern Thailand. Rainfall in this area is low and it is a national Thai interest to generate development in this area through irrigation, based on intra-basin water diversion projects (Hirsch and Cheong 1996).

Irrigation has been of particular importance in Vietnam where the construction of new and improved irrigation schemes has been key to the rapid agricultural development realised under

[43] For instance China participated in the meetings of the MRC hydrological network, and China also arranged a symposium on 'Cooperation, Utilization and Coordinated Management of International Rivers', which was held in Kunming 1999.

[44] Water withdrawals for domestic uses are estimated to constitute 4-8 per cent of total water withdrawals. Water withdrawals for industrial use is also limited in Laos and Cambodia whereas in Thailand and Vietnam, it accounts for 4 and 10 per cent, respectively, and will therefore not be discussed into further detail in this study.

the Doi Moi development policy. Development of irrigation has helped to increase food production which almost tripled in the period from 1975-1995. Freshwater shortages in the delta may imply several negative impacts on rice production with decreasing amounts of water available for irrigation and because saltwater intrusion[45] on agricultural land is more likely, when water flows are low. Therefore a prior Vietnamese concern is to maintain a (high) minimum level of water flow in the dry season in order to protect and maintain the 'rice bowl' of Southern Vietnam (Hirsch and Cheong 1996).

According to Homer-Dixon and Percival's analysis of the relation between environmental scarcity and violent conflict, conflicts are likely to occur if a lower riparian country with a strong military capacity is facing water deficits due to water withdrawals upstream (Homer-Dixon and Percival 1996:9). If the planned river diversion projects materialises in Thailand and this causes water shortages and salt water intrusion in the Mekong Delta, conflict over water allocation may develop on interstate level between the two countries, yet it is likely that the fact that institutions for regional cooperation are in place will help resolve this type of conflict before severe hostilities develop (Wolf *et al.* 2003b).

Studies of irrigated agriculture in the Mekong River Basin have shown that the profit margins for this enterprise are very low even if water prices are kept at a minimum (Ringler 2001b). The study suggests that dividing the water resource equally between riparian states will not lead to the optimal productivity of the Mekong waters. Total benefits from utilising Mekong waters would clearly be higher if water is allocated based on where water efficiency/productivity is highest. This is, however, a very big challenge requiring the development of agreements and models for the most efficient use of water and equal distribution of benefits across national boundaries, which would entail a high degree of mutual trust and cooperation between the riparian states.

Navigation

The 1995 MRC-Agreement sparked very positive comments and high expectations for the regional cooperation. In the agreement a specific reference is paid to the '*the unique spirit of cooperation and mutual assistance that inspired the work of the Committee for the Coordination of Investigations of the Lower Mekong Basin and the many accomplishments that have been achieved through its efforts*' (MRC-Agreement 1995, Chapter 1). The Lower Mekong Basin is, however, closely related to and under influence of the two upper riparians Myanmar and in particular China, as a major power with strong economic interest vested in several of the other countries of the lower Mekong. Even

[45] Saltwater intrusion in the Mekong Delta is expected to become an increasing problem in the future if the anticipated rise in seawater levels materialises. Sea level in the region had increased 5 cm from 1964 to 1994 and estimates indicate that water levels may increase with 10-30 cm over the next 40 years (England 1994:358).

though China is not a rich country in terms of GDP per capita, the magnitude of the Chinese economy (and military) enables the country to mobilise neighbouring countries to act for its cause.

A much debated project launched in 1992 by China aims to improve navigation on the Mekong river between the cities of Luang Prabang in Laos and the province of Yunnang in China.[46] In June 2001 the four upper riparians (China, Myanmar, Laos and Thailand), sharing this part of the river, signed 'The Agreement on Commercial Navigation on the Lancang-Mekong River', without prior notification or consultation with the MRC and the lower riparian states, Cambodia and Vietnam. Signing the Agreement was the actual acceptance of a project which will clear the way for ships of up to 500 tonnes of weight to freely cruise along the upper part of the river for commercial and tourism purposes. A total of 11 islets and a number of rapids and reefs where fish are known to spawn were blasted away with explosives throughout 2002-2003 (Bangkok Post, March 10, 2003) in order to ensure the wanted navigability. For China, this project will, together with a new regional road[47], link the remote province of Yunnan to important markets further down the river in the other riparian countries in particular in Thailand, which also has a strong interest[48] in accessing the market in the Yunnan Province with a population of approximately 42 million people.

The project has triggered political tensions as Vietnam and Cambodia, who are not parties to the agreement, have expressed their concerns about the potential negative impacts of the project. The two countries were not given prior notification, before they were invited to witness a reef blasting ceremony (Bangkok Post, March 10, 2003). When the Cambodian minister of environment, Mok Mareth, learned about the project, he called for the four signatories to the agreement to adhere to the UN guidelines on assessing the environmental impact of major developments that potentially could affect the lower-lying riparian countries of the river basin (-1 on the BAR-Scale although this event is not included in the TFDD covering only the period up to year 2000) (Bangkok Post, May 27, 2001). He also called for a dialogue involving all countries in the Mekong river basin and for the MRC to organise regional discussions with the aim of launching an environmental impact assessment.

The Chief Executive Officer of the Mekong River Commission, Jørn Kristensen, also expressed his concerns publicly and referred to the importance of respecting international conventions, treaties and agreements (all countries have signed the Convention of Biological Diversity, and

[46] China has refused to ratify the UN Convention on the Law on Non-Navigational Uses of Watercourses.
[47] This road is planned to link Jinghong and Kunming in the Yunnan Province with Bo Ten and Luang Namtha in Laos which will connect with Chinag Khong district in Thailand via ferry (Bangkok Post, January 23, 2000).
[48] For instance reflected in the statements of the Thai, deputy premier, and commerce minister , Mr. Supachai Panitchpakdi in the Bankok Post, January 23, 2000.

Thailand and Laos are signatories to the MRC-Agreement) according to which environmental impact assessments should be carried out and measures should be taken in order to mitigate negative impact further in downstream countries (Bangkok Post, May 21, 2001). The MRC also assisted Vietnam and Cambodia in gathering scientific evidence about the changes in the river due to the modifications taking place upstream. However, as long as the Basin Development Plan and the Water Utilisation Program has not been developed and agreed upon between the four lower riparian countries, the MRC does not have the mandate of an authority and can only intervene as a mediator with technical support.

Even if the BDP and the WUP were in place this conflict is on the margins of the MRC mandate as it involves Myanmar and China, not parties to the 1995 agreement. It thus shows the limitations of the MRC-agreement, but also that at the end of the day, this type of conflict is unlikely to escalate further due to the fact that the majority of the riparian countries including the two powerful countries, China and Thailand, are allied in this case. Both Vietnam and Cambodia have a strong interest in maintaining good relations with China and the other riparian countries. Hence, despite the 1995 agreement, conflicts and political tensions (in this case related to navigation/flood control) may occur, and as long as the involved states are not parties to the agreement, it may in itself be of limited use to resolve these conflicts and political tensions.

Fishery

Fish make up an important contribution as a source of protein in the diet of millions of people in the Mekong. In Cambodia, for instance, over 80 per cent of the daily protein intake comes from fish out of which 60 per cent is caught in the Tonle Sap Lake (Öjendal 2000:21). The value of fish catch/production has, nevertheless, been underestimated for long, as it has proven difficult to estimate the magnitude of this activity. Often rice farmers keep fish in their paddy fields or in small ponds or they go fishing in the river besides cultivating rice and this type of fish production does not show in statistics (Interview with the former leader of the MRC Fisheries Programme).

The fisheries programme (which was supported by Danish development assistance through the framework of the MRC) has recently improved methods for estimating the total catch in the River Basin and the estimates of catch have risen from 500,000 tonnes per year to approximately two million tonnes per year in the period from 1995 to 2001 (Catch and Culture 1996; Interview with the former leader of the MRC Fishery Programme). These new estimates indicate that fish make up an important and valuable resource, which has often not been accounted for when assessing the costs and benefits related to new development projects in the river basin. The Mekong is often referred to as one of the least developed rivers in the world (Öjendal 2000), which is true when considering the unexploited hydropower potential of the river. Nevertheless, when taking into account the economic value of fish production and the way this sector is directly benefiting the poor, it appears that some sectors are well developed in the Mekong.

Being the fish pond of Cambodia, and one of the most productive freshwater reservoirs in the world, the Tonle Sap Lake is of considerable importance for the Cambodian national economy, but even more so for the livelihoods of the poor people depending on its resources. As the poorest country in the river basin, Cambodia is heavily dependent on the fish (and agricultural) production in and around the Tonle Sap Lake, and vulnerable to changes in river flow that might affect the very special ecosystem of the lake.

Studies have warned that the construction of dams on the main stem of the Mekong River will affect important fish species (such as the Giant Catfish) negatively as the spawning routes of fish to other tributary rivers on the Mekong will become blocked (MRC 1997:16). In fact it has been concluded that the construction of dams generally leads to declining yields in fish catch (WCD 2000). Therefore damming the main stem[49] of the Lower Mekong River may cause serious social, environmental and economic impacts on the people living in the Tonle Sap area. It is, however, unlikely that this will trigger serious interstate conflicts. Taking into account that Cambodia has a low financial and organisational capacity, it is hard to imagine that Cambodia will oppose stronger states as for instance China, which increasingly becomes capable of regulating (part of the) water flow in the Mekong due to the construction of dams on the main stem of the (Lancang) river in the Yunnan province.

Nevertheless political tensions have occurred on an interstate diplomatic level within the fishery sector (an event rated -1 on the BAR-Scale). Due to a decline in fish catch, representatives of the Cambodian fishery sector accused the Vietnamese fishery sector for destroying important spawning grounds of the River Cat Fish, causing a decline in fishing yields in the Cambodian part of the river. In response to this type of conflict the fishery programme under the MRC framework facilitated the formation of a new institution, the Technical Advisory Body (TAB) for trans-national cooperation within the fishery sector. The representatives of the TAB include high ranking officials from the line-Ministries of Fisheries, and the National Director for Mekong Cooperation from the respective countries.

The establishment of the TAB has made it possible to address the conflict in a forum of relevant and knowledgeable policy makers and bureaucrats. The TAB requested that an impartial agency conducted a study in order to identify the reasons for declining fish catch on the Cambodian side of the river. The study 'acquitted' the Vietnamese fishery sector and conflict was called off, partly due to the establishment of relevant channels for communication and partly due to the

[49] A recent study undertaken by the Norwegian company, Norconsult, for the Asian Development Bank, recommended the construction of a dam at Sampor, which according to fish experts will have serious consequences for the fishery in the Tonle Sap Lake. It has also been considered to dam the Tonle Sap River in order to control the release of water from the lake during the dry season. The expected negative social and environmental impacts of this projects is even worse than those attributed to the Sampor dam.

conclusions in the final report (MRC 2002). In this case the MRC Fishery Programme proved to be successful in resolving the conflict by creating an enabling environment for transboundary dialogue and cooperation within a single sector.

Hydropower

Hydropower is the most conflictive sector of water management within the Mekong River Basin. On an interstate level, conflicts may be triggered by the construction of dams on the main stem of the river, which make it possible to regulate water flow – in a way that is compromising the interests of other nation states. Throughout the last decade China, has been in the process of constructing a cascade of dams on the upper Mekong River, which enables China to reduce water flow during the dry season to critically low levels in the delta and elsewhere. Proponents of dam construction often refer to the positive side-effects[50] of this activity, as a means to harness rainy season flash floods and a way to increase dry season water flows. However, their opponents – and they have increased in number during the last few decades – argue that the environmental and social costs (displacement of people, loss of farmland and income opportunities) of hydropower construction are too high.

A vocal critique has arisen against planned projects to be implemented with the acceptance of the MRC, and in particular the long-planned hydropower expansion on the main stem of the river has triggered massive critique from the emerging NGO community in Southeast Asia (in particular in Thailand; see for instance anti-hydropower campaigns by International Rivers Network (IRN 2003) and Probe International (PROBE International 2003). Partly due to this critique, focus has moved away from building hydropower stations on the main stem of the river towards looking for the opportunity to expand hydropower production in less populated areas on the tributaries, e.g. the Yali Falls Dam (Vietnam and Cambodia), Pak Mon Dam in north eastern Thailand, Nam Theun II in Laos (Öjendal *et al.* 2002:18). This new tendency is particularly impacting poor and marginalised (ethnic and indigenous) groups unable to access information, voice their concerns and act in a proactive manner early in the decision-making process where decisions affecting their livelihoods are made.

Although civil society institutions are very weak in most riparian countries of the Mekong River Basin (with the exception of Thailand), the construction of dams have caused civil protest to an unprecedented degree. An example of this is the The Yali falls incident in the Se San River Basin

[50] It has been claimed that dam construction will make it possible to increase the dry season flow of the river with as much as 200 per cent if China constructs all the planned seven dams in project from 2000-2020 (Öjendal 2000:142). These figures should probably not be taken at face value as it is likely that increasing amounts of water will be withdrawn for agricultural purposes in the Yunnan province in order for China to cope with a future potential food deficit (Ohlson 1999 quoted in Öjendal 2000:142).

where local conflict and interstate political tensions between Cambodia and Vietnam have appeared.

In the following the construction of the Yali Falls hydropower station on the Se San River in Vietnam will be examined more closely in order to identify the nature and stakeholders in this type of conflict. This particular conflict has transboundary dimensions in the sense that it involves stakeholders in both Vietnam and Cambodia and high level authorities have been involved in solving the dispute on an interstate level. But as with many transboundary and national conflicts over water the actual conflict and the consequences of poor water management are experienced very *locally* by the people living further downstream in Cambodia. (See also the contributions to this volume by Philip Hirsch and Malee Traisawasdichai Lang for a discussion of such intra-state conflicts.)

In 1996, the Vietnamese Government initiated the construction of a hydropower station at Yali Falls in the Se San River Basin. The Yali falls dam is the first hydropower station constructed, but an additional number of similar dams are planned to be built in the Vietnamese part of the Se San River Basin.

Located just 70 km upstream from the border with Cambodia, the construction of the Yali Falls dam had impacts beyond the Vietnamese part of the river basin. In 2000, a flash flooding was triggered by the sudden release of large volumes of water from the dam, creating a critical situation further downstream in Cambodia. Since the so-called Yali Falls incident, local communities, with support from national and foreign NGOs and organisations,[51] have mobilised themselves in the Se San River Community Protection Network against the plans to build other dams on the Se San, Sre Pok, and Sekong Rivers.

[51] A number of NGOs and organisations have supported the local population in mobilising against damming the Se San River and they have claimed compensation for the losses they have incurred. These NGOs include Oxfam America, Probe International and NGO Forum on Cambodia.

Box 3. The Yali Falls incident

At least four people living in the areas affected by the flash flood, along with numerous domestic livestock, drowned. The changed flow of the river due to the construction of the dam generally triggered a whole series of negative social, environmental and economic impacts in the river basin, where irregular and unpredictable floodings occurred. Flooding has also severely damaged rice and vegetable crops in all the villages, and has inundated all but two of the villages along the Se San and Sre Pok Rivers. The rising waters have washed away large numbers of fishing gears and boats. Wood for making houses, stored rice, and various other household items have been lost during rainy season flooding (Baird *et al.* 2003).

Those living adjacent to the Se San River have traditionally been heavily dependent upon the river and its aquatic resources. The river supplies cooking and drinking water for the local people and their livestock. It also provides wild vegetables and fish, which is an important source of protein in the local diet. Subsistence farmers commonly diversify livelihoods with a range of additional activities such as fishing, and the collection of non-timber forest products. And finally the river is used for bathing, washing, gold panning and provides a vital transport network. When fishing yields declined presumably due the construction of the dam, people started encroaching on forested areas causing deforestation and local conflicts (Fisheries Office, 2000). They have also cleared forests to move their paddy fields to higher non-flooded ground and some have had their businesses disrupted and damaged by increased rainy season flooding. This way the changed water flow in the river has forced ethnic people to encroach on the forest causing new conflicts with forest authorities and/or owners.[52]

Many locals have complained about illnesses and health problems due to decreasing water quality. The most commonly reported illnesses associated with water contact in the upper part of the basin include itchiness, bumps and eye irritation. Stomach problems are reportedly common among those who are drinking the river water. These impacts have been serious for approximately 20,000 indigenous people living along the Se San River in Ratanakiri Province who have experienced general a decline in livelihood security as people do not know when new flash floods can occur (Öjendal *et al.* 2002:19).

The Yali Falls incident triggered a debate on the role of donors and multilateral institutions. Both Sweden and Switzerland had supported and thus legitimated the project at different stages, and Sweden supported the project even though an EIA-report had been criticised for being insufficient – in particular in terms of addressing the impact in the Cambodian part of the Se San River Basin. Another hydropower study funded by ADB[53] and including the Yali Falls dam actually did apply and develop methods for carrying out a cumulative impact assessment, but these findings were never included in the final report. This particular study was under political pressure from various directions and it is likely that this played a crucial role in thinning out the parts of the report that addressed the social and environmental impacts of dam construction at Yali Falls.

[52] For a more thorough examination of how structural changes affect indigenous peoples and force them to encroach on forested areas in the Mekong see Hirsch 1997.

[53] In order to mitigate the negative impacts of the Yali Falls dam, the Asian Development Bank (ADB) suggested to fund another dam Se San 3 further downstream. However, when the ADB required that a comprehensive EIA were to be undertaken, Vietnam responded negatively and declared that it was no longer interested in receiving the loan from the ADB. Instead the Japanese government offered to fund the project (Öjendal 2002:47).

Important lessons can be learned from the Yali Falls incident. First of all, there was a lack of transparency and information regarding the construction of the dam. Although the Yali Falls Dam is situated on the Se San River approximately 70 km from the Cambodian border and flows directly into Cambodian rivers, no Environmental Impact Study for Cambodia was ever conducted. Nor were the Cambodian Government or people originally made aware of the construction of the dam.

The Yali Falls incident also raises the question of the reliability of reports and recommendations used to legitimise decision-making in development projects in the Mekong. In particular within the field of hydropower, EIA reports have been accused of being partial and written selectively in favour of vested interests (Lang 2001).

Another important lesson is that the civil protests and national conflicts related to the construction of the Yali Falls dam have been triggered by the dissatisfaction among the local population that none of these projects provide any benefits for the local population. As with hydropower dams elsewhere in the Mekong River Basin benefits will be 'exported' out of the area, whereas the social and environmental costs will be borne by the local people and their environment (Nguyen 1999:213). People are more likely to accept development projects causing changes in their local environment if they benefit from the project, but in hydropower projects local people are rarely offered a fair share of the benefits from the project of which they bear the costs.

CONFLICT RESOLUTION AND PREVENTION

The Mekong Committee (1957-1975) and the Interim Mekong Committee (1975-1995) did not include any particular measures as to how to resolve conflicts. However, the 1995 'Agreement on the cooperation for the sustainable development of the Mekong River Basin' includes a special chapter (chapter five) on '*Addressing Differences and Disputes*'. This chapter explicitly outlines the responsibilities in conflict resolution as a task of the Council. In case the Council is unable to resolve a dispute, the issue shall be referred to the national Governments which can request a third party mediator if the process stalls (MRC 1995, Chapter 5, articles 34 and 35). Taking a closer look at the conflict in the Se San River Basin (a tributary to the Mekong) is illustrative for the way the MRC can play an important role in conflict resolution and it exemplifies a type of conflict that is likely to take place in the future.

When the 1995 agreement came into force, the MRC[54] became responsible for minimising harmful effects of natural occurrences and manmade activities (Öjendal 2002 *et al:*57). When the Yali Falls conflict emerged, a special MRC task force with broad representation and a mandate to negotiate was put together in order to mediate in the evolving conflict. In April 2000, the MRC facilitated meetings between the Cambodian and Vietnamese governments in Vietnam. The Cambodian delegates consisted of the Director of the Cambodian National Mekong Committee, the Governor of Ratanakiri, the Director of the Hydroelectricity Department, representatives of the Ministry of Environment and other officials. From Vietnam, there were representatives from the Vietnamese National Mekong Committee, Deputy Director of Power Generation Department, Electricity of Vietnam, and others. Together they visited the Yali Falls dam and discussed the mechanism for information exchange and analysed the root causes for the tragedy. In the end, the task force mediated the development of a plan for avoiding future accidents and the two parties agreed on the following principles:

- There would be no release of water without the prior warning;
- under normal circumstances, notice should be given 15 days in advance of the release of water;
- in emergencies and extreme flood situations, warnings should be immediately dispatched directly to the relevant agencies; and
- environmental mitigation studies, if needed will be discussed further at a later occasion with the participation of the MRC.

Subsequently the MRC also installed water control stations along the Se San River in order to control the monitor water levels downstream from the Yali Falls dam. Apparently, negotiations were held in a constructive and good spirit and both parties commented that '*the matter had been resolved'* and that '*this was the end to it'* (cited in Öjendal *et al* 2002:57).

The Yali Falls conflict involves agencies and local populations across national boundaries in the river basin. Another aspect which is important to note about the Yali Falls incident is that the dispute is triggered by a project driven by powerful stakeholders and strong economic interests and that the burden of the project is carried by the poor population. Some of the negative impacts could have been identified and mitigated if a proper EIA had been carried out. For instance a system for distribution of information and warnings related to the release of water

[54] The MRC Strategy on Hydropower Development was finalized in 2001 – this document outlines MRC's role in the sector, which has shifted from investigations of hydropower development opportunities, to providing information and policy advice on broader, basin-wide issues in the sector.

from the dam could easily have been developed and put in place ahead of the opening of the dam. This could have prevented the severe negative consequences for the local population triggered by sudden changes in water levels due to the regulation of water flow at the sluice gates. A proper EIA could maybe also have offset some of the negative externalities related to the changed quality and flow of river water such as decreasing local production, health problems and negative environmental impacts.

Likewise the negative economic impact experienced in local households could also have been foreseen and mitigated in an Environmental Impact Assessment. If development assistance is to be truly poverty oriented, it is crucial that potential costs of new development projects are not borne by the marginalized and the poor. The value of local forms of production must be appreciated and calculated and included in the assessment of the overall costs and benefits of projects and local people affected by projects should be compensated for the costs incurred on them. One way of securing this is through the development and application of standards and procedures on the involvement of local stakeholders in decision-making processes and the use of the EIAs and Cost/Benefits Analysis appreciating the assets of the local people's livelihoods.

PARTICIPATION AND CIVIL SOCIETY

An often-forwarded critique towards the MRC is the lack of public participation in development projects. Indeed the Yali Falls case illustrates that lack of participation has been a problem in hydropower projects. However, the lack of participation in the case of Yali Falls cannot be accredited to the MRC, which in fact took a leading role in representing the interests of the local population in the Se San River Basin. Yet in more general terms, it should be noted that the MRC has not come a long way in creating public constituency and formalising public participation in river basin management and planning.

Lack of participation was also at the core of the conflict over the *Pak Mun Dam* in Thailand where local people have organised themselves against the state for more than a decade in their fight against the altered river flow due to the construction of the dam on the main stem of the Mun River (see the paper by Lang for a more detailed account of this case in this volume). When the dam was constructed, the river ecology changed and fish catches declined dramatically impacting negatively on the livelihoods of the poor. With support from national and international NGOs and research institutions, local groups from Pak Mun organised to make their own research on the impact of the dam. This research questions the validity of the official surveys and EIAs used to justify the construction of the dam in the first place. Lately, Thai authorities have

agreed to open the sluice gates of the dam four months per year due to the massive pressure from civil society organisations and the media.

The case of the Pak Mun dam clearly demonstrates that civil society can make an important difference and affect the development of their region, but it also shows that public participation in development projects at present is demand-driven[55] and not something guaranteed by the riparian states or the MRC. Considering that the political climate in the Mekong region has not been conducive to the development of a strong NGO sector, it is unlikely that a similar dam construction would have triggered the same amount of turmoil in any of the other riparian countries of the Mekong where the level of civil society engagement is lower compared to that of Thailand.

In many parts of the Mekong River Basin, dissemination of information is very scarce – in particular in remote and poorly developed areas of Cambodia, Laos and Vietnam. The distribution of information about development projects and their possible side effects has been non-existent in the case of development projects on the Se San River. Ahead of the opening of the Yali Falls dam neither the District Governors of downstream areas likely to be affected (Veun Sai, Adong Medas and Ta Veng) nor the population received any information about a dam being constructed upriver (Öjendal *et al* 2002:54). When they learned the hard way that the water flow of their river had changed it was still a widespread belief among locals that this was due to the spirits of the river rather than the result of a manmade technical intervention further upstream.

The construction of a dam can also compromise local politics and thereby create antagonism between local areas and the state often with the local population loosing out. For instance the District Govenor of Ratanakiri in Cambodia argued that by building dams with the aim of exporting electricity Vietnam and Thailand would negatively affect the ethnic people to the benefit of people elsewhere in other regions or other countries. The building of dams often result in displacement of people who will then be forced to encroach on forested areas in the uplands sometimes leading to increased poverty and local conflicts over access to resources (Öjendal *et al* 2002:54). However, local authorities need support to fulfil their role as stakeholders in the development process – or as the Govenor of Ratanakiri expressed himself in a recent report commissioned by the Stockholm Environment Institute:

[55] Demand-driven in the sense that civil society is mainly (only) engaged in decision-making processes when civil society institutions demand the right to be heard and to participate.

> If only the authorities in Ratanakiri Province requests this, the Vietnamese government will not listen. Only if international organisations and the MRC join the appeal, they will listen We need very broad support (quoted in Öjendal *et al* 2002:54).

The Mekong River Commission is aware of the lack of participation of local people in project planning and has embraced the principle of participation in a policy paper. Some local NGOs based in Bangkok have made suggestions as to how participation can be carried out in river basin projects but little action has yet seen the light of the day. There is an inherent unwillingness to be found in some of the major organisations setting the agenda in the region, such as the ADB which was reflected during a workshop where one ADB officer argued that '*too much democracy is, or could be, an impediment for water resources management*'. Hence a big challenge facing the MRC is to integrate and institutionalise public participation in water resources management. So far, the Fisheries Programme remains one of the few areas in which the MRC has rather successfully tried to cater for public participation, and lessons learned from this programme could be applied to other areas.

Civil society organisations have been organised rather successfully in Thailand where initiatives like the NGO-COD[56] have constituted a strong focal point for NGO activities and have advocated and represented the interests of civil society including more vulnerable groups such as indigenous peoples in Thailand. Danish Environmental and Development Assistance has earlier supported civil society institutions (like the NGO-COD) in Thailand and support to civil society institutions has been identified as one of the cornerstones[57] through which Danish development assistance will seek to hold governments accountable and secure that the interests of poor and marginalized people are taken into account. Likewise Danish development assistance and support to Integrated Water Management in the Mekong River Basin has been sensitive to the needs of poor and marginalized groups and for instance the Fisheries Programme[58] has played a key role in creating awareness and appreciation of the value of fish production to national and local economies as well as to the livelihoods of poor people.

Little attention has, however, been paid to civil society strengthening at the regional level in the Mekong River Basin. Support to civil society institutions has mainly been given through bilateral

[56] NGO-COD (Coordinating Committee on Development) acts as national umbrella for networks of various issues, such as human rights, community rights, protest rally, social work etc.; monitors government's policy on reducing agricultural sector; follows up on community rights to natural resources and promotes alternative agriculture.
[57] This was manifested in the Civil Society Strategy for Danish Development Assistance (Danida 2000).
[58] Unfortunately Danida's support to the Fisheries Programme has recently been reduced drastically as a consequence of cut back in the budgets for Danish development assistance.

programmes within the individual riparian countries of the lower Mekong. At the heart of Integrated Water Management in the Mekong lies the principle of using the regional (hydrological) delimitation of the river basin as the point of departure for cooperation and development but at present very few civil society institutions and NGOs have the capacity to represent the interests of civil society at the regional level. In the future development of the Mekong, there is a need for support to civil society institutions, which can represent the interests of poor and marginalized groups, who in lack of such support tend to lose out when large-scale development schemes[59] are implemented in the Mekong. Support could be given to basin-wide/regional civil society networks linking civil society institutions together across national boundaries and NGO involvement in the work of the MRC could be encouraged and supported. In this way, experiences from Thailand, where NGOs and civil society institutions have gained considerable momentum, can help fostering the emergence of a stronger civil society in the other countries of the lower Mekong region.

CONCLUSION

The Mekong is often referred to as 'best practise' in transboundary River Basin Management and a number of lessons can be learned in terms of preventing conflicts over water from the 1950's until present day. The fact that an international framework for integrated watershed management was established well before a flashpoint took place has made cooperation easier and more likely to continue during later times of stress. The past emphasis on data collection in advance of major construction projects has proved to set the hydrographic stage for more efficient planning and facilitate cooperation even between countries in military conflict. Furthermore, the experience from the Mekong has shown that involvement of international institutions, in particular the UN and bilateral donors of development assistance, provides greater political and financial incentives for cooperation and for conflicts to be resolved through dialogue. From the initial stages of cooperation about transboundary river basin management, the UN has played a leading role in getting the countries to cooperate and the international pressure and support from bilateral donors have played an important role in 'making ends meet' when political tensions have occurred. For instance Danish development assistance provided through the Fisheries Programme facilitated the constructive solution to and prevention of an otherwise emerging conflict between Vietnam and Cambodia.

Taking a closer look at the types of conflicts which has occurred in the Mekong River Basin, conflicts to this date have taken the form of political tensions, where high level politicians and

[59] For instance thousands of people have been negatively impacted from dam construction of the Nam Theun I & II dams (Laos), Yali Falls dam (Vietnam & Cambodia) and the Pak Mun dam (Thailand).

power holders have expressed their concerns and discontent with actions taking place in another riparian country. Conflicts have mainly been related to the construction of hydropower dams, which changes the ecology and the flow of water in the river basin. On a transboundary interstate level, there are several potential future conflicts related to the construction of dams and/or river diversion projects such as Thailand's plans to divert water into the Chao Praya River basin from the Mekong, and another being the cascade of dams being built by the Chinese in Yunnan Province. Taking into account the emerging tradition and framework for regional cooperation in the Mekong, the likely scenario is that these conflicts will not escalate.

Rather another type of conflict over water is likely to emerge in the future. This type of conflict is not necessarily transboundary in nature but is rather a conflict between the local population which are experiencing negative impacts from development projects altering their livelihood situation to the worse. Like the case of the Yali Falls dam (in Vietnam and Cambodia) and the Pak Mun dam in Thailand, this type of conflict is typically constituted of a development project such as the construction of a dam giving rise to an alteration in the ecology and the flow of water in the river with a consequential negative impact on the livelihoods of local people. In the planning process, it is therefore important to involve local people to make sure that their voices and interests are heard and reflected in project design and implementation. In this way projects are less likely to trigger this type of conflicts, which can potentially give rise to critical situations between two countries (like in the case of the Yali Falls dam) or to conflicts and civil unrest between local groups and national authorities, jeopardizing the achievement of development objectives (like in the case of the Pak Mun dam), as well as the livelihoods of poor and marginalized people.

Although the MRC-framework is very comprehensive and rests on the so-called Dublin institutional principle, emphasizing that the involvement of stakeholders should be taken to the lowest possible level, there is room for improving public participation and involving civil society. With the exception of Thailand, civil society is very weak in all riparian countries, and the majority of the rural population lack the capacity to voice their opinion and represent their interests. This makes them highly vulnerable in the development process. Support could be given to basin-wide/regional civil society networks linking civil society institutions together across national boundaries. This type of assistance could be provided as a complementary effort to the support provided to the MRC in order to increase the capacity of poor and marginalized groups to represent their interests and to hold governments accountable. A stronger civil society is imperative for the involvement of local people in decision-making processes in the Mekong region, and in order to stimulate this process Danish development assistance to integrated water

management in the Mekong River Basin could focus on applying and integrating the principles of the Danish 'Civil Society Strategy'.

Indeed, the Mekong is noted for cooperation rather than conflict and the few transboundary conflicts that have been reported from the Mekong are in general limited to political tensions between the riparian countries. The MRC and the 1995 Mekong Agreement on Sustainable Development are important institutions preventing conflicts from developing in several ways. First, the Mekong Secretariat has proved capable of intervening in conflicts and has played the role as a mediator, facilitating the peaceful and constructive solution to conflictive situations, as was the case in the Yali Falls incident described above. Making sure that high-level politicians got engaged in conflict resolution, the Mekong Secretariat facilitated the development of a solution and a model, which can be applied in future similar disputes.

Second, the MRC is playing a key role in the prevention of conflicts through planning and developing standards and guidelines for the design and implementation of development projects affecting water flow and quality in the Mekong. Here the development of the Basin Development Plan and the Water Utilisation Plan are/will become important tools in preventing conflicts over Mekong waters. The experience from the fishery sector where the fisheries programme established mechanisms for communication across national boundaries within one sector and thereby facilitating coordination and conflict prevention could be used to develop models for trans-national cooperation within other sectors.

Third, the MRC is playing a central role in the application of EIAs and the development of guidelines for these. The use of EIAs is one of the most important tools for preventing and mitigating negative social, economic and environmental impacts from development projects as the EIA process regarding any planned development intervention (ideally) pay attention to the crucial question: *who benefits – and who will bear the costs if any?* The proper use of EIAs can also ensure that all costs (including opportunity costs) and social, economic and ecological externalities are taken into account. Properly conducted, EIAs can play a crucial role in securing the participation and consultation of local people in the design and implementation of development process and thus minimise the risk that the interests and livelihoods of poor and marginalized groups are compromised in the development process. At the core of most conflicts and political tensions over water in the Mekong are controversies over EIAs (in the examples above EIAs were a central part of the disputes regarding the Navigation channel, the Yali Falls dam and the Pak Mun dam). Poor quality EIAs have been used to justify the development projects causing negative economic, social and environmental impact where they were implemented. Hence it is imperative that procedures and guidelines for the use of EIAs are in place and applied in a standardised manner in the river basin. The MRC has taken the lead in

developing procedures and guidelines regarding EIAs, and the question is now whether the riparian countries will commit themselves to the framework for EIAs being developed by the MRC or whether they continuously will apply EIAs in an insufficient manner often compromising social and environmental issues.

The clear weakness of the MRC framework is the absence of China, who is the dominant power in the river basin and who controls one fourth of the dry season river flows. So far the four lower riparian countries have through the MRC sought to counter-weigh Chinese interests and dominance. Considering China's crucial upstream position, the MRC depends heavily on cooperation in order for transboundary water management to succeed – in particular in the future when China has completed the construction of dams on the main stem of the river, which will provide it with a high degree of control over dry season water flows.

Commentators have argued that ASEAN (Association of Southeast Asian Countries) where all riparian countries (except China) are represented is a more politically important body in the region than is the MRC. ASEAN is not donor-driven to the same extent as the MRC where the agenda to some extent is influenced by the international donor institutions and countries. ASEAN might play a mediating role if a conflict arises between two countries but the institution[60] is not focussed on or geared to deal with the complex and multifaceted task of integrated river basin management to the same extent as the MRC, which – after all – is 'a state of the art' institution and a model for replication within the field of transboundary river basin management.

REFERENCES

Arcadis and ODI (2001). 'Transboundary Water Management as an International Public Good, *Study* 2001:1'. Ministry of Foreign Affairs, Stockholm, Sweden.

Baird, Ian and Monsiri Baird, Chum Moni Cheath, Kim Sangha, Nuon Mekradee, Phat Sounith, Phouy Bun Nyok, Prom Sarim, Ros Savdee (Phiap), Hannah Rushton (2003). 'A Community-Based Study of the Downstream Impacts of the Yali Falls Dam Along the Se San, Sre Pok and Sekong Rivers in Stung Treng Province, Northeast Cambodia. Rivers Watch East and Southeast Asia', World Wide Web: http://www.rwesa.org/stungtreng.html , accessed at the 6th of October, 2003.

[60] One of the principles of the 'Treaty of Amity and Cooperation' (TAC) in Southeast Asia, signed at the First ASEAN Summit on 24 February 1976, declared that ASEAN should provide for the 'settlement of differences or disputes by peaceful manner'.

Browder, Greg and Ortolano, Leonard (2000). 'The Evolution of an International Water Resources Management Regime in the Mekong River Basin'. *Natural Resources Journal*, vol. 40, pp. 499-531.

Catch and Culture (1996). *Mekong Fisheries Network Newsletter*, vol. 1., The Mekong River Commission.

Danida (2000). *Civil Society Strategy for Danish Development Assistance.* Ministry for Foreign Affairs, Copenhagen, Denmark.

Elhance, Arun P. (1999). *Hydropolitics in the Third World: Conflict and Cooperation in International River Basins*. Washington, DC: US Institute of Peace Press.

England, Sarah (1994). 'Potential Climate Change Impacts and Vietnams Key Environmental Issues', in Nemetz, Peter N. *et al.*, eds.:*Development Versus the Environment: The Challenge for Southeast Asia.* Vancouver: University if British Columbia.

Fisheries Office (2000). *A Study of the Downstream Impacts of the Yali Falls Dam in the Se San River Basin in Ratanakiri Province, Northeast Cambodia.* Prepared by The Fisheries Office, Ratanakiri Province In cooperation with The Non-Timber Forest Products (NTFP) Project, Ratanakiri Province May 29, 2000, accessed at World Wide Web: http://www.oxfammekong.org/documents/ntfpyali.pdf

Hirsch, Phillip (1997). 'Seeking Culprints: Ethnicity and Resource Conflict', *Watershed,* vol. 3 no 1, July – October.

Hirsch, Philip (1998). *Holding and managing resources in common: issues of scale in Mekong development*, paper presented at the Seventh Common Property Conference of the International Association for the Study of Common Property, June 10–14. Vancouver BC, Canada.

Hirsch, Philip and Cheong, Gerard (1996). *Natural Resource Management in the Mekong River Basin: Perspectives for Australian Development Cooperation*, Final overview report to AusAID. University of Sydney.

Hirsch, Phillip and Miller, Fiona (2003). 'Civil Society and Internationalized River Basin management', Working Paper No. 7, *Working Paper Series*, Australian Mekong Resource Centre, University of Sydney.

Homer-Dixon, Thomas and Percival, Valerie (1996). 'Key Findings', in *Environmental Scarcity and Violent Conflict: Briefing Book*, Washington, DC: American Association for the Advancement of Science and University College, University of Toronto, pp. 6-10.

Horowitz, Michael M. (2000). 'An Environment at Great Risk: The Lower Mekong Basin', *Development Anthropologist*, vol. 18, nos. 1 and 2, New York: Institute for Development Anthropology:
http://ocid.nacse.org/cgi-bin/qml/tfdd/eventsearch.qml
http://www.transboundarywaters.orst.edu/projects/events/ &

IRN (2003). 'Mekong Campaign', International Rivers Network World Wide Web: http://www.irn.org/programs/mekong/

Lang, Malee T. (2001). *Management of the Mekong River Basin: Contesting its sustainability from a Communication Perspective*.

Li-Huu, Ti, and Nguyen-Duc, Lien *et al.* (2003). 'Mekong Case Study'. Water Resources Section, Division of Environment and Sustainable Development, UNESCAP, accessed at World Wide Web: http://unesdoc.unesco.org/images/0013/001332/133290e.pdf

Makim, Abgal (2002). 'The Changing Face of Mekong Resource Politics in the Post-Cold War Era: re-negotiating arrangements for water resource management in the Lower Mekong River Basin (1991-1995)', Working Paper No. 6, *Working Paper Series*, Australian Mekong Resource Centre, University of Sydney.

Mekong River Commission Case Study. Paper presented at Third Workshop on River Basin Institution Development. Washington, D.C.: World Bank.

MRC (1995). *Agreement on the cooperation for the sustainable development of the Mekong River Basin*. The Mekong River Commission.

MRC (1997). 'Large Dam Fisheries of the Lower Mekong Countries: Review and Assessment' Main Report prepared for the MRC by Garry M. Bernacsek, Mekong River Commision.

MRC (2002). *MRC Technical Paper* No.1, April, Mekong River Commission

Nguyen, Thi Dieu (1999). *The Mekong River and the Struggle for Indochina: Water, War , and Peace*, Connecticut & London: Praeger Publishers: Westport.

Ohlsson, Leif (ed.) (1995). *Hydropolitics - Conflicts over Water as a Development Constraint*, London & New Jersey: ZED Books.

Öjendal, Joakim (1995). 'Mainland Southeast Asia: Co-operation or Conflict over Water'. In Ohlsson, Leif (ed.) *Hydropolitics - Conflicts over Water as a Development Constraint*, London & New Jersey: ZED Books.

Öjendal, Joakim (2000). *Sharing the Good: Modes of Managing Water Resources in the Lower Mekong River Basin*. Department of Peace and Development Research, Göteborg University, Sweden.

Öjendal, Joakim and Torell, Elin (1997). "The Mighty Mekong Mystery'. *Publications on Water Resources*: no. 8, Swedish International Development Cooperation Agency (SIDA).

Öjendal, Joakim, Mathur, Vikrom and Sithirith, Mak (2002). 'Environmental Governance in the Mekong. Hydropower Site Selection Processes in the Se San, and Sre Pok Basins'. *SEI/Report Series*, no.4, Stockholm Environment Institute, Sweden.

Probe International (2003). 'Mekong Campaign', accessed at World Wide Web: http://www.probeinternational.org/pi/Mekong/index.cfm

Radosevich, G. and Olson, D. (1999). 'Existing and Emerging Basin Arrangements in Asia':

Ringler, Claudia (2001a). 'Optimal Water Allocation in the Mekong River Basin', ZEF-*Discussion Papers on Development Policy*, no. 38, Centre for Development Research (ZEF), Universität Bonn.

Ringler, Claudia (2001b). 'Too much or too little water in the Mekong?', *ZEF Newsletter*, No 6 January 2001, Centre for Development Research (ZEF), Universität Bonn.

Takahashi, Katsuhiko (1974). *Framework for Multinational Regional Development: A Case Study in the International Administrative and Financial Cooperation in the Program to Develop the Lower Mekong Basin*. New York University, New York, Ann Arbor, Michigan.

TFDD (2003a). *Mekong River Case Study*, Transboundary Freshwater Dispute Database, University of Oregon, accessed at World Wide Web: http://www.transboundarywaters.orst.edu/projects/casestudies/mekong.html, August 13th.

TFDD (2003b). *International Water Events Database 1948-1999*. Database developed by Oregon State University, accessed at World Wide Web:

The water Page (2003). 'Mekong River Basin', accessed at World Wide Web: http://www.thewaterpage.com/mekong_river.htm, accessed at October 6., 2003.

WCD 2000: *World Commission on Dams Report*, accessed at World Wide Web: http://www.dams.org, September.

Wolf, Aaron T., Shira B. Yoffe, and Mark Giordano (2003a). 'International waters: Identifying Basins at Risk'. *Water Policy*, vol. 5, no. 1:29-60.

Wolf, Aaron T., Kerstin Stahl and Marcia F. Macomber (2003b). 'Conflict and cooperation within international river basins: The importance of institutional capacity'. *Water Resources Update,* vol. 125. Universities Council on Water Resources.

4. Negotiating for Decision-Making Space in the Mekong Basin: Towards Rights-Based International River Basin Planning[61]

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ABSTRACT

The radical opening of the Mekong River Basin states to the world economy has recently assigned the region a status as one of the world's resource hot spots for industrial developers. This new geo-resource politics has for the past decade been fuelled by the governments´ desire to achieve rapid modernization. It has also been strongly guided by the international banks and reinforced by donors' influence and enthusiasm through their financial and technical support to build up capacity of various public institutions through bi-lateral agreements and within the Mekong River Commission's multi-state framework. The crafting of the triple notions of 'public participation', 'good governance' and 'decentralization' for the region's river basin development planning is, thus, high on the agenda of the international donors and banks.

This paper explores the politics of participation in the decision making process of river management policy in the contemporary Thai setting. This is seen through the debate of the World Bank-funded Pak Mool Dam in the northeastern region which is built across the Moon River, the largest tributary of the Mekong in Thailand. The Moon River villagers' recent production of their own research in the struggle to defend their river and livelihood illustrates villagers' attempt to redefine 'participation' and engagement with the state's policy process. As shown in the Pak Mool's conflict, the paper argues that the river basin planning in the Mekong must begin with an acknowledgement of local rights to livelihood and positive valuation of diversity and difference. It further suggests that the 'livelihood right' framework also encompasses a set of accompanying rights which includes local knowledge, cultural and place-based practices and locally-defined participation to influence a decision that affects their lives. It finally suggests the need to create space for regionalism from below alongside the existing power-laden regionalism from above as a counterweight and forum for multiple voices to articulate their rights and effectively influence decision making process

[61] The fieldwork on which this article is based was supported by the grant from Danida and RUF.

INTRODUCTION: NAVIGATING THE PARTICIPATION DISCOURSE

The radical opening of the Mekong River Basin states to the world economy has recently transformed the region into one of the world's resource hot spots for industrial developers. Beginning in the early 1990s, the discourses of development, free trade, economic prosperity, industrialisation and modernisation used by the states, multilateral development banks and corporations have come to dominate the policy agenda in the Mekong region. Simultaneously, international donors, inspired by their aid ideology and the ever-growing strategy of poverty reduction, which has previously failed elsewhere, have begun to be active in moulding and shaping the policy and practice of public institutions in the region through their funding influence. Thus defined, the many ethnic groups of people of the Mekong, their resources, cultures and ways of living have been brought into the politics of 'developmentalism'. In the Mekong's development landscape, the loss of traditional natural resources, which has long satisfied the needs of communities, has begun to take place.

One important arena that multinational banks and foreign governments have been enthusiastically embracing in the Mekong is the crafting of the notions of 'public participation', 'good governance' and 'decentralization' in the policy framework. In the development debate, there has been a general recognition of the need for institutional reform that would address the existing lack of institutions' responsiveness and accountability; and ensure participation (Gaventa 2002; Cornwall 2002).

Although the concept of participation has gained support among the multinational banks and donors in the region, its political ambiguity and contrasting meanings have at times lent its use to justify the state and proponents' projects, programmes and policies while suppressing the voices of dissents and hence removing perceived obstacles to achieve the goals of certain projects. Participation, in this sense, is often seen in consultation meetings and forums where the public is 'invited to participate' (Cornwall 2002) and become passive audience/listeners, lending legitimacy to the inviters and their planned interventions. This kind of the 'invited participation' (*ibid.*) is often strategically employed in various mega development projects and the state's 'territorialization' policy (Anan 2000) such as declaration of national parks on tribal people's forest land and the nationalisation of river basins previously communally controlled.

Interestingly, the language of `participation' is not exclusively used in the Mekong member states with so-called highly-democratic consciousness like Thailand, where a strong network/meshwork of various grassroots movements is already in place, particularly under the umbrella of the Assembly of the Poor. The use of this official language of 'participation' has also started to

emerge in the Mekong's socialist member states such as Laos where multinational banks have been overwhelmingly advising, mediating and assisting the materialisation of their guided-policy formulations resulting in mega projects such as dams and through biodiversity conservation framework and forest management, to name a few.

Converging with the official version (Cornwall) of 'participation' is the operating of the discourses of good governance and decentralisation – all of which are seen as the precursors towards a democratisation process. In the policy arena of the Mekong, `good governance' has been equated with creating NGOs as partners with the state and business sector in the case of Thailand (Somchai 2002) and as counterparts in development projects with international donors as in Cambodia.[62]

The notion of 'decentralisation', on the other hand, has come to mean extending central rules and control via local government onto local communities' practices as in the forest management programme in Laos (Premrudee 2000). Creating local institutions and committees in development administration has also been the donors' norm – reminiscent of the colonial legacy of 'decentralised governance to administer indirect rule' in the past (Cornwall 2002:53). One of the perhaps unintended consequences of decentralisation in this sense, which is nothing but deconcentration, is that it turns potential democracy into bureaucracy[63] with the prospect of reproducing existing relations of power differentials in the communities.

The danger of the official discourse of participation and the associated notions of good governance and decentralisation lies in the fact that it has obscured the real issues of power, including inequity of access to resources, exclusion and recognition of people's rights to influence decisions which affect their lives. In the Mekong context, where member states are highly diverse politically, economically as well as socially and where 'developmentalism' has become imperative, if not compulsive, the 'voice with influence' and communities' representation in the 'participation arena' are extremely important. For this to happen, a new kind of participation is, thus, required. It means recognizing the importance of communities directly setting their priorities and determining the direction of dialogue in the 'participation arena' in various respects. This approach to participation aims at enabling the communities to enter the decision-making space and to negotiate with the powerful.

[62] Joern Dosch, conference discussion on 'Creating the civil society from outside – international donors and the emergence of NGOs in Cambodia', October 18, 2003, Leeds University.
[63] Esteva, cited in Cornwall 2002; Esteva, G. 1985. 'Beware of Participation', *Development: Seeds of Change*, Vol 3:77

The Moon River communities' campaign against the Pak Mool Dam in order to defend their river and livelihood in Thailand provides an interesting case of a fluid and contested notion of participation. Through the making of their own research, the Moon River communities demonstrate how the space of participation can be created, occupied and shaped to counteract the experts' research findings, which would otherwise determine their lives.

Bearing in mind that the Moon River community movement is a specific popular struggle with a history of its own and thriving within the Thai's specific political, economic and social context, I do not intend to extrapolate their experience of grassroots democracy to generate a uniformed formula for the grassroots situation in the overall context of the Mekong region. Instead, I maintain that the Moon River community movement is a struggle of a specific group around the issue of river management. However, while their struggle may be unique, the origin of their struggle fourteen years ago is, in fact, reminiscent of what is happening today in the rural communities of all the Mekong member states. The inhabitants of Moon River communities share the same circumstance with their counterparts in the Mekong, where the state and influential policy makers, both national and international, in the first place have turned the blind eye to the importance of the river as a source of their livelihood and thus to their very right to livelihood.

This paper examines the competing notions of participation through the recent history of the Moon River communities' struggle against the Pak Mool Dam. It takes a look into the space in which the communities were invited to participate in the making of the official research, which subsequently informed the Thai policy makers' decision in settling the Pak Mool Dam conflict. After that, the paper looks at how the Moon River communities are constructing their own participation space by creatively making use of their local knowledge to produce their own research and discusses its implications. It then examines the regional politics in the Mekong about what the region can learn from the story of the Moon River communities' struggle, but first a brief revisit of the history of how the Moon River community movement came into being.

THE FISHERS,[64] THEIR MOON[65] RIVER AND THE DAM:

The southern Isaan region where the Moon River flows through before joining the Mekong is called Pak Moon or the mouth of the Moon. This very confluence is known as the 'two-coloured river', a popular scenic tourist attraction. Here, one sees the contrasting clear blue water of the Moon and the muddy sepia water of the mighty Mekong – the river that divides Thai and Lao lands. This lower stretch of the Moon in Ubol Ratchathani border province is home to the traditional fishers of some 60 villages who have been forced to stop fishing by the construction of the Pak Mool Dam eleven years ago. Here the legend of the Moon River fighters began to unfold, though not necessarily to become a romanticised happy ending one.

The Lao-speaking Moon River fishers with their allies have for over a decade actively campaigned, and occasionally successfully, against the state agency's 136-megawatt Pak Mool Dam. Their struggle began when the dam was first approved in 1989, with a simple doubt of how their livelihood as fishers could continue to support their families and children. They know from their day-to-day contact with their river that this section of the Moon River is special because of the natural presence of a series of 41 rapids (Tai Ban 2002). These rapids not only act as a significant type of riverine habitat, ensuring the abundance of fish supply for the communities' 'fish-based economy' (*ibid.*). But they also carry other important values and meanings (Lang *forthcoming*) deeply embedded in the local livelihood in a variety of ways through the complex social relations attached to fishing activities and expressed through religious and cultural events.

Another important meaning is aesthetically linked to the natural beauty of the rapids, which has long nurtured the soul and spirit of the river occupants. The unique landscape of the lower Moon River has given the communities a strong sense of attachment with their river of which the

[64] In this paper, the word 'fishers', instead of 'fishermen', is intentionally used to refer to the Moon River villagers who practise traditional fishing that characterised their livelihood with the web of ecological knowledge they possess about their river and its fishery resources. The term 'fishermen' is somewhat ambiguous and implies contestation of meaning. Such discourse evolves around the difference of experience held by different groups of people in their relation with the Moon River and their various perception of identity. For the Moon River fishers, they do not see themselves as 'fishermen'. To them, fishermen are related to professionals who possess sophisticated scientific knowledge like aquaculture and employ fishing technique that is based on commercialisation (the author shared this discussion with fisher Pho Chalerm and Vichian Anprasert, May, 2002, Ubol Ratchathani).

[65] The author follows the spirit of the Moon River community movement in their stand to spell the Moon with the 'n' ending, juxtaposing with the state´s spelling of the Pak Mool Dam with the 'l' ending. The word 'Moon', or 'Moon Mang Sangkhaya', is the term in Lao-Isaan dialect, which means 'inheritance' passed down to the youngsters by the ancestors. The Moon River is, therefore, considered as the natural inheritance for the Lao-speaking Isaan people for generations (Tai Ban 2002:2). The term, 'Mool', on the other hand, is a misspelling of Isaan word by the state at the centre which is based on the central standard Thai language of the Bangkok elitists.

fishers' identity is a part – an identity that signifies a special way of living (livelihood) and the importance of the river to support it. Thus, the issue of livelihood of the Moon River people has always been key both in the message they wished to make visible to the public and in the ideology that has informed the agency of the Moon River people movement in their struggle against the Pak Mool Dam.

Yet, the political consciousness and capability of the Moon River community movement that is today so potent and visible, being able to challenge the state's power through their direct collective action, has not sprung up overnight as a romantically heroic event. Rather, it has been a long learning process for all the movement's members. Like any other ordinary peripheral people, they were at first filled with uncertainty about their future after the dam construction. Passiveness and lack of confidence obviously characterised their very first move. There were fears of local and national authority and discouragement due to the World Bank's decision to give financial support for the dam. There were threats through the officials' manipulation of martial law against the dam protestors in this so-called 'pink area'[66], such as police arrests and jail terms. Propaganda by the dam agency in the area and occasional violence exerted by local 'black power' of the pro-dam groups were prevalent. Individuals´ lack of money and other resources necessary to join numerous protests represented another uphill battle for the members, who managed to cope by selling their land, cattle and fishing gear or borrowing money and falling into debt.

However, the single largest obstacle for the movement has been the existing class antagonism and social prejudice against rural communities by the urban middle class both in this peripheral province of Ubol Ratchathani and in central Bangkok. Thus, the dam agency succeeded to a large extent in its public relations campaign in blurring the reality of the dam impacts and in de-legitimising the movement. Amid all these tremendous political, social and economic obstacles, it is impressive, how the poor villagers from Isaan – a region which has long been constructed by the bureaucrat elitists as passive and backward, could organize themselves against the dam in the first place.

During the early stage of their campaign, the movement could not stop the construction of the dam. Yet, the destructive effects of the Pak Mool Dam visibly kept unfolding and became more and more detrimental to the communities´ livelihood. This helped bring the affected people together to join in the protests, gradually enlarging the size of the movement. The series of

[66] It is the military term that in the past called the remote peripheral border forest areas, which members of the Communist Party of Thailand once used as their bases and hiding places. The martial law in the border area prohibited the people's gathering of more than five members.

protests became the fora in which the villagers talked about their grievances caused by the dam, expressed sympathy for each other and discussed about the social and ecological impacts of the dam. Obviously, the Pak Mool Dam served as the point of reference in their talks and became the bookmark for the villagers who placed it between two chapters of their life – a life before and a life after the dam construction. It was, indeed, a process of conscientization in which the villagers were able to articulate the problems they were facing, making sense of what development means and should mean to them. They questioned the legitimacy of the present state-imposed development, breaking out from the long political, social and cultural oppression by the state's power, and beginning to realize their right to self-determination, i.e. to choose to live the way of life they desire.

This one and a half decade-long and still evolving struggle has not only demanded physical and emotional perseverance, patience, time and resources from the protestors. The struggle has also cultivated a number of skills for the movement – including petitioning, searching for allies, catching media attention, reinventing the Pak Mool discourses, dialoguing, persuading, negotiating and asserting political pressure through direct collective action.

A number of creative and non-violent strategies have been invented to make sure that their struggle would never fade away from the Thai public's memory. These included the protestors´ long marches, hunger strikes, climbing up the equipment to disrupt the dam construction, occupying the dam site, marathon encampments and setting up the village of the poor at the Government House in Bangkok, and protest villages at the dam site – named Mae Moon Man Yuen one and two, as well as laying siege to the Government House to force negotiation, when all doors were closed for dialogue. Culture has played a significant role in this long standing struggle. Local songs, impromptu, dance, theatre and rituals have been used not only to entertain and boost the morale and solidarity among the protestors at the protest sites. These cultural expressions have also been strategically manipulated to insert the demand for the recognition of their identity and rights to be different.

In this exercise of grassroots democracy, there were several defeats with various consequences, depending on the degree of authoritarianism possessed at the time by the government. Sometimes the protestors simply encountered opposition with fruitless responses and empty promises from the government. Other times they were faced with violent crackdowns. But there were also some successes. In 1995, after the four-month marathon encampment at the dam site, the protestors succeeded to force the government and the Electricity Generating Authority of Thailand (Egat), the dam agency, to negotiate. Eventually, Egat agreed to pay compensation to the protestors for the loss of their livelihood during the three-year period of the dam

construction, which obstructed fish to migrate from the Mekong to the Moon preventing the fishers from catching fish from the river.

Another symbolic success was when the Thaksin government in 2001 agreed to open the Pak Mool Dam's gates for one year to study the cost and benefit of this experimental opening. The Ubol Ratchathani University was assigned to carry out this important task. The university's researcher team made an effort to give space for the Moon River villagers to participate in some of their research process. It is to this research process and its attempted participation practice that I now turn.

SITTING IN THE 'INVITED SPACE'

Having been commissioned by the government with ten million baht to conduct the landmark research, which would decide the life of the Moon River communities, Ubol Ratchathani University research team showed its interest from the outset to consult and engage the multiple stakeholders in the research process. In the view of the Ubol University research team, these multiple stakeholders consisted of the fishers of the Moon River who were opposing the dam and three other stakeholder groups who were the beneficiaries of the dam, including Egat (the dam owner), the captive-fish breeders, and farmers whose land was supposed to be irrigated by the dam's water.[67]

Yet, the construction of the Pak Mool conflict as the dispute of competing claims by different river users or 'multiple stakeholders' has served to distort the real issue of unequal power relations inherent in this irreconcilable resource struggle by misrepresenting the voice of the affected communities. Both the perpetrator and victims of development, as well as the fish breeders and irrigated farmers, who are, in fact, as dam beneficiaries, the products of Egat's public relations exercise, have all been put into one totalising apolitical and feel-good notion of 'multiple stakeholders' (See detailed argument in Lang 2003a).

A senior researcher of Ubol Ratchathani University made a point on 'multi-stakeholder' representation in the research: 'We want to listen to every voice, to all the stakeholders involved. I would feel it is very unjust to leave out any of the stakeholders´ voice from the research. It would be unfair if we miss out the captive-fish breeders and farmers too. What we want to see in

[67] Both the fish breeding and irrigation have been claimed by Egat as the Pak Mool multi-purpose dam´s benefits. But in reality captive fish raising does not depend on the reservoir´s high water level as the cages are able to float according to any water level. Meanwhile, the irrigation benefit for the past eight years since the dam was functioning has been minimal (Ubol Ratchathani University 2002).

our research, in the end, is that we want everybody to be happy with the result of our research. That would be my wish if the Pak Mool Dam conflict can be resolved.' (anonymous, *personal communication*, fieldnotes 10/4/02).

The problem with such a stakeholder narrative is its uncritical understanding of the nuanced resource politics and historical evolution of the Pak Mool Dam conflict. It conceals the inherent inequity of access to the use of the Moon River and her resources, allowing the dam owner to place its dam onto the river without the communities´ consent, thereby displacing them from their traditional use of the Moon River for over a decade.

The practice of 'invited participation' under this 'multiple stakeholder' narrative has thus become the 'political technology' (Foucault in Cornwall 2002), which serves to stabilise the unequal relations of power between the dam's victims and the dam owner. By putting them into the same apolitical category of 'stakeholders', it assumes that each holds the same perceived legitimate rights as claimants of the Moon River. Informed by this stakeholder mindset, the 'inviters' have defined their role to work out a 'happy ending' solution (interview, *ibid.*) for all groups, who have been identified as 'stakeholders'.[68] Invited as one group of 'stakeholders' in this 'participation' space, the dam victims were unable to set the priorities of the issues according to what they saw as important to be included in the research study pertaining to the dam's impacts.

Interacting within the pre-defined stakeholders frame has, thus, rendered the voice of the dam victims as merely the information givers, audience or listeners. This has prevented them from participating as active agents to mutually shape the agenda of the research study to best answer the question set forth by the government for finding out the pros and cons of the experimental opening of the Pak Mool dam's gates.

Interestingly, what actually happened was that the university's research team transformed the government's original research question into a new one of investigating ways how to manage the Pak Mool Dam to serve the interests of the multiple stakeholders. The university produced its findings in September 2002 and recommended four scenarios of dam management, ranging from

[68] Clearly, there was a shift in the perception of the interviewed researcher with regards to the formulation of their research´s recommendations after the time of this interview. The university´s research turned out to recommend four scenarios for the dam management based on the analysis of stakeholders´ cost and benefits, instead of offering one fixed 'happy ending' solution as the researcher had planned at the time of the interview in April 2002. For the argument on the final outcome of the research conducted by Ubol Ratchathani University, see Lang 2003a and 2002.

closing the dam's gates permanently, to opening the dam yearly for five months, eight months or permanently. None of the proposed scenarios were chosen by the government exactly as they were formulated. However, the very concept of 'alternately opening-and-shutting the dam' has given ground for the government to decide to open the dam's gates for four months a year in the rainy season, instead of decommissioning the dam for full social and ecological recovery (See Lang 2002; 2003a and Ubol Ratchathani University 2002).

Sitting in the 'invited participation' as demonstrated in the Pak Mool case did give the dam victims´ voice. But it was a voice that had neither influence to shape nor to negotiate the direction of the evolving dialogue. Here, the rule of the game was that it is the inviters who define and decide the terms to speak and who are free from any responsibility or commitment to make sure that the views expressed by the invited participants will be included and heard. This politics of exclusion, unintentionally produced by the 'invited participation', underscores the necessity for a new kind of 'participation' which is grounded on the rights of the participants to have the shaping and negotiating role in the trajectory of the discourse and dialogue in question.

The following section discusses a process of opening up and creating 'participation space' in the terrain of research by the Moon River communities or the dam victims themselves.

PARTICIPATION AS NEGOTIATION

'We are the owners of the problems – the affected people. Our resources, our life have been destroyed. When the dam's gates were opened, fish returned, nature returned and so did our life. How could we make other people see this and believe what we wanted to tell? So we thought we should write it down and collect all the evidence. But if we let others to do it for us, we were afraid that they might not do it correctly and completely because the city people (the researchers) could not understand our way of life. They did not know about fish, rapids and the river like us. They had to come to us and to ask us anyway (when they conduct the research). So we better do it [research] ourselves' (Dum Chataphan, Don Chivoen Village in Tai Ban 2002).

In what was to become an all pervasive knowledge struggle for the Moon River community movement, 'participation' has been redefined as 'negotiation', challenging the predominant meaning of participants as 'invited audience'. 'Participation as negotiation' emphasises an important function and role of the participants to be able to monitor, influence, put pressure on and steer the direction of the overall process of decision-making that affects their lives. In exploiting this new meaning of participation, the movement has attempted to gain negotiating space with both the official researchers and the policy makers in the process of deciding how to end the Pak Mool Dam conflict. In this negotiation arena, the Moon River community

movement has now had to enter into the unfamiliar terrain of research – in other words, the contested zone of the knowledge struggle.

Throughout their struggle, the Moon River communities have endlessly experienced the state bureaucrats´ discrimination against their traditional knowledge system, particularly about the Moon River's fishery and its importance. On various negotiating tables, the fishers gave accounts about the fish migration between the Mekong and Moon, the importance of the rapids, the failure of the fish ladder and the fisheries decline as the direct impacts of the Pak Mool dam. Yet, their oral accounts were always undermined, devalued, discredited and turned down by the bureaucrats as invalid data or as accusations, based on emotions. Both Egat and the Royal Fisheries Department would draw explanations from their research reports done by their own technical experts or consultants, giving them legitimacy with solid experts´ data and figures. The anti-Pak Mool struggle is thus not merely a struggle against the dam, but also against the expert knowledge's oppression of local knowledge. Since there had never been any systematic and thorough assessment of the pre-existing fisheries and the importance of the rapids ecosystem before the dam construction, this terrain of knowledge struggle was fluid and vigorously contested. This fierce contestation over the importance of local fisheries has blurred the reality of the Pak Mool conflict, making it difficult for the wider public, particularly the elitists and urban-middle class, to know what was actually going on and which set of the knowledge to believe.

When the movement won the Thaksin government's decision to open the dam's gates and study the impacts of the dam, they took the opportunity to initiate their own research based on first hand concrete experience of the Moon River fishers. In taking up this new struggle, the movement has forced open the social space and created 'participation' on their own terms. They crossed over into the research domain, which hitherto had been closed and occupied solely by the external experts. In their own making of 'counter-research', the fishers were the local experts, active researchers and knowledge producers. They came to revive and make sense of their ecological knowledge, which had been forced out of use since the advent of the dam a decade ago (See detailed argument and the counter-research's methodology and evolution in Lang 2003, and Tai Ban 2002).

The community research, which has come to be known as the Tai Ban research,[69] has made an important contribution by conceptualising the traditional production systems of the Moon River communities. After one year of research on the consequences of the dam's experimental opening, the Tai Ban group, assisted by an NGO, the South East Asia River Network (Searin),

[69] Tai Ban is the term in Lao-Isaan dialect, which means villager. So the term Tai Ban research literally means the villagers´ research.

launched two landmark books in November 2002: the main report titled *Mother Moon: the Return of the Fishers* and a special report on the local taxonomy of the Moon River's diverse fish species. The main Tai Ban research report consisted of six study components, namely the (i) society and culture; (ii) knowledge about fishing gears and methods; (iii) fish; (iv) rapids and ecosystem; (v) natural plants and herbs[70] and; (vi) river bank farming (*ibid.*).

The significance of the findings in the counter-research[71] lies not only in its comprehensive documentation of the communal fishers´ traditional production systems. It has also brought into the fore several important conceptual meanings. Among the examples of such meanings are the definition of the river as culture, characterised by the complex linkage between the ecological and cultural values actively constructed by the Moon's fishers and communities through their everyday life activities. Intersections between cultural and ecological relations are the object of a myriad of concrete expressions, such as the communal fishing management strategy, the sharing of fish catch, the fishers' testing of their counterparts´ competencies, their small-talk to discuss and share each other's fishing techniques, as well as story-telling, songs, dances and cultural events taking place at the rapids.

Another important concept is the meaning of identity as human dignity and claimants´ legitimate rights[72] (Tai Ban 2002:29-65). Take away 'their river', and you also take away the identity of the fishers, who can no longer uphold their pride as dignified fishers, supporting their families, like they could in the past.

The production of the Tai Ban's counter-research has given significantly new meaning to what 'participation' should mean for the 'participants'. Surely, both the research-making process and its product have helped to empower the fishers, turning them into researchers, equipping them with the tools and the language of research to speak to the bureaucrat elitists and the larger public. It has widened the social space for their voice of difference to flourish. Importantly, their research has given them the authority both to negotiate with the experts on more equal terms and to enter into the state's decision-making space by creating the new field for dialogue. While juxtaposing their own version of research with that of the experts, they are contesting the meaning of the experts´ findings from all angles, constantly checking and questioning the legitimacy of the experts´ research and thus its validity.

[70] The Tai Ban group is in the process of producing its two other publications – one is the taxonomy of herbs and plants of the Moon and the other is the taxonomy of fishing gears and methods.

[71] See Tai Ban 2002, and Lang 2003 for detail.

[72] For this point, I am greatful to Vichian Anprasert, Tai Ban´s research assistant, for articulating it and sharing talks and ideas with me.

The aim of this self-created space of 'participation' is, most importantly, to ascertain that their voice will now be included and fairly represented in all debates, planning and decisions that affect their lives. In the research process, the dam victims have become both the 'makers and shapers' (Cornwall 2002; Gaventa 2002) setting the terms of reference, choosing research questions, identifying studied sites, collecting data and samples, writing down details and taking field notes, and interpreting and verifying data with the wealth of ecological knowledge from their lifelong actual experience.

THE BOARD OF FISHER EXPERTS:

Yet, there were certain obstacles and limitation in the Tai Ban's research process that the group had to overcome. There was a question about the organisation of the researchers that would give a democratically-sound and socially just representation of members (see Lang 2003). There was a lack of technical skill among the local researchers who barely knew how to operate equipment such as digital cameras and computers. Most importantly, the question about the validity of the research posed a big obstacle, since researchers are old fishers who had not attended school for more than literacy level in their time.[73] The first two limitations were not difficult to overcome. The researchers were drawn from the members who took turns to stay at the protest camping villages at the dam site – Baan Mae Moon Man Yuen one and two. Three or four villagers from each of the 65 river communities were selected by members of the protest villages and, together, they formed a team of 195 researchers. Where technical skills were needed, Searin's staff would train the local researchers how to operate the digital camera or they were frequently called upon when the local researchers needed technical assistance.

The question of the validity of the research was the most important issue for two major reasons. First, the local researchers were not familiar with writing and thus relying on the help from the young intellectuals, acting as research assistants, to produce the written texts. Second, disagreement among researchers about the interpretation of the data on some fish names and characteristics soon emerged. However, it did not take long for the local researchers to find a solution in their lively discussion. They agreed to set up a board of the most experienced and

[73] Most of the researchers who have been constantly engaged in various demonstrations and negotiations are between 55 and 70 years old. Thus the anti-Pak Mool Dam movement is characterized by protestors of older generations, since they are too old to migrate to find wage-labour in Bangkok or other big cities. They often help take care of the grandchildren whose parents left home to make a living and send back money to support families after the dam was constructed. Thus, symbolically, the anti-Pak Mool struggle is the meaningful struggle of the elderly to reclaim their river for their children in the hope that all members of their families scattered in various parts of the country following the advent of the dam will return, help to restore the livelihood and re-build the broken families and rifted communities.

knowledgeable fishers. Thus the twenty best fishers were selected among the researchers and formed the board of respected fisher experts, with the mandate to approve and verify data interpretation and the documentation process (Chainarong Sretthachua and other Searin staff, *personal communication*).

This procedure – the board of the fisher experts – also served as the basis for validating other components in the counter-research (See Tai Ban 2002 and Lang 2003 for more detail). Rather than intending to present an absolute and unchallenged truth, the validity-checking procedure adopted by the board of fisher experts entailed a process of reinventing and reshaping their local knowledge to fit and cater to their contemporary political, social and cultural situation. Like others, this body of knowledge from the Tai Ban research is subject to challenge as new and contrasting evidence and theories emerge in the future, overtaking the validity of the present knowledge and rendering it to drop into the background.

The villagers' counter-research represents an attempt through which a marginalized group of people make sense of their local knowledge, which hitherto had been oral accounts based on concrete experience. They have creatively turned it into an effective weapon enabling them to de-legitimize the external experts' enterprise of research as well as opening up space for negotiation with the state. Being timely and expedient, the Tai Ban group has crossed over into the domain of the experts´ knowledge by being able to manipulate the technology of taxonomy, mapping, and the research methodology in the production of their own research.

It is true that they did not win the government's decision to agree with their demand to open the dam permanently, because of the complex interplay with the Ubol University research's recommendations. The Thai prime minister still held, that 'the fishers must change the livelihood and adapt themselves to the new environment' (field notes, Channel 7 news, 12/2002). Yet, they have won one thing – the social space which has begun to be widened to listen to their voice of difference. The National Health and Social Research Society awarded Tai Ban the title of the best research of the year[74], boosting the morale and confidence within the movement. It was not the money value of the prize that has kept them alive, but the society's recognition of their local knowledge, once devalued and rejected as invalid.

Most importantly, they have sown the seeds for the rise of similar counter-hegemonic projects nationwide, sparking other grassroots movements, particularly those fighting around the river

[74] The research society, chaired by Dr Prawes Wasi, awarded the Tai Ban research in November last year with 100,000 baht prize.

management issues[75], to develop their own community research studies. Indeed, the Tai Ban research produced by the Moon River communities has marked one of the historic turning points in the struggle of the grassroots movement in Thailand. It represents the grassroots people's attempt to reposition themselves in relation with those in power – the state and the experts, by seizing, occupying and subverting the 'participation' space to be able to negotiate and influence a decision that affects their lives.

CONCLUSION: TOWARDS REGIONALISM FROM BELOW

The terrain of local struggle in Thailand as illustrated through the Moon River fishers´ campaign, offers a fertile ground for thinking about some of the emerging issues in the Mekong region concerning equity of access to resources for the poor in the rural communities, amid the rapidly changing development landscape oriented towards western type neo-liberal/capitalistic economy.

As seen today, the language of capitalism has become dominant in the region – so dominant that it has become impossible for the states, multinational banks and foreign governments to see social reality in the Mekong region differently. Over the past decade, the contemporary Mekong region has been intensely constructed by national and international policy makers from an imaginary that revolves around cultural and economic unity and sameness. This construction from above views the Mekong region as a territory of resources for commodification in the service of a nation-building ideology of economic homogeneity, albeit political difference.

But, there is also another construction, which is currently excluded and suppressed by the present official construction. This other construction is characterised by the daily cultural and economic practices of rural communities in diverse localities. In this construction, the Mekong is the territory of diverse ethnic relations with varied imaginaries of their own based on difference of culture and place.

Precisely this very aspect about the respect for difference is what the story of the persistent anti-Pak Mool Dam campaign in Thailand has brought to the foreground. Their struggle to defend

[75] These grassroots movements that have shown interest to initiate their own researches include Rasi Salai group against the irrigation dam in Si Sa Ket, the northern villagers against the proposed Kaeng Sua Ten dam project in Phrae, the villagers against the interstate Thai-Burma Salaween dam and the Thai river communities on the Mekong in Chiang Rai against China´s plan to blast the Mekong´s rapids from Yunnan section to Luang Phrabang of Laos. To honour the spirit of the Moon River community´s first ever production of the community research, they have all agreed to call their emerging researches, Tai Ban. The National Human Rights Committee has recently shown interest to support the Tai Ban research to be emerged in these grassroots groups (Chainarong Srethachua, personal communication).

their river and livelihood against the dam is obviously a conscious political act against the state's imposition of a singular development model, which, in their view, is illegitimate because it was done so without the victims´ consent. Explicit in their struggle is the assertion that development planning must begin with a fundamental recognition of their rights to livelihood, which respects their identity, needs, culture and knowledge as well as their participation to influence a decision that affects their lives. Their decade-long struggle is indeed the struggle to be included and to participate in the decision-making space to make explicit that their rights to be different is respected. Their latest form of resistance through the creative attempt to produce the community's counter-research signifies the new grassroots´ politics of participation by creating their own space to participate in the state's decision-making on their own terms.

This idea of respecting difference and the accompanying rights to livelihood and opening up participation space is particularly important in the Mekong region, where the majority of the population still live in rural settlements with distinct ways of living and close dependence on forest and river and other resources of the Mekong. The policy to pursue rapid modernisation in the Mekong region, characterised by the imaginary of economic sameness with political difference, underscores the importance of representation of the rural communities who are now being forced into this regional politics of developmentalism.

This requires fundamental rethinking about the present apolitical practice of `participation´, with its accompanying notions of `good governance´ and `decentralisation´. As shown in the struggle of the Moon River communities, the grassroots version of 'participation' means that the affected people, so commonly excluded in the top down policy formulations, are able to set priorities for a decision that affects their life, and possess power to negotiate in a dialogue with the powerful.

This is not to suggest that the formula of collective action of the Moon River communities´ struggle in Thailand can be extrapolated to apply to all the grassroots populations of the Mekong states. Rather, it is suggested that it is necessary to acknowledge that asymmetry between the states´ imaginary of 'developmentalism' and the social reality exists to a considerable degree in the Mekong region.

How may difference of culture and livelihood in the territory of diverse ethnic relations be best respected and represented in the policy formulation and decision-making? And how may development institutions and policy makers, amid the current states´ practice of economic togetherness with political difference, be more open and responsive to the people's voice? The answer is that a kind of space for the emergent regionalism from below must be created, as seen in the politics of regionalism from above of the Mekong River Commission and the Greater Mekong Subregion programme. The overall goal for this is to increase the capacity of the rural

population, first and foremost, to be able to articulate their needs around different concerns, parameters, issues and categories, and eventually to be able to realize their rights. Out of that, they will then construct their own identity and mobilise members, creating their own regional space according to their specific concerns and parameters. A regionalism from below is a reconstructed imaginary of the Mekong region – a forum where networks of ordinary grassroots citizens discuss together the issues before them with a sense of shared destiny towards social equity and justice and come to a decision together.

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REFERENCES

Amorn Raksasat (2000). *The People's Constitution and the Critique*, in Thai (Ratthamanoon Chabab Pra Cha Chon Prom Bot Vi Chaan), Chulalongkorn University: Bangkok.

Baker, Chris (2003). 'What's Left? Relighting a Socialist Flame in Thailand', in *The Bangkok Post*, October 25.

Blackburn, James with Jeremy Holland (eds) (1998). *Who Changes? Institutionalizing Participation in Development*. Intermediate Technology Publication: London.

Buchita Sangkhaew (1997). *The Fish Culture of the Moon River and the End of the Fishers´ Legend,* in Thai (Vatthanatham Plaa Mae Nam Moon Lae Jud Job Tamnaan Praan Plaa. The Committee for Information and Development Support: Bangkok.

Charnchai Sawaengsak (1997). *Public Hearing: People Participation in the State's Administration*, in Thai, (Pracha Picharn: Karn Mi Suan Ruam Khong Prachachon Nai Karn Boriharn Rajakarn Phaendin. Winyuchon Publication: Bangkok

Cornwall, Andrea (2002). 'Locating Citizen Participation', in Gaventa, John, Alex Shankland and Joanna Howard (eds). *Making Rights Real: Exploring Citizenship, Participation and Accountability*. IDS Bulletin, Vol 33, No. 2.

Escobar, Arturo (1992). *Encountering Development: the Making and Unmaking of the Third World.* Princeton, New Jersey: Princeton University Press.

Gaventa, John, Alex Shankland and Joanna Howard (eds) (2002). *Making Rights Real: Exploring Citizenship, Participation and Accountability*. IDS Bulletin, Vol 33, No. 2.

Kaewsan Atipoh (2000). *Public Hearing: the Measures for Conflict in Environmental Quality Management*, in Thai (Pracha Picharn: Mattakarn Yuti Khor Khad Yaeng Nai Kaan Jad Kaan Khun Na Phap Sing Vaed Lom), Vinyoochon: Bangkok.

Kasian Tejapira (2002). 'Compatriots or Colonizers?', in Thai (Phuan Ruam Chart Rue Jao Khao Krong?), *The Manager Newspaper*, Bangkok.

Lang, Malee Traisawasdichai (2002). 'The Politics of Research', in *The Bangkok Post*, November 12, 2002.

Lang, Malee Traisawasdichai (2003a). *The Knowledge Politics and the Narratives of the Pak Mool Dam in Thailand*, paper presented at the Aseasuk Conference, Leeds University, October 17-19.

Lang, Malee Traisawasdichai (2003b). *Fallacy of Sustainable Management of the Mekong River Basin: A Communication Perspective*, UNESCO Publication.

Lang, Malee Traisawasdichai. *Rapids and Reefs: an Analysis of River Commons in the Mekong Basin*, *forthcoming.*

Leach, Melissa, Ian Scoones and Lisa Thompson. 2002. 'Citizenship, Science and Risk: Conceptualising Relationships across Issues and Settings', in Gaventa, John, Alex Shankland and Joanna Howard (eds). 2002. *Making Rights Real: Exploring Citizenship, Participation and Accountability*. IDS Bulletin, Vol 33, No. 2.

Mallett, Shelley (2003). *Conceiving Cultures: Reproducing People and Places on Nuakata, Papua New Guinea.* Ann Arbor: the University of Michigan Press.

McCargo, Duncan (2002). *Reforming Thai Politics.* NIAS: Copenhagen.

Molyneux, Maxine and Sian Lazar (2003). *Doing the Rights Thing, Rights-based Development and Latin American NGOs.* ITDG: London.

Nelson, Nici and Susan Wright (eds) (2001). *Power and Participatory Development: Theory and Practice.* ITDG: London.

Nithi Iawsriwong (1996). *Two Facets of the Thai Society: A Critique of the Thai Civilization Structure*, in Thai (Song Naa Sangkhom Thai: Bot Viphark Krong Srang Arayatham Thai). Manager Media Group: Bangkok.

Premrudee Daoroung (2000). *Global Actors, Local Forests: Power Plays within Forest Management in Southern Lao PDR.* Unpublished, master of science degree thesis, University of Sydney.

Siri Khamphon (2001). *The River's Colour Changes*, in Thai (Mae Nam Plian See). Amarin and Phoom Panya Foundation: Bangkok

Somchai Phatharathananunth (2002). 'Civil Society and Democratization in Thailand: A Critique of Elite Democracy', in Duncan McCargo (ed.) *Reforming Thai Politics,* NIAS: Copenhagen.

Tai Ban Research (2002). *Mother Moon: the Return of the Fishers*, in Thai (Mae Moon: Kaan Klab Maa Khong Khon Haa Plaa, prepared by the Tai Baan Researchers Group under the Assembly of the Poor (Pak Mool Case), with support from the Southeast Asia River Network.

Thirayuth Boonmi (2002). 'Good Governance: A Strategy to Restore Thailand', in Duncan McCargo (ed.) *Reforming Thai Politics,* NIAS: Copenhagen.

Ubol Ratchathani University (2002). Project to Study Approaches to Restoration of the Ecology, Livelihood and Communities Receiving Impacts from Construction of Pak Mool Dam, Complete Report, September.

5. Development Assistance in a Transboundary River Basin Setting: The Role of Institutional Mechanisms in Safeguarding Poor People's Livelihoods and Rights to Land and Water in the Mekong Region

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ABSTRACT

Institutional mechanisms for sharing water in transboundary river basins have tended to concentrate on country-to-country, and hence government-to-government, relations. This is partly based on the assumption that water related conflict along international rivers is an issue between riparian nations who might go to war over water appropriation. The former Mekong Committee and the current Mekong River Commission are examples of such a mechanism.

However, the main tensions over water are constituted socially, culturally, economically and politically at higher levels of resolution, and the main conflict apparent in the Mekong and elsewhere is more likely to lead to social unrest and contestation between civil society and state actors than to military conflict between states.

This paper will examine axes of tension and conflict over water in the Mekong, with case studies at different levels. It will pay particular attention to ways in which development assistance could better serve the interests of the poor by reshaping its analysis from an elite-focused government-to-government conflict pre-emption/cooperation scenario toward a livelihood-oriented analysis of key directions in water resource development and management.

INTRODUCTION

The discourse of water wars, combined with increasing concern among development assistance and foreign policy agendas with governance, security and prevention of violent conflict, have tended to orient development assistance in transboundary river basin settings toward questions of state-to-state water sharing. Yet most tension and conflict over water is felt and enacted at intra-

societal levels, involving complex interactions between state and civil society actors, between

infrastructure developers and affected peoples, between public and private interests, between different sectors, and sometimes between neighbouring households and communities.

The Mekong has a long history of institutionalised river basin management supported by international development assistance, particularly in the form of the Mekong Committee and its successor, the Mekong River Commission. The region also has a history of international conflict, albeit not specifically over water issues. The end of the Cold War brought in a new era of peace and security, and a big push to develop the resources of the Mekong River Basin. Ironically, what the Asian Development Bank (ADB) refers to in its Greater Mekong sub-region program as a 'peace dividend', an opportunity to bring shelved large water resource development projects (particularly dams) back onto the development agenda, has in turn fostered a new set of tensions associated with the impacts of these very developments on some of the region's poorest people.

In this paper I suggest that rather than accepting the often simplistic discourses of 'water wars', we need to examine multiple dimensions of water-based conflict. We need to turn our attention from traditional security discourses toward a socially informed analysis of conflict. In the Mekong River Basin, such conflict is manifested most clearly in disputes over large dams. Other societal agendas that involve competing approaches to water management include issues of privatisation and establishment of new river basin committee structures. Development assistance needs to take account of the ways in which water conflict is embedded in societal structures and processes that create and reinforce poverty, in order that programmes can better address and safeguard poor people's livelihoods and rights to resources.

WATER WARS: NOTIONS OF CONFLICT

The rhetoric of water wars has tended to focus attention on actual or potential transboundary conflicts where water is an issue of concern among sovereign states. Not surprisingly, the Middle East, and notably the shared waters of the River Jordan, have received an enormous amount of attention in this regard (Feitelson 2002; Metim 2002). Institution building to pre-empt such international water wars includes the establishment of international river basin commissions to manage the more significant of the 254 rivers around the world that help drain the territory of more than one country. The Mekong River Commission is one such institution, and it is given added salience by the fact that it covers a part of the world etched in the international mind as a zone of conflict through the Second Indochina War (Vietnam War), the 'secret war' in Laos, and post-1975 conflict in Cambodia.

Despite the conventional notion of war as a conflict between two or more sovereign states (unless it is a civil war), conflict over water actually assumes quite different dimensions, so that we need to extend our notion of 'transboundary conflict' beyond that of fights between upstream and downstream states (Blatter and Ingram 2001). Perhaps the most famous 'water war' was fought on the streets of Bolivia's third largest city, Cochabamba, in April 2000. The conflict had an international dimension, but only inasmuch as it was a struggle against sale of the city's water supply to Aguas del Tunari, a subsidiary of a US-based transnational corporation, Bechtel as the World Bank and Inter-American Development Bank had pressured the Bolivian state to privatise water service provision as part of a neo-liberal reform agenda. Essentially the street conflict was between Bolivian police and the citizens of Cochabamba and surrounding agricultural districts, while the ideological conflict was between water as a public and local/national resource versus water as a transnationally owned or administered commodity.

The distinction between conflict over water as an international tension versus water conflict as a socially produced and articulated tension has significant parallels in the literature on environmental security (and insecurity). The concept of environmental security emerged out of conventional security discourse, in which the main concern was that resource scarcity and environmental degradation in poorer countries would threaten security interests of others, hence a need to see environmental issues in developing countries from a self-interested security standpoint on the part of wealthier countries (Falk 1971; Buzan 1991; see also Barnet 2001:37).

A variation on this analysis was developed through what is often termed the Homer-Dixon school, which suggested that we need to look at environmental externalities and resource scarcity to understand many of the conflicts around the world as products of underdevelop-ment, food shortage and poverty, but not at a state-to-state level – rather, through looking at the material conditions underlying social unrest (Homer-Dixon and Percival 1996). Homer-Dixon (1995) refutes the "chimera' of water wars as military conflicts between nation states, suggesting that instead we should look to the results of water scarcity in lost food production, poverty and associated migrations to understand water-related conflict. This academic analysis receives support in the public arena from Kasmar Asmal, former South African water minister and chair of the World Commission on Dams, who suggests that the idea of water disputes as '*casus belli*' (cause of war) is an unfounded myth. Kasmar Asmal quotes and refutes both Mikhail Gorbachev, President of International Green Cross, and Klaus Toepfer, Director of the United Nations Environment Program in their dire predictions of water wars between nations (Environment News Service 2000). He suggests that renewable resources and water in particular, have rarely if ever led to armed conflict between nations.

Even Homer-Dixon's more nuanced and localised conceptualisation of environmental

(in)security is driven by a fairly conventional security notion, which is to look at roots of conflict in terms of resource scarcity resulting from underdevelopment. This approach is open to critique in two important senses. First, it has been criticised in the sense that it tends to be driven from the conventional security concern of how best to pre-empt conflict and unrest, rather than seeing environmental security in terms of human well being and assured livelihoods (Barnett 2001). This latter approach looks for human security in environmental resources themselves, and insecurity through their absence – or, in some cases appropriation resulting from exploitative resource development.

A second critical approach is found in Vandana Shiva's 2002 *Water Wars: Privatisation, pollution and profit*, the subtitle of which similarly indicates that it is not so much transboundary conflict as socially produced scarcity and what Shiva calls 'paradigm wars' to which we should look for understanding water-induced conflict. Further, Shiva and others have looked to the neo-liberal approach and gigantism in water resources development as a primary source of this type of insecurity and conflict. For Shiva, the violence that represents the security threat is in the impact on marginalized groups. For more conventional security analysts, the insecurity of such 'paradigm wars' comes from the protests and threats to established social and political order represented by social movements (e.g. Dupont 2003).

These different notions of water security reflect quite different starting points for concern. Dimitrov (2002) has reviewed different notions of environmental security in the context of water conflicts, and asserts that depending on whether we are primarily interested in conflict prevention, food security or ecological security respectively, we will take our analysis – and by implication intervention – in quite different directions.[76]

THE MEKONG

The Mekong River flows through China, Burma, Lao PDR, Thailand, Cambodia and Vietnam (Figure 1). At 4800 km it is the world's tenth longest river, and its annual freshwater discharge of 475 billion cubic metres (or average 15,000 cubic metres per second) makes it the eighth largest

[76] The dynamics of the Third World Water Forum (3WWF) in Kyoto also indicate the complexity and nuanced ideological dimensions of debate and conflict over water itself and the ways in which it is used, managed and socially allocated. Key documents reflected and triggered intense discussion on infrastructure (Winpenny 2003; see also World Commission on Dams 2000) and private sector participation (Gutierrez et al 2003; see also Barlow and Clarke 2002), while there was also significant discussion at 3WWF of alternative visions of river basin management from managerial and grassroots perspectives.

in terms of volume. Seasonal fluctuations in this monsoonal river see average monthly flows vary by about 15 times between its lowest in April and highest in October. Relative to other rivers around the world, the Mekong has not been heavily exploited, with up to 90 per cent of the natural flow continuing to follow its natural seasonal course. However, economic growth and developmental pressures are changing this situation rapidly.

Conflict and cooperation in the Mekong

For much of the latter part of the twentieth century, the Mekong was a region of conflict, of hot and cold war. However, even more so than in the Middle East, the main sources of conflict lay outside the arena of transboundary water sharing. Rather, the region was at the front line of superpower conflict and the related ideological battles of the Cold War. Indeed, even during the most intense periods of tension, cooperation over Mekong water sharing and sales of hydropower-sourced electricity across borders between geopolitical antagonists continued unabated, for example between Thailand and Laos even as they fought border skirmishes during the 1980s, supporting Kadar Asmal's assertion that at an international level water is more often a focus for peaceful co-existence than a source of geopolitical conflict. As shown below, geopolitical conflict may cause the slowdown of some water cooperation, rather than the other way around.

The framework for cooperation in the Mekong dates back to the 1950s. In 1957, the Mekong Committee was established under United States tutelage to provide a framework for developing the water resources of the lower Mekong Basin. Only the four lower riparian countries became involved, China and Burma being excluded for geopolitical reasons. For the early part of its existence, the Committee, through its secretariat based in Bangkok, developed a master plan for large-scale development of the Basin's water resources, most notably through a proposed cascade of large dams on the main stem of the river (Mekong Committee 1970). The cover of December 1968 issue of National Geographic is entitled 'The Mekong: River of Terror and Hope', the terror representing the communist menace, as it was seen from a North American perspective of the time, the hope representing development through large-scale dam construction to tame the river.

Many of the plans that were formulated for the Mekong were put on hold during the conflict. The Mekong Committee went into abeyance in 1975 following Cambodia's withdrawal, and in 1978 it was reconvened with three member states as a largely moribund Interim Committee. However, by the late 1980s a regional rapprochement was well underway, and interest rapidly gathered pace for a revived development agenda. Thai Prime Minister of the time Chatichai Choonhavan called for battlefields to be turned into marketplaces, based in part on extension of Thailand's economic fortunes into a regional resource economy (Hirsch 1995).

In 1992, the Asian Development Bank established its Greater Mekong Subregion program under the rubric of reaping a 'peace dividend', that is taking advantage of favourable conditions for large-scale transboundary infrastructure and other development projects. In particular, main stem and tributary dams have been revived (Hirsch 1996). The Mekong River Commission was established in 1995 under the *Agreement on Cooperation for the Sustainable Development of the Mekong River Basin*, but China and Burma chose again to stay outside this framework for cooperation – in China's case, as the upstream country that has less to gain and more to lose from constraints that might be imposed by water sharing agreements, consultation over its hydropower plans and full information disclosure within the river basin.

Water wars in the Mekong?

In a recent article, geographer Chris Cocklin notes of the Mekong, that:

> While the geopolitical threats to security have abated to some extent in the region, the new economic pressures for development presage equally wide conflict, this time over natural resources. The Mekong River Basin, for example, is an arena of contested resources and contested development visions. There, as in other parts of Asia, human security is under threat in multiple respects – socially, culturally, economically and in relation to the access to and use of a fundamental resource, namely water (Cocklin 2003:5).

Significant new pressures have arisen over the past decade associated with the new framework for cooperation. One type of insecurity (geopolitical) has been exchanged for another (livelihood impacts of dams). The most significant projects are the eight dams being built on the Lancang River, the portion of the Mekong mainstream in China. Two of these are complete, and one - at 300 metres tall the equal highest in the world - is under construction. As China is not a member of MRC (and is a military superpower), there is little that downstream countries can do, despite the threats to the macro-ecology of the river. In the four lower Mekong countries, a large-scale agenda of tributary dams similarly poses risks to the riverine ecology and hence to the livelihood security of those most dependent on it – who tend to be the poorest and most marginalized in the region.

While China is acting unilaterally with regard to hydropower development, an equally controversial scheme is being carried out in agreement with the Thai, Lao and Burmese governments. The rapids on the upper stretch of the Mekong that forms the border between Laos and Burma and Laos and Thailand are being blasted to make the river navigable for larger boats in support of regional trade between Yunnan and northern Thailand. Local fishers and

NGOs are vehemently opposed to this ecologically destructive scheme, fearing significant impact on livelihoods. This is a clear example of how we need to re-orient our understanding of conflict toward dimensions other than state-to-state relations.

There are thus several dimensions of conflict over water in the Mekong. At an international level, there are continuing issues of water sharing. When the MRC was being reconstituted from the old Mekong Committee, fundamental differences emerged between upstream Thailand and downstream Vietnam, notably over the right of veto by downstream countries. While Thailand got its way in quite a loose set of rules under the 1995 agreement, current attempts to clarify and tighten water sharing through the Water Utilisation Program have brought issues of national sovereignty over water resource development back onto the agenda in the international river basin. Nevertheless, this is not a security issue in the sense of any possibility of armed conflict – the countries, now all members of the Association of Southeast Asian Nations, are not going to go to war over the issue.

Intra-national security and conflict over watersharing are an issue, however, in the case of individual projects. The Pak Mun Dam, in particular (please see paper by Malee Traisawasdichai Lang in this volume), and other projects associated with Thailand's Khong-Chi-Mun intra-basin diversion scheme, have engendered conflict that has turned violent on a number of occasions. Similar conflicts have occurred at Rasi Salai in particular. In these cases, however, the violence is between affected fishers and farmers, on the one hand, and authorities including provincial administration and the dam owners on the other, including Electricity Generating Authority of Thailand and the Department of Energy Promotion. Elsewhere in Thailand, conflict associated with water issues has occurred where lowlanders have, with official complicity, blamed upland minority cultivators for damaging headwater forests of northern watersheds and have destroyed uplanders' orchards and, on some occasions, burned villages.

Another potential flashpoint over water in Thailand is the privatisation agenda. Water is traditionally a public good, which is not to suggest that it is accessed in a free-for-all or costless manner. Traditional irrigation societies (*muang faai*) have long treated water and watershed resources as common property, subject to rules, labour inputs and other commitments. Institutional forms of water management have been based on local belief and customary practices. Bureaucratisation of water management through the Royal Irrigation Department has been associated with construction of more permanent and larger structures. However, recent intensification of demand for water has raised the spectre of marketising access to water.

This pressure has been reinforced by a neo-liberal reform agenda in which external development

assistance agencies such as the ADB have achieved leverage over policy, and water pricing is one of the more controversial aspects of this agenda. Further, prospective privatisation of municipal water supply is seen by suspicious civil society groups as the thin end of a wedge that will turn a public resource into a commodity, with regressive implications for the country's poor. Similar policy reform is mooted for other Mekong countries, but less articulate and more politically constrained civil society groups in these countries have not mobilised public opinion to the degree that have groups in Thailand against this direction of reform.

The privatisation of large-scale infrastructure is closely related. Build-own-operate-transfer (BOOT) has rapidly taken over as the preferred mode of financing large dams, as well as transport and other energy infrastructure, in place of the public investment model that depends on direct borrowing from international financial institutions. The International Rivers Network has termed this privatisation of public water resources by large international corporate consortia as a 'rent-a-river' approach, reflecting the effective long-term leases given to private operators over public resources such as waterways. Several existing and proposed projects, the largest of which is the Nam Theun 2 dam in Laos, are reliant on BOOT arrangements.

An even more complex point of national level contestation is the establishment of river basin committees (RBCs). In Thailand the country has been divided into 25 key river basins, each of which has been assigned an RBC in the name of devolved authority and resource management on a bio-regional basis. This seemingly progressive and participatory move has met with concern by NGOs and other local groups who see it as an extension of the power of the new Department of Water Resources bureaucracy downward rather than an upward extension of local action, raising concern over the true meaning of participation (Cooke and Kothari 2001).

A key issue is that process has given way to form in some cases here, whereby establishment of these committees has been hurried and involves excessive representation by local state authorities. Water activists also accuse the committees of having agendas that are to be largely geared toward mobilising constituencies for renewed river engineering in a country where opposition to large projects has achieved a degree of success in halting the more controversial schemes such as Kaeng Sua Ten dam and the Kok-Ing-Nan diversion scheme.

Elsewhere in the Mekong Basin, the violence and conflict is not expressed through confrontation in the conventional security sense. Rather, the violence has been more silent through incursions on the livelihood security of affected people. The Se San experience is a case in point.

Livelihood, Rights and Water in the Mekong

The principal imminent conflicts over water in the Mekong are thus based around actual, potential or perceived threats to livelihood rather than on frictions between governments. Often, in fact, the key lines of tension are between governments and the riparian populace.

While the Mekong is a water-abundant region measured in international terms of fresh water availability per person, such gross measures can be misleading. For many, volumes of water available for drinking and domestic use are not the key issue. Water quality can be as important, as impacts of altered hydrological regimes have had significant impacts on public health. Fisheries are a key water-dependent livelihood resource for the poorest communities living along the Mekong and its tributaries. Current estimates by the Mekong River Commission puts the annual consumption of freshwater fish from the Mekong at two million tonnes per annum, and the Mekong is the second most biodiverse river in the world with at least 1300 and up to 1700 fish species (Bao *et al.* 2001). In the two poorest countries of the region, Laos and Cambodia, between 40 and 80 per cent of all animal protein comes from fish. The limited experience of damming in Laos, notably Nam Theun Hinboun and Nam Song Dams, has shown a drastic impact on the natural fishery, and on diets and income dependent on the fishery (Warren 2000; Sirivanh *et al.* 2000). Any significant disruption of the macro-ecology that reduced catches in Cambodia's Tonle Sap, which depends on the annual reverse flood cycle (please see the paper by Poul Erik Lauridsen in this volume), would have a devastating impact on the rural poor and indeed on that country's entire economy.

CASE STUDY: THE SE SAN CONFLICT[77]

The Se San River is a tributary which rises in the provinces of Gia Lai and Kon Tum in the Central Highlands of Vietnam and flows westward through Ratanakiri Province in northeastern Cambodia to its confluence with the Mekong in Stung Treng Province. In 1996, remote indigenous communities along the length of the river noticed some unseasonal and exceptionally high flooding, which carried away boats and livestock. Subsequent years' irregular flows continued to be attributed by the animist villagers to unhappy spirits, which were propitiated accordingly. In early 2000 some dramatic water releases by the Yali Falls Dam, alternating with periods during which the river dried up altogether, helped alert villagers to the fact that Vietnam

[77] The Se San conflict is also discussed in the paper by Poul Erik Lauridsen in this volume.

had blocked a significant tributary with the Lower Mekong's largest dam project to date some 70 km upstream of the Vietnam-Cambodia border.

Yali was planned under the old Mekong Committee. In 1993, SIDA and the Swiss Government funded the Swiss firm Electrowatt Engineering Services Ltd to conduct an EIA, which assessed impacts only eight kilometres downstream of the dam site. The main purpose of the dam is to supply power to Ho Chi Minh City, via a transmission grid that has received support from the World Bank. SIDA advises the dam owner, Electricity of Vietnam, on energy development. The Asian Development Bank was due to finance Se San 3, the next dam on the Se San River, until international NGO pressure led ADB to carry out a post-impoundment review of Yali Falls impacts and subsequently require further environmental studies by Vietnam. At this point, Electricity of Vietnam decided to build Se San 3 without ADB assistance.

The flooding in 2000 led to devastating impacts on the downstream communities. At least 32 people were drowned, there was massive loss of livestock, crops and other property, and public health impacts are difficult to ascertain but some estimates link several hundred deaths from gastro-intestinal diseases to deterioration in water quality (Baird *et al.* 2002). Vietnam has since apologised to these communities, but they have received no compensation to date.

In 2000, in the absence of official recognition of the existence, not to mention extent of the impacts, a coalition of non-governmental organisations and a network of riverine communities began to document the impacts and losses through a series of studies (Hirsch and Wyatt 2004). These were initially undertaken in Ratanakiri and later in Stung Treng Province. The Se San Protection Network (SPN) was formed, with the intention of working progressively upward through the provincial authorities, national authorities and Mekong River Commission to try to deal with the problems and influence Electricity of Vietnam to reconsider its program of building several more dams on the upper Se San (six are planned) and possibly to change the operating regime of Yali so as to reduce impacts such as unseasonal flows (in local parlance, to restore the dry season to the dry season and wet season to the wet season) that have continued to impact on fisheries, flood zone gardening in the dry season, gold panning, and many other traditional aspects of livelihood.

The MRC sent a fact-finding mission to Ratanakiri in March 2000. Following this, MRC facilitated the establishment of a Cambodia-Vietnam Joint Committee for the Management of the Se San River. This Committee has met three times, most recently in October 2003, and has slowly progressed the agenda and grievances of the affected communities. However, a combination of circumstances has limited the Committee's effectiveness, not least of which is the

unequal power relationship between Vietnam and Cambodia.

There has also been very little attempt by the Cambodian side of the Committee to take on board the grievances of the affected communities. Moreover, vastly different capacities in terms of knowledge and facility with scientific argument has continued to put the Cambodian side on the back foot. It has mainly been pressure from SPN at various forums that has moved the agenda forward, including a national workshop in Phnom Penh in November 2002, where the provincial governors of both Ratanakiri and Stung Treng provinces made strong statements in support of the affected communities. MRC declined formal representation at this workshop on the basis that Vietnam was not represented.

Clearly, there are significant shortcomings in the governance of the Mekong River and its tributaries based on a conflict analysis that sees water wars as essentially state-to-state affairs, even in a transboundary situation such as Se San. In the case of the indigenous communities of Ratanakiri and Stung Treng, MRC offers little recourse. Amelioration of the livelihoods of the poor in this case relies on civil society actors supporting a stronger voice by riparian communities vis-à-vis the state. It also sometimes means recognising common interests between such communities and local government and finding ways for them to work in harmony, such as in the case of Se San where provincial government has been supportive of community voices. International agencies need to provide back-up with greater knowledge support for local interests.

IMPLICATIONS FOR INTERNATIONAL DEVELOPMENT ASSISTANCE

The implications of a conflict analysis based less on state-to-state relations, and more on water management embedded in a complex socio-political milieu (including state to state relations), are challenging for development assistance agencies. The final section of this paper offers some tentative reflections for multilateral, bilateral and non-governmental agencies working in the Mekong. [78]

Support for MRC: The Mekong Committee and the Mekong River Commission have in many ways served for many as a model, even a beacon, in maintaining a cooperative approach to water sharing in a transboundary river basin straddling a developing region with a history of geopolitical conflict (Kliot *et al.* 2001). Yet, the current principal lines of tension are not between sovereign

[78] A more dated but detailed analysis is presented in Hirsch and Cheong (1996).

governments. Development assistance through the MRC should encourage attention to key governance principles that focus on the livelihoods of the poor who depend on the river's resources. Danida's reduction of funding support for the MRC Fisheries Program is an unfortunate move away from that direction.

Support for innovative governance arrangements: If support is to be given to innovative river basin governance, for example through establishment of river basin committees, there needs to be more attention to process, power relations, issues of representation, and perhaps above all a recognition that such institutions are embedded in an existing societal framework for use, management and negotiation of rights over water.

Legitimation of grassroots roles in river basin management: Attention to transboundary aspects of river basin management tends to focus attention on the macro-scale, and in so doing it can inadvertently privilege elite actors. Approaches to river basin management that start from the grassroots but also address wider issues of water sharing are perhaps the most deserving of attention. A current initiative by the NGOs Both Ends (Netherlands) and Gomukh (India) is a promising move in this direction. Funded by the Netherlands government through DGIS, the *River basin management: a negotiated approach* project seeks to document innovative ways in which river basin communities are articulating their interests and upscaling their activities to higher levels. The Se San case is one of those being documented.

Water resource assessment of non-water based development assistance: Many aspects of development assistance have indirect implications in the water sector. Given the increasing recognition of the centrality of water in livelihood security and human well-being, more attention needs to be placed on assessing impacts and accountability of programs that are not themselves water- or river-focused. An interesting case in point is World Bank support for transmission lines in Vietnam. The only logic of support for high-voltage grid linking the Central Highlands to Ho Chi Minh City is to support (and implicitly subsidise) the construction of more dams on the upper Se San and Srepok tributaries. Yet, the World Bank does not assess the water impacts of such a scheme in project planning under existing protocols.

Transboundary assessment of bilateral programs: Several bilateral and multilateral donor agencies maintain both country and regional programs. The regional programs address transboundary issues by their very nature, but bilateral programs can be blinkered by borders even when the donor maintains such programs in a number of the riparian states. For example, SIDA (Swedish International Development Authority) and JBIC (Japanese Bank for International Cooperation) needs to assess the implications of their support for Vietnam's hydropower development on downstream communities in neighbouring countries. A recent JBIC workshop

in Hanoi indicates a positive move to take impacts into account more seriously within that country, drawing on the experience of dams throughout the Mekong, and this analysis needs to be extended across borders.

Integration of water-focused assistance with related sectors: There are dangers in an exaggerated water fetish. Water is itself, of course, the stuff of life, but so are many aspects of ecology that support livelihoods that are dependent on water. Thus, water policy needs better integration with nutrition, public health, fisheries and other programs whose basis is healthy rivers.

A more strategic and legitimised role for NGOs beyond service delivery: Most of the advances made by the mainstream development agencies in recognising the impacts of large-scale water resource development on the poor have come about as a result of significant confrontation based on challenges by NGOs and local communities, or what is broadly termed 'civil society'. NGOs themselves need to take a more strategic direction in linking advocacy, research and program/community development initiatives (Miller 2003). Mainstream development agencies need to resist pressures to de-legitimise advocacy on the part of NGOs that is currently part of a backlash, while at the same time supporting such organisations in maintaining standards of transparency and accountability. Mainstream agencies might also seek positive connections between NGOs' grassroots service delivery experience and constructive ways in which they can thus serve as policy advocates with and on behalf of the poor.

Risk and vulnerability analysis: There is still considerable methodological weakness in assessing risk and vulnerability in water resource development and management. Some key work (e.g. Adger *et al.* 2001) provide a basis for developing contextually relevant analytical tools. The experiential side of risk needs particular attention, with a move away from project risk assessment that is set entirely in terms of risks to project holders, toward one that recognises that risk in water management is socially constructed and distributed, and that water resource development can decrease, increase and redistribute such risk.

REFERENCES

Adger, Neil; P. Mick Kelley and Nguyen Ninh (2001). Living with environmental change : social vulnerability, adaptation and resilience in Vietnam, London, Routledge.

Baird, I., Baird, M., Chunm Moni Cheath, Kim Sangha, Nuon Mekradee, Phat Sounith, Phouy Bun Nyok, Prom Sarim, Ros Savdee (Phiap), Hannah Rushton, and Sia Phen (2002). A Community-Based Study of the Downstream Impacts of the Yali Falls Dam Along the Se San,

Sre Pok and Sekong Rivers in Stung Treng Province, Northeast Cambodia, March 2002 , Se San Protection Network Project, Partners For Development (PFD), Non Timber Forest Products Project (NTFP), Se San District Agriculture, Fisheries and Forestry Office, and Se San District Office.

Bao,T.Q; Bouakhamvongsa, K; Chan, S; Chhuon, K.C.; Phommavong, T.; Poulsen, A.F.; Rukawoma, P.; Suntornratana, U.; Tien, D.V.; Tuan, T.T.; Tung, N.T.; Valbo-Jorgensen, J.; Viravong, S.; and Yoorong, N. (2001). Local knowledge in the study of river fish biology: experiences from the Mekong, Mekong Development Series No 1, 22 pages, Phnom Penh July 2001.

Barlow, Maude and Tony Clarke (2002) Blue gold: the battle against corporate theft of the world's water, London, Earthscan.

Barnett, Jon (2001) The meaning of environmental security: ecological politics and policy in the new security era, London, Zed Books.

Blatter, Joachim and Helen Ingram (2001). Reflections on water: new approaches to transboundary conflicts and cooperation, Cambridge, Massachussetts, MIT Press.

Buzan, Barry (1991). People, states and fear: an agenda for international security studies in the post-Cold War era, Hertfordshire, Harvester Wheatsheaf.

Cocklin, Chris (2003). Water and human security, Asia Pacific Network for Global Change Research, October 2003, 3-5.

Cooke, Bill and Uma Kothari (2001). Participation: the new tyranny? London, Zed Books.

Dimitrov, Radoslav S. (2002). Water, conflict and security: a conceptual minefield, Society and natural resources, 15,8, 677-91.

Dupont, Alan, 2003, Will there be water wars? Development Bulletin, 63, 16-20.

Environment News Service (2000). Water wars not a worry for world's top dam expert, Article posted August 18, 2000, accessed 18/11/03 at http://www.globalpolicy.org/security/natres/water/2000/0818asma.htm

Falk, Richard (1971). This endangered planet: prospects and proposals for human survival, New York, Random House.

Feitelson, E. (2002). Implications of shifts in the Israeli water discourse for Israeli-Palestinian water negotiations, Political Geography, 21, 293-318.

Gutierrez, Eric; Belinda Calaguas; Joanne Green; and Virginia Roaf (2003). Does PSP benefit the poor?, London, Water Aid and Tear Fund.

Hirsch, Philip (1995). 'Thailand and the New Geopolitics of Southeast Asia : Resource and Environmental Issues', in Jonathan Rigg, ed., Counting the Costs : Economic Growth and Environmental Change in Thailand, Singapore, Institute of Southeast Asian Studies, pp 235-59.

Hirsch, Philip (1996). 'Large dams, restructuring and regional integration in Southeast Asia', Asia Pacific Viewpoint, 37(1), 1-20.

Hirsch, Philip and Gerard Cheong (1996). Natural resource management in the Mekong River Basin: perspectives for Australian development cooperation, Report to AusAID, 2 April 1996. Full text available at http://www.mekong.es.usyd.edu.au/publications/index.htm

Hirsch, Philip and Andrew Wyatt (2004). Negotiating local livelihoods: scales of conflict in the Se San River Basin, Asia Pacific Viewpoint, April 2004 (forthcoming).

Homer-Dixon, Thomas (1995). The myth of global water wars, Toronto Globe and Mail, November 9, 1995 (Accessed 18/11/03 at http://www.homerdixon.com/pop/water_bottom.htm)

Homer-Dixon, Thomas, and V. Percival (1996). Environmental scarcity and violent conflict: briefing book, Toronto, American Association for the Advancement of Science.

Kliot, N; Shmueli, D; and Shamir, U. (2001). Institutions for management of transboundary water resources: their nature, characteristics and shortcomings, Water Policy, 3, 229-55.

Mekong Committee (1970). Indicative Basin Plan, Bangkok, Mekong Secretariat.

Metim, Yusurref, 2002, Governing international common pool resources: the international water courses of the Middle East, Water Policy, 4, 305-21.

Miller, Fiona (2003). Strategic Identification of Existing and Potential Research, Advocacy and Program Linkages on Water-related Issues, unpublished research report to Oxfam Community Aid Abroad and Australian Mekong Resource Centre.

Shiva, Vandana (2002). Water Wars: Privatisation, pollution and profit, London, Pluto Press.

Sirivanh Khonthapane; Andrew Wyatt; and Viliam Phraxayavong (2000). Investment models – social and environmental impacts in Laos. Paper presented at conference on Accounting for Development: Australian and the Asian Development Bank in the Mekong Region, Sydney, June.

Warren, Terry (2000). Impacts to fish populations and fisheries created by the Nam Theun-Hinboun Hydropower Project, Lao P.D.R., Paper presented at conference on Accounting for Development: Australian and the Asian Development Bank in the Mekong Region, Sydney, June.

Winpenny, James (2003). Financing water for all: report of the World Panel on Financing Water Infrastructure (Chaired by Michel Camdessus), Kyoto, 3rd World Water Forum.

World Commission on Dams, 2000, Dams and development: a new framework for decision making, report of the World Commission on Dams, London, Earthscan.

6. Interstate Collaboration, Local Conflicts and Public Participation in the Nile River Basin

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ABSTRACT

The Nile River Basin has often been highlighted as one of the transboundary river basins in the world where the risk of interstate war over water resources is highest, particularly between the lower Nile Basin countries Egypt, Ethiopia and Sudan. Nevertheless, partly due to the various international treaties and the more recent donor-supported Nile Basin Initiative, partly due to a range of other factors such as the presence of a powerful downstream nation, lack of economic resources to fully develop available water resources and political instability, no water war has erupted to date. While the Nile Basin Initiative holds prospects of further stimulating interstate collaboration over the Nile, there seems to be a needs to further strengthen the focus on local and regional water-related conflicts which apart from affecting people's livelihoods, also may undermine the efforts of the Nile Basin Initiative, in particular the shared vision and action programmes envisaged by all the Nile River Basin countries. Within this process particular attention should be paid to the role of public participation to ensure that local conflicts are voiced and local interests are heard before implementing action on the ground as neglect of local realities and interests may create new conflicts which eventually will impact the possibility to achieve sustainable and equitable development of the Nile Basin water resources.

INTRODUCTION

The Nile River Basin is one of the often referred to cases in the study of transboundary water management issues, and also one of the frequently cited examples of the emergence of a new type of potential resource war that is claimed to become increasingly important in the future (Bulloch and Darwish 1993; Waterbury and Whittington 1998; Klare 2001; Shiva 2002). With direct reference to the numerous threats made by politicians in especially Egypt and Ethiopia over the use and control over the Nile waters, UNESCO's Director-General Federico Mayor

stated that 'More than petrol and land, it is over water that the most bitter conflicts of the near future may be fought' (Perelet 1998)[79].

Fortunately, none of these threats have been brought to fruition. On the contrary instead of war, processes of collaboration are emerging on the Nile of which the most promising may be the Nile Basin Initiative (NBI). However, at the same time as collaboration is taking shape at interstate level, very little attention has been given to existing or future water conflicts at regional or local level, although these are affected by and may profoundly affect transboundary water conflict and collaboration.

This paper seeks to explore why the use of and conflict over water resources along the Nile will not generate water wars, but instead has stimulated river basin collaboration, and how this raises new questions and new challenges at regional and local level as existing and future risks of conflict at these levels come into focus. It is discussed why we need to deal with sub-national conflicts in transboundary water management, and how increasing public participation at all levels of decision-making (local to international) may help to provide a voice for the poor and their water resource problems and conflicts (e.g. over access, control and management of water and other natural resources that affect or are affected by water management), hence facilitating conflict resolution.

OVERVIEW OF WATER USE AND WATER CONFLICT IN THE LOWER NILE BASIN

> 'Among the international river basins in the Third World, the Nile basin has the distinction of being shared not only by the largest number of riparian states but also by some of the youngest states in the Third World. In no other basin is the strongest riparian state so totally dependent on the waters of a single river that flows into it from sources outside its territory and to which its own territory adds so little water'. (Elhance 1999:80)

The Nile River Basin is shared by 10 different countries in Northern and Eastern Africa of which Egypt, Sudan and Ethiopia constitute what Leif Ohlsson calls a 'Lower Nile Basin hydrology

[79] Similar statements have been put forward by Klaus Toepfer, Director-General of the United Nations Environment Program (UNEP) and former minister of the environment for Germany (Environmental Science & Technology 1999), and by Ismail Serageldin, World Bank Vice-President and Chairman of the *World Commission on Water for the 21st Century* (*World Commission on Water for the 21st Century* 1999)

security complex' (Ohlsson 1999:195). The other seven riparian states of the Nile include Uganda, Kenya, Tanzania, Rwanda, Burundi, Congo and Eritrea. Of these especially Kenya, Uganda and Tanzania and to a lesser extent Rwanda and Burundi are part of what Ohlsson similarly labels 'the Lake Victoria complex' (*ibid.*).

The key causes of conflict between the lower river basin countries are scarcity, dependency and distribution of water. Egypt and to a lesser extent Sudan are totally dependent on the Nile River to maintain their current level of development. However, their contribution to the river is virtually nil (in the case of Egypt) or very low (Sudan). Ethiopia, on the other hand while contributing almost 85 per cent of the water in the Nile, uses only a very small percentage of the total water flow, despite obvious development potentials. This has often led to tense situations involving war threats, intervention in internal affairs and political pressure.

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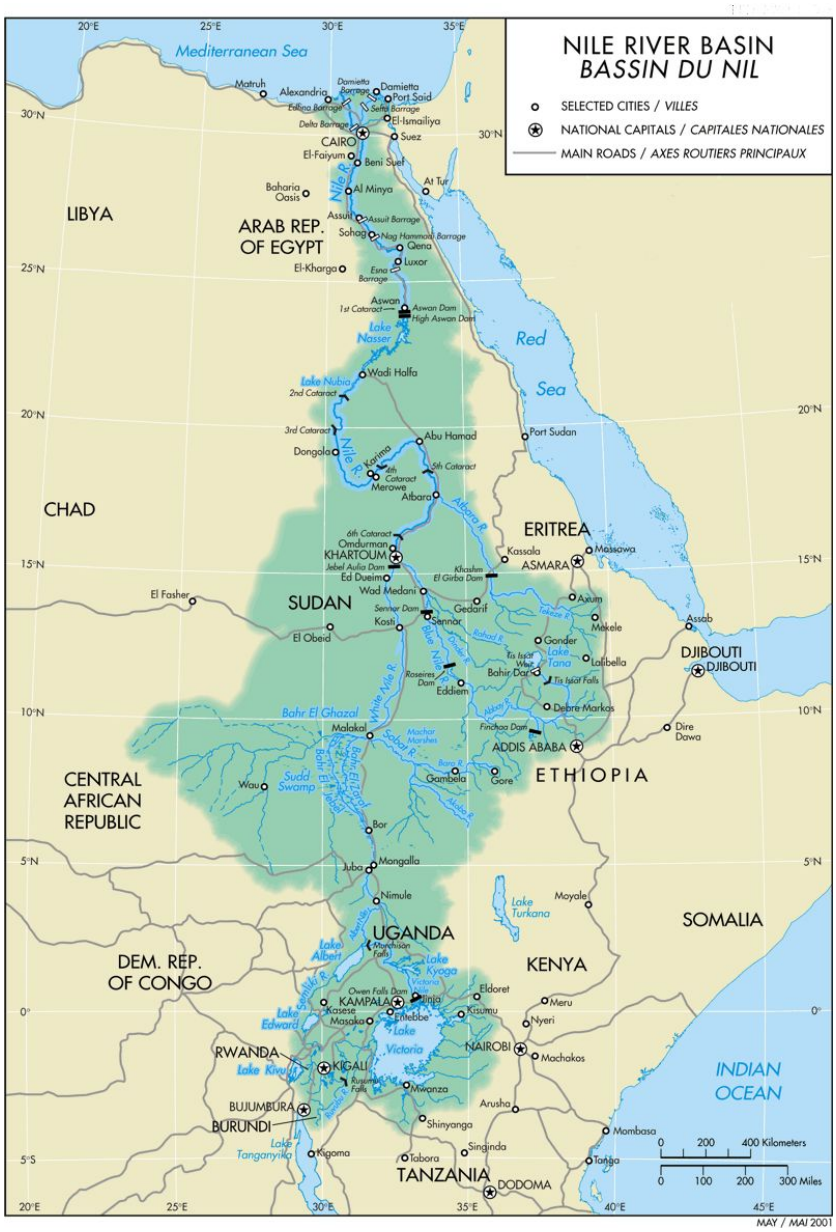


Figure 1. Map of the Nile River Basin

Source: El-Khodari 2003

The Lake Victoria complex is quite different from the Lower Basin complex in terms of management issues and risks of conflict. While the Egypt, Sudan and Ethiopia complex is about extraction of a finite resource, the Lake Victoria complex is about how best to manage a common resource (Lake Victoria) that is polluted and depleted due to land use changes and population increase (Ohlsson 1999). There is no current risk of international conflict involved in the Lake Victoria complex, however, the management of the lake is potentially related to the total flow of water in the Nile River (the contribution at present is quite low due to evaporation in Sudan), which may draw the Lake Victoria complex closer into the Lower Basin conflicts. At present the management problems of Lake Victoria are serious enough considering that the population of 26 millions around the lake is going to increase by three per cent p.a. while the water level of the lake is estimated to decrease 300 mm in the same period (*ibid.*).

This paper focuses on the lower river basin security complex, because that is where risk of war over access to and distribution of water has been envisaged from time to time and starts by discussing some of the uses of water in the lower Nile Basin.

Dams

The water in the Nile River is used for a variety of purposes including drinking water and sanitation, electricity generation, fisheries, navigation, tourism and ecosystem services to mention some. Besides that, the quality of the water in the river is affected by land use practises as well as industrial pollution and domestic sewage. However, construction of dams as a means for providing water especially for irrigation to secure agricultural production is the main source of conflict in the river basin.

So far, ten major dams have been constructed on the Nile (five in Egypt; four in Sudan and one in Uganda) to control flooding and alleviate droughts, generate electricity and provide water for irrigation. The Nile, which once was uncontrollable and unpredictable, has now become 'fully domesticated and made as manageable as a water faucet' (Waterbury 1999 in Elhance 1999:71). Two of the four dams in Sudan, the Sennar and Jebel Aulia dams, were created by the British partly or fully to store water for Egyptian consumption while the third, the Khashm-el-Girba dam, was constructed to supply water to the people that was displaced by the flooding resulting from Lake Nasser. Only the fourth, the Roseires Dam, can be said to fulfil Sudanese needs for water and electricity only. Similarly, the construction of the Owen Dam in Uganda was envisaged by the British to store water in the Equatorial Lakes to benefit the downstream riparian countries Sudan and Egypt (Tafesse 1999).

The near absence of dams on the Nile catering for other than Egyptian needs illustrates the hegemony that Egypt (and previously the British Empire) exerts over the other riparian states of

the Nile. Not only has Egyptian military threats, economic influence, and interference in interstate conflicts prevented Ethiopia from using its vast potential for hydropower and irrigation. Egypt has also had a major say in and control of the development of practically all other hydrological projects in the basin. At the same time Egypt has pursued national water and food security through the development of gigantic hydrological projects within Egypt like the Aswan High Dam and the New Valleys Project, without paying much attention to the needs and rights of other riparian states (except perhaps for Sudan), nor to what would be the most adequate solutions in a river basin perspective (Tafesse 1999).

In Egypt the development of large scale hydrological projects began as early as 1861 with the construction of the Delta Barrage Dam and various other smaller dams with the objective to control seasonal flooding, store water for irrigation and drinking water, and to produce electricity (Tafesse 1999). None of these had any immediate affect on the other riparian states except to some extent to legitimise the present day arguments and claims for Egyptian 'acquired rights' to certain quantities of water. Nevertheless, much more importantly in this respect has been the construction of the Aswan High Dam and Lake Nasser due to their enormous proportions (450 km long and 10 km wide) and storing capacity of 160 billion cubic meters of water. Besides adding to the benefits of previous dams, the Aswan High Dam has enabled the Egyptians to irrigate additionally 546,000 hectares of land and produce 10 billion kWh of hydroelectric power per year (Tafesse 1999, p 657). Finally the dam has helped to eliminate uncontrollable fluctuation to open up for navigation and tourism to the hitherto inaccessible historical sites along the Nile. Despite such obvious benefits, the Aswan High Dam has been heavily criticized (Elhance 1999:78-79; Tafesse 1999):

- First of all, it is estimated that approximately 70,000 Sudanese and 40,000 Egyptians living upstream from the Aswan High Dam were displaced by the creation of Lake Nasser.
- Secondly, partly because the dam holds back nutritious silts, farmers now apply more than 13,000 tons of chemical fertilizer per year, of which a large part is washed into the sea. Additionally, cheap and abundant water for irrigation has led to water-logging and salinization resulting in declining agricultural productivity.
- Third, the Nile Delta has been reduced by up to 14 square miles due to the loss of silt, which added to and protected the Rosetta's coastline, obliging the Egyptian governments to construct costly barriers to protect historical sites.
- Fourth, in 1999 the electricity generated by the dam only accounted for 30 per cent of the total power consumption per year in Egypt a figure that is expected to decrease to 10 per cent in the future due to increasing demand from a growing population.

- Fifth, the overall water efficiency of the project is highly questionable due to the high level of evaporation for the Lake Nasser, which lies in one of the hottest and driest regions of the world. It is estimated that 10 billion cubic meters are lost every year due to evaporation while the combined gain from building the dam only is 15 billion cubic meters. At least, from a purely hydrological viewpoint there is no doubt that the dam would have been better placed in the Ethiopian Highlands where the temperature and thus evaporation is lower.
- Last, but not the least, it is argued that the dam has provided the Egyptians with a false sense of 'water security' impeding river basin collaboration.

The reason why the Egyptians decided to build the dam, despite obvious shortcomings and international criticism, must be found in the newly gained independence and an accompanying strong urge for sovereignty, self-reliance, economic prosperity and technical accomplishments. The main concern of the Nasser government was to achieve national food security and the establishment of a secure source of water within Egypt (Elhance 1999). However, none of these objectives has been accomplished up till today. Egypt still imports half or more of its food requirements and the country continues to be susceptible to upstream hydrological development. In fact it may be argued that Egypt has become more vulnerable, strategically, because the Aswan High Dam has become a potential military target. If it was ever destroyed the massive wave of water would erase everything in Egypt downstream from the dam to the Mediterranean Sea (*ibid.*).

Irrigation

Agriculture is the basis of subsistence for many poor people and the main economic activity in all of the riparian countries. According to Elhance, up to 93 per cent of the labour force is employed in agricultural and livestock production (1999). At the same time agricultural production by far accounts for the largest amount of water extracted for human consumption in the Nile River Basin. Although most agriculture is rainfed around Lake Victoria, irrigation is the main consumer of water from the Nile. Especially Egypt and to some extent Sudan have well developed large-scale irrigation schemes and almost all the countries have grandiose plans to bring more land under cultivation through the expansion or development of new irrigation schemes. Together the riparian countries along the Nile have plans for irrigation of additionally 2.9 million hectares of land requiring up to 25-35 billion cubic meters of water from the Nile, which according to Postel (1999) is far more water than is available in the Nile. Such figures call for dialogue and negotiation. Yet, for historical and political reasons agriculture and food production are very sensitive issues.

Egypt is the only country that is one hundred per cent dependent on freshwater from the Nile for recreational and productive purposes, including food production. Since historical time Egypt has relied on the rise and fall of the Nile to supply nutrients and water for seasonal agriculture. Although this system gave rise to one of the most successful civilizations in ancient times, this system was very susceptible to floods and droughts. For these reasons (and others like electricity supply, self-reliance and monument building) a number of dams have been constructed. The dams have made it possible to regulate the flow of the Nile, hindering floods and storing water for dry seasons. However, the dams have also destroyed the ancient agricultural system of natural fertilization and watering based on the rise and fall of the Nile. As a consequence, Egypt has become increasingly dependent on formal irrigation for agricultural production and is in the process of expanding the areas of irrigation through the development of two huge irrigation projects called the New Valley Development Projects or more specifically the Toshka and El-Salam (Peace) canals (see also the paper by Nabil El-Khodari in this volume!). Together they are anticipated to consume an additional 10 per cent (8.4 billion cubic meters of water) of the total water flow presently available from the Nile downstream of Aswan – despite the fact that at present almost no extra water reaches the Mediterranean. The Toshka canal, which is part of the South Valley scheme is projected to irrigate 168,420 ha of farmland with water from the Aswan High Dam and to settle three million Egyptians. The El-Salam project is related to a land reclamation project in Sinai called the North Sinai Agricultural Development and Nile water for irrigation will have to pass through the Suez by means of underground channels. This project is expected to irrigate 242,800 ha and to resettle 2.2 millions of Egyptians (Tafesse 1999).

The irrigation projects will thus demand an enormous amount of water, which Egypt claims can be obtained without increasing the total consumption of Nile river water. They argue that such big savings can be found through measures of treatment and reuse of urban and industrial water, more efficient use of existing irrigation, ground water extraction and growing less water intensive crops. The New Valley project has been much criticised internationally due to the tension that it will create with upstream countries and for the relatively small impact it will have on food security in Egypt in general. Although the number of landless Egyptians to benefit from the project are impressive, it only accounts for six years of the country's estimated population increase (Ohlsson 1999; Klare 2001). At the same time, similar experiences have led to waterlogging and salinization as a consequence of poorly drained perennial irrigation, which has contributed to a decrease of arable land per person in Egypt over the last century (Elhance 1999). Others criticize the project for being yet another attempt by Egypt to gain rights to a larger share of Nile waters based on the principle of 'acquired rights' and hence to achieve a better position for negotiation before potential agreements of broad based river basin collaboration may become a reality as a consequence of the ongoing Nile Basin Initiative (Ohlsson 1999, Tafesse 1999).

Although Sudan is estimated to have a potential for irrigation of at least eight million hectares of land between the Blue and the White Nile, it is currently using only 10 per cent of this potential (Waterbury and Whittington 1998 in Ohlsson 1999). However, Sudan has also had serious problems with previous irrigation schemes, such as the Gezira Irrigation Scheme, due to water-logging and salinization as well as internal conflict and civil war, leading to a decline in agricultural development and putting irrigation out of use in some areas. Given its potential for agriculture and irrigation it may be foreseen that Sudan in the future will make use of the full amount of water that it is entitled to in the 1959 agreement (Elhance 1999; Ohlsson 1999).

The majority of the water flow in the Nile originates in the Ethiopian highland, which is also the main area for agricultural production in this country. At present, food production in Ethiopia is based on rainfed extensive agriculture but it is often stated that there is an urgent need to employ more intensive technologies and control water flows as frequent situations of famine and migration testify to (Ohlsson 1999, Tafesse 1999). Like Sudan, Ethiopia has a great potential for irrigation. Ohlsson estimates that the country potentially could irrigate 3.7 million hectares (Ohlsson 1999).

Ethiopia has earlier presented ambitious plans for large-scale dams such as the Blue Nile Development Project, which proposed the construction of 33 irrigation and hydropower projects, which could bring 434,000 hectares of land under irrigation, (Postel 1999:143). Internal problems and costly wars with neighbouring countries like Eritrea and Somalia may partly explain why Ethiopia has not taken advantage of this potential, but the overall hydro-political context in the upper Nile River Basin may likewise be an important explanatory factor. As mentioned Egypt has repeatedly proclaimed that it is ready to go to war against any development of water utilization schemes in the upper riparian countries that may limit water availability in Egypt. Moreover, it has exercised influence over donor inclinations to support dam and irrigation development in Ethiopia (e.g. realization of the 'Blue Nile Development Plan'), among other things through the World Bank's Operational Directive 7.50, and through support to rebel groups in neighbouring countries (Elhance 1999; Ohlsson 1999; Tafesse 1999; Milas 2001).

Ethiopia's response has been the construction of a number of micro-dams, which have the advantage that they are less expensive and can be financed without external aid, as well as being less vulnerable to military attack. Micro-dams are also more efficient in terms of electricity supply and distribution and finally many small-scale farmers in the highlands have the skill and experience to build, maintain, and utilize small dams (Postel 1999).

Although, the 200 micro-dams constructed so far accounts for less than one per cent of the annual flow of the Nile, additional plans to construct more than 500 micro-dams in the Tigray

province alone could have substantial impact on the Nile. It is estimated that if only half of the area suitable for irrigation is developed it could reduce the flow of the Nile by 15 per cent (Ohlsson 1999; Postel 1999) with serious consequences for the amount of water available to Sudan and especially Egypt.

CONFLICT BUT NOT WAR

The history of construction of dams and irrigation schemes on the Nile demonstrates how the countries in the lower Nile River Basin are involved in a distributional conflict of relative water shortage. According to Haftendorn (2000), this situation involves a considerable risk of violent conflict in contrast to for example conflict over pollution, which often only create tension among states. Likewise Homer-Dixon and Percival (1996) find that war among states over renewable resources is most likely to occur over water. Using the Nile as an example, they state that;

> '...wars over river water between upstream and down stream neighbours are likely to occur in a narrow set of circumstances. The downstream country must be highly interdependent on the water for its national well-being, the upstream country must be able to restrict the rivers flow, there must be a history of antagonism between the two countries, and, most important, the downstream country must be military much stronger than the upstream country'. (Homer-Dixon and Percival 1996:9)

According to Homer-Dixon and Percival all of these conditions are fulfilled in the Lower Nile Basin security complex. At the same time there have been numerous threats of violence throughout the history of the Nile. In 1990 Boutros Gali (then Egyptian Minister of State for Foreign Affairs) said that 'the next war in our region will be over water and not politics' (Nicol 2003:6). More recently President Mubarak of Egypt has threatened to bomb Ethiopia if they went along with their plans for building dams on the Nile (BBC News Online, 10 October 1999 in Tafesse 1999). To this Ethiopia has responded with contempt and assured that 'there is no earthly force that can stop Ethiopia from benefiting from the Nile' (*ibid.*:664) and that 'We [Ethiopia] will use the Nile waters within our territory. We will not go to war unless they [Egypt] prevent us from using it' (Prime minister Meles Zenawim, May 1997 in Ohlsson 1999:200).

However, despite obvious conflicting interests and harsh words the outbreak of a water war as foreseen by researchers and threatened by politicians has fortunately never occurred. The following will discuss some of the reasons for this.

Military and Economic Hegemony

Egypt, and previously the British Empire's, position as the totally dominant military power in the region may have deterred other riparian countries from building dams and irrigation schemes in fear of military attack or even invasion. In Haftendorn' s (2000) framework for conflict type, structure and settlement possibilities she describes how distributional conflicts are particularly serious if the downstream countries cannot prevent harmful actions by the upstream countries. However, as also pointed out in the above quote from Homer-Dixon and Percival, the situation in the Lower Nile River Basin is reverse due to the economic and military superiority of the lower riparian country, Egypt, and its capacity to intervene against detrimental actions from upper riparian countries, as an explanation for maintenance of status quo.

Underdevelopment and Political Instability

A second explanation to the lack of development of hydrological schemes in Sudan and Ethiopia may be their low level of socio-economic development and particularly armed intra-state and, in Ethiopia's case, also interstate conflicts.

According to Nicol (2003) the gross national income per capita is only $100 for Ethiopia and $320 for Sudan while the same figure for Egypt is more than fourteen times the amount – $1,490. Thus, at present Sudan and Ethiopia are simply not economically capable on their own to construct large-scale development schemes and take advantage of their great hydrological potential for power and agricultural production. This in turn effects the level of economic development.

Ethiopia is now beginning to recuperate from the war with Eritrea, which became an independent nation in 1993 after nearly four decades of armed rebellion against Ethiopia. However, the country is still struggling to try to suppress separatist movements in the Ogaden region at the Somali-Ethiopian border and in the Tigray (Tigre) region (Elhance 1999; Nicol 2003). For Ethiopia, the consequences of these wars have been political instability and the creation of the largest groups of refugees in Africa. At the same time Ethiopia has spent enormous resources to maintain one of the largest armies in Africa instead of facilitating economic development.

In Sudan an ongoing civil war between the Muslim central government in Khartoum in the North and the Sudanese People's Liberation Army in the South has also created political and economic instability (Elhance 1999). Egypt has been accused of helping rebel groups in their neighbouring countries in order to ensure that Ethiopia and Sudan remain weak, politically

unstable and underdeveloped and thus incapable of developing large water projects (Elhance 1999, Ohlsson 1999).

In relation to Homer-Dixon and Percival's (1996) prediction of the Nile as one of the few potential conflicts that could trigger a water war, it seems that at least one of the conditions that they proposed for this to happen is not fulfilled. From a purely hydrological and technical point of view both Sudan and Ethiopia are 'able to restrict the river's flow' (Homer-Dixon and Percival 1996:9) but as long as these states remain politically unstable and economically weak this is not feasible. Homer-Dixon and Percival actually stress that one of the reasons why scarcity of renewable resources rarely causes 'resource wars' among states is that '…the very countries that are the most dependent of renewable resources, and which are therefore most motivated to seize resources from their neighbours, also tend to be poor, which lessens their capacity for aggression' (p.9).

Although it may be argued that Egypt currently is more dependent on the Nile water resources than both Ethiopia and Sudan, this situation may change as the upstream countries become able to exploit their water resources as a means to stimulate economic and social development. Ohlsson argues that this has already happened and that the upstream countries have already started to claim a larger share of the water resources from the Nile making 'the potential for continued conflict ... very real' (Ohlsson 1999:200). On the other hand economic growth and political stability may at the same time be regarded as fundamental conditions for basin-wide collaboration and the development of the full potential of the Nile for mutual benefit (Elhance 1999).

International Pressure and Facilitation

Underdevelopment and political instability, or at least the lack of hydrological works in Ethiopia and to some extent Sudan, is linked to international financial institutions' policies on river basin management and on the political and diplomatic influence downstream countries like Egypt can exercise on such international institutions (Elhance 1999; Milas 2001). According to the guidelines of the World Bank and other financial institutions Egypt can block financing of any larger hydrological work that seriously may affect water availability in Egypt. Allan and Nicol (1998:8 in Ohlsson 1999:199) comment 'To date, the World Bank's approach has been dictated by its Operating Directive 7.50, which prevents it from lending to riparian if any of the other riparian object to the proposed project. This concept of 'hydrological integrity of the whole basin' has resulted in negligible upstream investment in water resource development. That which has taken place has been carefully observed, regulated and agreed with down stream Egypt and Sudan'

Hence, international pressure to consider the impact and consequences of hydrological work on other riparian countries, may have unforeseen consequences for upstream countries' possibilities for development as unintentionally it favours the principles of 'appreciable harm' preferred by downstream countries over the principle of 'equitable use' as favoured by upstream countries. On the other hand, international pressure and facilitation may also be a critical element in establishing riparian dialogue and collaboration. International organizations like the United Nations (International Law Association) are important to establish water rights and norms and to develop international binding laws. Likewise, international facilitators may play a role as arbitrators in transboundary water conflict or it may put political and diplomatic pressure on the conflicting parties to find an agreement and initiate collaboration – e.g. like the USA did in the case of Israeli-Jordanian peace agreement (Haftendorn 2000). The latter has also been the case with the Nile Basin Initiative involving the World Bank, CIDA, UNDP and other international organizations.

Interdependencies and Recognition of the Benefits of Collaboration

The last and maybe best reason for not engaging in violent conflict and war may be that that wars always carry serious consequences for all parties involved. As stated by Wolf (2001) 'Violence over water seems neither strategically rational nor hydrographically effective, nor economically viable. Shared interest along a waterway seems to consistently outweigh water's conflict-inducing characteristics'

In the case of the Nile River Basin, most riparian countries have started to realize that they would gain most through international collaboration on the Nile (Elhance 1999). Although, Ethiopia in general has been sceptical about basin-wide collaboration involving Egypt, by the 1990s Ethiopia also began to talk about basin-wide collaboration among all the riparian countries. According to Nicol, Egypt responded quickly and positively to this shift in thinking by Ethiopia stating that 'Egypt supports without reservation the development process in Ethiopia for the benefit of the Ethiopian people, especially in the Nile Basin Region, within the context of constructive consultation and a real start for confidence building, clearness and transparency. The outcome I am sure will be a win game' (Nicol 2003:29).

Treaties

Prior to present days' growing recognition of interdependencies and mutual benefits of collaboration, a number of treaties have been signed that affect how the Nile is managed today. In the Atlas of International Freshwater Agreements (Wolf 2002) more than 18 treaties have been listed covering the period from 1891 to 1994. However, most of these treaties were bilateral agreements enforced by the British and later by Egypt without consideration of other riparian needs. Among the most important of these treaties are the 1929 treaty between Egypt and the

British colonial rule and the 1959 treaty between Egypt and Sudan, as well as the so-called 'Century Storage Scheme' developed by the British in 1920, which is the only true transboundary management plan that has been made for the entire Nile River Basin and which included most of the dams constructed on the Nile so far. Finally, the Nile Basin Initiative seems to be the most promising initiative so far for basin-wide collaboration involving all riparian countries.

The 1929 treaty is important because it establishes that no larger hydrological projects can be developed without the consent of Egypt. The agreement between Egypt and Great Britain (on behalf of Sudan) concerns the use of the Nile river waters for irrigation purposes. According to El-Khodari (2002), the 1929 treaty did not only oblige other riparian countries to seek Egypt's approval before undertaking irrigation projects, it also gave Egypt rights to use Lake Victoria and other water sources in the Nile River Basin. As a consequence Egypt currently has technicians located in Uganda to control the flow of water through the Owen Dam and onwards to Egypt. The treaty was revised in 1959 but it still 'retained clauses barring Nile basin countries from using the waters for large-scale irrigation and other projects without the permission from Egypt' (*ibid.*:3). Although most countries have disclaimed all treaties signed under colonial rule, this principle of Egyptian right to veto has been maintained under claims of acquired rights.

The 1959 treaty signed by Egypt and Sudan only, is the most comprehensive agreement on the use of Nile River water resources up until today. Named 'Treaty for the Full Utilization of the Nile' it determined the allocation of the entire water resource of the Nile between the riparian countries. However, only two of the ten riparian countries were granted part of the water resources available. Of the 84 billion cubic meters of water in the Nile available per year, Egypt was allocated rights to 55.5 billion cubic meters and Sudan to 18.5 billion cubic meters. The remaining 10 billion cubic meters, were estimated to be lost due to evaporation from Lake Nasser. Although none of the other riparian states were included in the agreement, Egypt insists that this treaty should form the basis for future negotiations. This is of course a significant point of conflict because it emphasises the principle of acquired rights, as favoured by Egypt, and not the principle of equity preferred by most other riparian countries.

Due to the civil war in the US in the mid-nineteenth century the British lost their supply of cotton for the textile industry in England and began to look for ways to intensify cultivation of cotton along the Nile. At that time most of the countries in the Nile River Basin were under British or other European countries' colonial rule and as such they could develop a basin-wide plan for the use of the water resources of the Nile called 'The Century Storage Scheme'. Basically the Century Storage Scheme provided guidelines for the most optimal development of a

hydrological project on the Nile to ensure as much water as possible for irrigation in Sudan and Egypt.

The Century Storage Scheme is an example of two contradictory trends in hydrological planning along the Nile. On one hand, it established a tradition for exclusive user rights to Nile river water resources by Egypt and Sudan. On the other hand, it made it quite clear that, from a river basin perspective, dams and hydropower projects would be best placed in upper Nile countries like Ethiopia and Uganda. Egypt has fully embraced the former principle while disapproving of the latter because it would place the hydrological project out of its direct control.

As a consequence of the Century Storage Scheme a number of irrigation projects were developed in Egypt as well as some hydropower projects in Sudan and Uganda.

Nile Basin Initiative

NBI VISION

'to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources'

Modern basin-wide collaboration started as early as 1967 with the UNDP supported Hydromet project, which aimed at fostering joint collection of hydro-meteorological data. Hydromet ended in 1992 but already the following year the process of collaboration gained pace as the Nile River Basin states agreed to meet annually at the level of ministries in a series of ten meetings called Nile 2002 conferences. The objective of the Nile 2002 conferences was to 'provide and informal mechanism for riparian dialogue and the exchange of views between countries, as well as with the international community' (NBI homepage). Also in 1993 the Technical Cooperation Committee was established for the promotion of the Development and Environmental Protection of the Nile Basin (TECCONILE), which resulted in the Nile River Basin Strategic Action Plan (NRBAP) in 1995. The Strategic Action Plan formed the basis for the creation of the so-called D3 project in 1997, which is a forum of experts from all countries aimed at developing a permanent legal institutional framework for collaboration. According to Girma Haily from UNDP 'D3 brought all parties together, something that had never been done before. All previous attempts at regional cooperation failed because they were not comprehensive and proved to be exclusive by not including all active stakeholders' (Foulds 2002)

This led to the development of a transitional mechanism for cooperation formally named the Nile Basin Initiative in May 1999 and the formulation of a shared vision for all riparian countries of the Nile and the development of a Shared Vision Program (SVP) and the Subsidiary Action Program (SAP). According to ICCON (International Consortium for Cooperation on the Nile)

'The Shared Vision Program comprises a limited range of essential but effective activities to create a coordination mechanism and an 'enabling environment' for the implementation of the shared vision through action on the ground' while the 'Subsidiary Action Programs plan and implement action on the ground at the lowest appropriate level, taking into account benefits and effects of planned activities on other countries' (NBI-Homepage).

The major achievements of the Nile Basin Initiative so far include;

- The creation and formalization of a forum for riparian dialogue and collaboration as well as securing substantial funding for the process;
- The development of a common vision and subsequent action plans;
- The construction of an operational decision-making structure and related infra-structure

The major challenge for NBI now is to move from development of collaboration and the institutionalisation of this process to concrete action and the practical implementation of multilateral and bilateral projects at basin-wide, regional and local levels (Nicol 2003)[80].

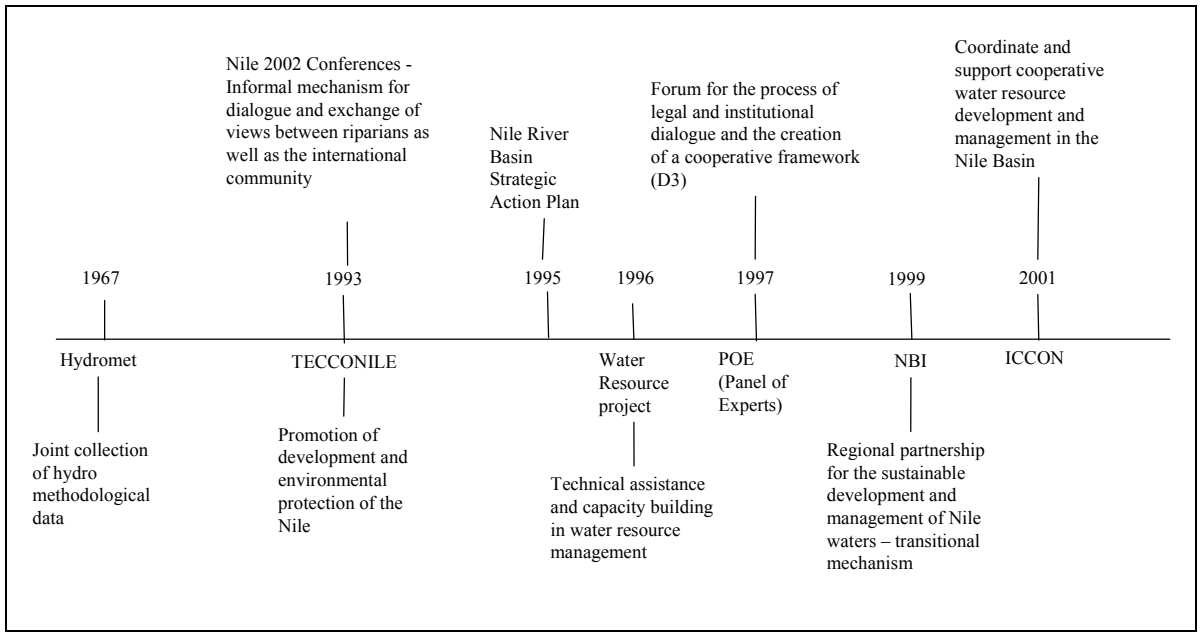
While both TECCONILE and the Nile Basin Initiative were supported by CIDA, D3 was created with funding from UNDP. In 1997 the Council of Ministers of Water Affairs of the Nile Basin Sates (Nile-COM) made a request the World Bank to coordinate donor support and facilitate the process of dialogue and cooperation.

In June 2001, at the first meeting of International Consortium for Cooperation on the Nile (ICCON), the partnership of the Nile River Basin countries for 'the equitable and sustainable development of the Nile through a common vision' was finally formalized (NBI-homepage). At this meeting substantial resources were allocated by different donors to support the initiative. NBI is supported by the International Consortium for Cooperation on the Nile which is chaired by the World Bank and involves partners like CIDA and UNDP as well as bilateral donor agencies from Denmark, Finland, Germany, Italy, the Netherlands, Norway, Sweden, the United

[80] To achieve this, a number of constraints and shortcomings need to be addressed. Among those are; 1) Establishment of a legal framework (none of the riparian countries has signed the international law on the use of non-navigational waters); 2) The practical implementation and operation of at least seven different offices in each country dealing with the main component of the shared vision program (Hommelgaard, *personal communication*; Nicol (2003): 3) Genuine inclusion of the civil society in the planning and operational processes.

Kingdom, and the United States, together with the United Nations Food and Agriculture Organization (FAO) and the Global Environmental Facility (GEF) (NBI-homepage).

Figure 2. Important events of Nile basin-wide collaboration



REGIONAL AND LOCAL WATER CONFLICTS IN THE LOWER NILE BASIN

As the (real or imaginary) risk of water war among the Nile basin countries seems to diminish, regional and local water conflict may become more prominent,[81] not necessarily because regional water conflicts and local water disputes become more common, but because demands or public participation in national and international water management become still more articulate.

Conflict Resolution at Local Level as Precondition for Transboundary Water Management

Local and regional water conflict management and resolution is important not only because it directly affects the livelihood of those involved and the surrounding environment but also because regional and local water conflicts are intrinsically linked to transboundary water resource management and visa-versa (see box 1). Natural resource management problems such as

[81] Regional conflicts refer to conflicts between state, provinces or larger ethnical groups while local conflicts are conflicts that occur e.g. between communities or at the scale of micro-watershed.

deforestation, soil erosion and water pollution affects downstream users in terms of problems with water quality, sedimentation and flooding. Efforts to prevent and control these problems often require resolution of disputes that are directly (for example deforestation of upper catchments, or exacerbated use of pesticides) or indirectly (land tenure disputes or ethnical differences that encumber collective action) related to water management. In the case of the lower Nile River Basin, which is the focus of this paper, the management and resolution of local watershed management problems in Ethiopia such as soil erosion[82] may turn out to be important in order to solve problems with silt in downstream dams.

Besides the direct impact, the resolution of local water management disputes may have on transboundary management, the prevention and resolution of conflict at local level may also be crucial to secure the socio-economic development and political stability necessary for the success of a river basin management initiative like the Nile Basin Initiative. Referring to a number of countries among them Ethiopia, Gleick (2001) states 'the disenfranchisement of local people from traditional land and water rights has been a major factor fuelling conflict and instability…'

Box 1. Examples of local water conflicts in Ethiopia[83]

The Awash Valley is an example of local conflict over water resources in Ethiopia that has had severe impact on people's livelihood and the environment. The Awash Valley is one of the poorest and least developed regions of Ethiopia, but also one of strategic importance due to its closeness to the ports of Djibouti. Since the late 1950's, the government has been developing its hydrological potential through the constructions of hydroelectric power plants as well as large-scale irrigation schemes. Irrigation schemes, representing state interests (production of domestic cotton to support the national economic development), and foreign investors, however, bypassed local communities with serious consequences for the local Afar pastoral livelihoods. The irrigation schemes have affected the pastoralist's access to dry-season grazing along the River Awash that is now irrigated for cotton production. The loss of access to grazing resources which in combination with land disputes and environmental factors have led to conflict with other Afar clans, Issa pastoralists, cultivators and the government. According to Nicol *et al.* (2000) this increasing marginalisation of Afar pastoralists 'is anticipated to increase the risks of violent conflict at a local level, regional (district) level and possibly inter-regional (inter-district level) as well'. Another example of water conflict in Ethiopia involves the dam being built on the Takazze River, which could have severe impact on the pastoralist and hunter-gatherer 'Shankilla' communities in the lower reaches of the Tekkaze/Atbara River (Digalu 2002)

[82] Tafesse (1999) notes that the soil loss from topsoil erosion from Ethiopia is estimated to 1285 billions tons per year

[83] The Awash Valley is situated outside the Nile River Basin. It is used in this paper to highlight the possible impact local conflict may have for national development and stability which eventually is fundamental for River Basin development. The "Shankilla" conflict occurs within the Nile River Basin.

Internal Conflict as Indirect Cause of Transboundary Conflict

While it is hard to imagine that local or regional water conflicts (within states) spread and develop directly into interstate conflict or war, conflict over water use and management within nation states may have significant influences on river basin collaboration. It has often been stated that, in order to minimise water waste and thus water requirements from the Nile, Egypt should transform its water tariff structure. Today water is heavily subsidised in Egypt, but politically it has not been feasible to raise prices on water as any increase in prices without appropriate participation of all interest groups are likely to lead to violent riots. It would be even more problematic to change the production system, putting more emphasis on industrial production and less on agricultural production as suggested by Ohlsson (1999). Similar arguments could be used in the case of Ethiopia, where the government is under strong internal pressure to exploit the water resources.

Internal Conflict as Result of Transboundary Agreements

Just as transboundary conflicts may be rooted in local disputes, local and regional conflicts may also be a consequence of transboundary agreements. The construction of the Jonglei Canal in Southern Sudan and the Aswan High Dam are examples of this. The Jonglei canal was planned and partly constructed to avoid the massive evaporation of water from the White Nile in its passage through the Sudd marches. The canal was expected to contribute with 3.8 bcm of additional water to the Nile at Aswan and also make water more easily accessible for irrigation in Sudan. Although the canal was a result of bilateral cooperation between Sudan and Egypt, it was heavily criticized internationally due to environmental concerns and in the end the project was abandoned because of the civil war that emerged partly as a consequence of the canal. According to Elhance (1999:73) the announcement of the construction of the canal led to violent protest by the opposition in southern Sudan because the canal was believed to 'dry up the Sudd swamps and speed up expansion of the Sahara desert southward'. It was also claimed that the canal was a part of a conspiracy between the government and Egypt 'to settle large numbers of mostly Muslim Egyptians in southern Sudan who would displace indigenous nomadic populations'.

Although the Aswan high Dam was not the direct result of bilateral negotiations, it nevertheless was constructed on the basis of agreements on water distribution stipulated in the 1959 treaty between Sudan and Egypt. Likewise, the compensation paid for the displacement of the Sudanese affected by Lake Nasser was the result of dialogue between the two states. Although this conflict was not voiced by the people affected – only by international agencies – it is still an example of conflicting interests between local population groups and bilateral transboundary agreements negotiated by the states.

An extreme example of how transboundary collaboration could bring about local conflict would be the abolishment or at least a reduction of agricultural production in Egypt because it, water-wise, is more rational and sustainable to continue and expand agricultural production in Ethiopia and to some degree Sudan (Ohlsson 1999).

To sum up, there are a number of past, present and future local or regional conflicts in the Lower Nile River Basin of which obviously only a fraction has been mentioned here. Little attention has been paid, however, to these kinds of conflicts in contrast to the vast interest in the hydro-political situation and the potential for future water wars among the countries in the Nile River Basin. Several reasons may explain this, but first of all, as noted by Posthumus (2000) 'decreasing water volumes, increasing water demands and a lopsided distribution of water, with one country benefiting more than all the others combined' has provided an ideal scenario for prediction water wars as analysed by Homer-Dixon and Percival (1996). At the same time, it has been assumed that water wars would have more serious consequences for a larger number of people at all levels of society than local or regional conflicts and as such it has been a more interesting and catching topic to study (Nicol 2000; Klare 2001). Nicol, however, objects to this assumption, stating that 'local violence and tensions over access to water may be just as damaging and costly in terms of impact on the livelihoods of the poor and on the environment [as interstate conflict]' (Nicol 2000).

Another and obviously worrying reason why local conflicts in the Lower Nile River Basin have been accorded less importance may be the fact that none of the three Lower Nile countries have had or have governance structures that are widely receptive to local or regional interests or ensure that the voices of the local and particularly the poor are heard. In that sense, the countries in the Nile River Basin differ at least from some of the countries in the Mekong River Basin (such as Thailand), which increasingly pay attention to local interests partly due to NGOs and other organizations that build awareness and represent local community interests (see the Mekong chapters). The next and final section will briefly discuss the prospect of public participation in transboundary water resource management, with example from the Nile Basin Initiative, as well as inquire into the importance of public participation for the resolution and prevention of local conflicts.

PUBLIC PARTICIPATION AND NILE RIVER BASIN COLLABORATION

Like in other situations involving public and stakeholder participation, participation in transboundary water management has different meanings to different people. The European Water Framework Directive (WFD) distinguishes between three levels of public participation:

Information sharing, consultation and active involvement.
Information sharing is not really participation but it is, however, a prerequisite for the transparency and accountability of decision-making; *consultation* is still very much a top-down approach where an effort is made to ask and listen to the opinions of different stakeholder groups and the public at large. Whether their perspectives are considered or not depends on those who do the consultation. Finally, *active involvement* means that the public and specific stakeholder groups are actively involved in design and decision-making and hence share ownership and responsibility for the river basin management ultimately affecting their own livelihood.

In the NBI Shared Vision Program on Confidence Building and Stakeholder Involvement (Communications) participation is defined as '*the process through which stakeholders influence and share control over development initiatives and the decisions and resources affecting them'* (NBI-SVP 2001:6). However, the means to '*develop confidence'* and achieve '*full stakeholder involvement'* is mainly through public information and a process called 'development communication' that is understood as '*the planned, social process that involves an exchange, transfer, and/or creation of information'*. These definitions put very much emphasis on information sharing corresponding to the first and maybe the second type of participation as defined by the WFD.

Why Public Involvement in International Watercourse Management is Important

Whether participation takes place as pure information sharing or as a more transformative empowerment process, it is important to clarify why public involvement in international water resource management is important.[84] Besides more normative justifications referring to equity and empowerment (rights to participate in and influence decision-making concerning one's livelihood as well as to the learning and capacity-building processes involved) there are other good reasons for public participation in transboundary water management (if participation is taken seriously[85]).

First of all participation may *improve the quality of decision-making* by providing local/indigenous knowledge and perspectives on a wide range of issues affecting problem definition and resolution, so that it takes into account both local and transboundary conditions and interests. Second, almost any type of participation *improves the credibility and public support* for water management projects, increasing the level of acceptance and legitimacy of the projects. In the

[84] This section builds on IUCN 2002; Bruch *et al.* 2003; Kerkhof and Huitema 2003; Newsletter on the Human Dimension in Water Management 2003; Wood 2003

[85] Projects that do not clarify their approach and principles of participation (level of involvement and influence of the participants) may create expectations that, if not fulfilled, may generate disillusion, mistrust and lack of support.

most inclusive processes participatssion may even raise the sense of ownership to the project and thus the interest and responsibility that people are ready to assume to make the project a success.

Overall, ensuring participation potentially improves implementation and monitoring of international river basin projects and often turns out to be the most cost-effective decision-making process because it minimises the risk of costly and violent protests and riots at a later stage. As stated by Bruch *et al.*, (2003:3) 'While the time, financial and personal costs associated with public involvement can deter some agencies, most scholars and practitioners assert that the costs of failing to involve the public generally are greater, and sometimes much greater. As David Getches noted (2003) "Society can pay now or pay later for their decisions".'

The Nile Basin Discourse initiative,[86] which is the most advanced scheme for public participation in the Nile Basin Initiative so far, acknowledges the importance of participation: 'Listening to the voices of a cross-section of interested and concerned parties is significant; the loudest voices may not represent the interests of the poor, nor know what is best for national and basin-wide development' (IUCN 2001).

Public Participation at the Most Appropriate Level

While it is easy to criticise the NBI approach to participation as top-down driven information sharing and consultation, without any real active involvement of the civil society and certainly not the poor, participation also has to be seen in a wider context. Two of the most important conditions for public participation are the socio-political context as well as the legal and institutional arrangements. The level and stability of the democratic institutions are preconditions for participation in the first place. Likewise to achieve genuine and active involvement of civil society it is key to have a high level of public awareness and education. None of these conditions exist sufficiently in Sudan and Ethiopia and even though Egypt comparably is considered to have a high level of education, the political context does not allow for real and critical civil society participation. Other factors influencing the existence and type of participation is the economic situation of a country as well as the resource characteristic of the basin.

Public Participation in the Context of the Nile Basin Initiative

Officially the NBI 'welcomes the contribution of NGOs and encourage Nile Basin countries to continue in close collaboration with civil society and the private sector…' (NBI-homepage). To

[86] The Nile Basin Discourse initiative is an institutional set-up that seeks to establish "broad-based discourse on basin-wide development, involving civil society in its broader sense within the overall development process in all areas including poverty, conflict resolution, the environment and development." IUCN (2001)

facilitate this process, the World Conservation Union (IUCN) agreed in 2001 to establish the so-called Discourse Desk in Entebbe, Uganda with the objective to create a forum for NGO and civil society participation in the NBI.

Despite these seemingly good intentions, the NBI process has been criticised particularly on this issues for a number of reasons:

- Civil society and NGOs are included far too late in the process and have not been involved in the formulation and decision-making about the shared vision programme and action plans;
- The NGOs participating in ICCON meetings have been invited on a selective basis (El-Khodari 2002 and El-Khodari's contribution to this volume);
- National NGOs too often consist of previous government officials, while excluding the participation of others (Foulds 2002 and El-Khodari, this volume).

In the Shared Vision Program on Confidence Building and Stakeholder Involvement (Communications), the Council of Ministers of Water Affairs of The Nile Basin States acknowledges that stakeholder participation yet has "to enter the mainstream in some developing countries of the Nile Basin…The main participants to date have been officials from the ministries responsible for water in each riparian country. Civil society, particular women's organizations and others who are likely to be most affected by NBI development initiatives, have had little involvement" (NBI-SVP 2001:6).

According to Foulds, the apparent failure to take the participation of NGOs seriously may have unforeseen consequences for the NBI process:

- lack of active community participation in project creation;
- lack of micro level information regarding project development; and
- deficiency in day-to-day understanding of the consequences of such projects.

This in turn, Foulds argues, means that 'the NBI fails to achieve the intricate goals of conflict resolution and regional cooperation'. (2003:2)

Without adhering to this overly pessimistic view, it can still be argued that the lack of NGO and civil society participation has created a gap between the aspirations of international agreements made by international and national stakeholders, and actions on the ground which have to be carried out with the participation of local organizations and whose consequences will be felt by people in local communities. A genuine inclusion of civil society may be important to link the

international to the local level. Community participation and the day-to-day understanding of the NBI project as well as a sense of ownership and accountability by all levels of society may be essential to realize some of the projects visualized in the subsidiary action program. Civil society is crucial to diffuse information and gain broad based acceptance of the NBI agreements easing the resolution of internal conflict and efforts to build local institutional capacity. As stated by the NILE-SEC itself 'Excluding civil society organizations – even at the preliminary planning stages of development projects – could derail regional cooperation in the future' (2001:6)

In this perspective it is important to consider the socio-political context as mentioned before, and hence the huge task at hand in the Lower Nile Basin countries to facilitate the development of legal and democratic structures that form the basis for any involvement of civil society in the decision-making process, as well as undertaking large scale capacity-building to raise the level of education and public awareness in these countries. On the other hand participation is not a strict linear evolutionary process that will happen only when the right regulatory framework for democracy and good governance is in place. Participation as defined by the Water Framework Directive may unfold at different stages and levels of the transboundary collaborative process. However, without third party facilitation and insistence, participation in the NBI may never be able to provide '*a voice to the voiceless from the roots of the Nile Basin'*, e.g. with respect to decision-making about subsidiary action programme projects, as otherwise stated as aim in Nile Basin Discourse Web-page. In this context, bilateral donors and international financial institutions may have yet another role to play, helping to ensure that all stakeholders are heard and involved in decision-making e.g. through Environmental Impact Assessment and Social Impact Assessment of projects related to transboundary water resource management, and through advocating in favour of NGO representation and participation of community-based organisations at the various levels.

CONCLUSION

This paper has argued that despite depressing scenarios, the risk of 'water wars' among the Nile River Basin countries is smaller today than before, even among Egypt and Ethiopia, which as late as the 1990's exchanged threats of war at the highest political levels. In fact, war threats have gradually been transformed into growing collaboration and commitment to transboundary water management in companionship with all the other riparian countries.

The reasons that the war never broke out but instead turned into a peaceful collective management process are numerous, including power-relations among the countries in relation to their upstream and downstream positions (downstream Egypt having military and economic hegemony); underdevelopment and political instability seriously limiting particularly Sudan's and

Ethiopia's capacity to construct large-scale hydrological projects; international politics (hydrological integrity), pressure to initiate and facilitation of collaborative processes; and last but not least the riparian countries' own recognition of interdependencies and the benefits of collaboration (as compared to war).

However, due to the previous focus on interstate war and the present attention devoted to transboundary river basin management, little focus has been directed towards local and regional conflicts in the region, although these have had and have serious consequences for the people ultimately depending on and managing the water resources. Moreover, some of these conflicts, such as the displacement of riparian populations in Sudan due to the creation of Lake Nasser, and the Sudanese civil war that partly was fuelled by the construction of the Jonglei canal, were results of transboundary agreements (although bilateral). Other conflicts such as the present Awash pastoral-irrigation conflict may affect significantly the political stability and economic development of Ethiopia, which is again a precondition for long-term river basin collaboration.

The key to linking the Nile River Basin countries' shared vision (NBI Shared Vision Program) with action on the ground at bilateral, national, regional and local level (NBI Subsidiary Action Programme) is public and civil society participation though information sharing, consultation and ultimately active involvement in water management. Awareness raising, capacity building and the creation of fora and civil society organizations that may make sure that the interest and concerns of the local and poor are represented and heard is fundamental to transboundary water resource management, not least because it gives voice to ongoing regional and local conflicts that not only is affecting poor peoples livelihood but also may affect the performance and success of projects implemented as a part of the Subsidiary Action Program. Moreover, it may help to draw the attention to and resolve ongoing local conflicts that in the long term may destabilize the region and river basin collaboration – as well as it may prevent transboundary projects from neglecting local interests and impact on poor peoples livelihood – a situation that may lead to water riots.

REFERENCES

Bruch, Carl; Libor Jansky; Mikiyasu Nakayama; Kazimiers A. Salewicz and Angela Z. Cassar (2003., 'From Theory to Practice: An Overview of Approaches to Involving the Public in International Watershed Management', *presentation at the Symposium on Improving Public Participation and Governance in International Watershed Management*, Charlottesville, Virginia, 18-19 April, 2003

Bulloch, J. and Darwish, A. (1993). "Water Wars: Coming Conflicts in the Middle East. London, St. Edmundsbury Press., pp.124-41

Digalu, Liban (2002). 'Turning Blue Nile to Blue Gold" *MEDREK*, post 461, May 19, 2002

http://www.ethioindex.com/medrek/viewtopic.php?t=3782&highlight=

Elhance, Arun P. (1999). 'Hydropolitics in the Third World : Conflict and Cooperation in International River Basins', *United States Institute of Peace*, USA

El-Khodari, Nabil M. (2002). 'The Nile Basin Initiative (NBI): Business as usual?', paper accepted for presentation at *International Conference of Basin Organizations*, Madrid, Spain, 4-6 November, 2002

El-Khodari, Nabil M. (2003). 'The Nile River: Challenges to Sustainable Development', presentation to *River Symposium 2003*, http://www.riverfestival.com.au/2003/files/symposium/El%20Khodari,%20Nabil.doc

Environmental Science & Technology (1999). *American Chemical Society*, January 1, 1999

Foulds, Kimberly E. (2002). 'The Nile Basin Initiative: Challenges to Implementation', paper presented at the *Managing Shared Water Conference*, Hamilton, Ontario, Canada, 23-28 June, 2002

Gleick, Peter (2001) 'Question of Equity at the Heart of Water Conflict Management,' *Conflict Prevention Newsletter*; Water & Conflict, Vol. 3, no. 1, February 2000 (Presented at The Second World Water Forum, The Hague. The Netherlands 17-22 March 2001). http://www.euconflict.org/dev/ECCP/ECCPSurveys_v0_10.nsf/vwWebSurveys/6FA9C1D4768A0198C1256B270037A49F?opendocument

Haftendorn, Helga (2000). 'Water and international conflict', *Third World Quarterly*, Vol. 21, No 1, pp 51-68

Homer-Dixon, Thomas and Valerie Percival (1996). Environmental Scarcity and Violent Conflict: Briefing Book, Washington, D.C. *American Association for the Advancement of Science*

Hultin, Jan (1995). 'The Nile: Source of Life, Source of Conflict', in Leif Ohlsson 'Hydropolitics – conflicts over water as a development constraint', *Zed Books*, London

IUCN (2002). 'Guidance and tools for participation of local groups in basin management', Water and Nature Initiative, *The World Conservation Union,* http://www.waterandnature.org/k1.html

IUCN (2003). 'Nile Basin Discourse', *The World Conservation Union* http://www.iucn.org/themes/wetlands/pdf/NBD%20Newsletter%20_Dec.2003%20issue.pdf

Kerkhof, Marleen van de & Dave Huitema (2003). 'Public Participation in River Basin Management: a Methodological Perspective', paper to the Monitoring Tailor Made IV Conference, Sint Michielsgesten (Netherlands). 16 Sept. 2003

Klare, Michael T. (2001). 'Resource Wars: The New Landscape of Global Conflict', *Henry Holt and Company*, New York

Milas, Seifulaziz (2001). 'Nile Waters and Conflict Risk' in Danida (2001), 'Conflict Prevention and Peace-building in Africa', report from the Maputo Conference 28-29

NBI-homepage, http://www.nilebasin.org/

NBI-SVP (2001). 'Nile Basin Shared Vision Program: Confidence Building and Stakeholder Involvement (communication) – Project Document, *Council of Ministers of water Affairs of the Nile Basin States*, March 2001

Newsletter on the Human Dimension in Water Management (2003). 'Stakeholder and Public Participation – Processes of Social Learning', http://www.harmonicop.info

Nicol, Alan (2000). 'Water Rights or Water Wrongs', *The International Development Magazine*, http://www.developments.org.uk/data/12/f_water.htm

Nicol, Alan (2003). with inserts from Mamdouh Shahin, 'The Nile: Moving *Beyond* Cooperation', *UNESCO-IHP VI*, Technical Documents in Hydrology, PC-CP series, No. 16, http://unesdoc.unesco.org/images/0013/001333/133301e.pdf

Nicol, Alan; Yacob Arsano and Joanne Raisin (2000). 'Prevention of Violent Conflict and the Coherence of EU Policies Towards the Horn of Africa: EU Policies and the Risk of Conflict in Ethiopia's Awash Valley', *Saferworld*, October 2000 - http://www.developments.org.uk/data/12/f_water.htm

Ohlsson, Leif (1992). 'Regional Case Studies of Water Conflicts', Padrigu Papers, *Peace and Development Research Institute, Gothenburg University*, Göteborg

Ohlsson, Leif (1999). 'Environment, Scarcity, and Conflict – A Study of Malthusian Concerns', Ph.D. Thesis, *Department of Peace and Development Research, Göteborg University*

Perelet, Renat (1998). 'Environmental Security Study', Appendices C in Jerome C. Glenn, Theodore J. Gordon and Renat Perelet (1997-1998). 'Environmental Security: Emerging International Definitions, Perceptions, and Policy Considerations', *U.S. Army Environmental Policy Institute*. http://www.acunu.org/millennium/env-sec1.html#Emerging International Definitions

Postel, Sandra (1999). 'Pillar of Sand: Can the irrigation Miracle Last?', *Worldwatch Institute*, Norton & Company, New York

Posthumus, Bram (2000). 'Nile Basin Nations Move Towards Cooperation', *Conflict Prevention Newsletter*; Water & Conflict, Vol. 3, no. 1, February 2000 (Presented at The Second World Water Forum, The Hague. The Netherlands 17-22 March 2001). http//www.euconflict.org/dev/ECCP/ECCPSurveys_v0_10.nsf/vwWebSurveys/6FA9C1D4768A0198C1256B270037A49F?opendocument

Shiva, V. (2002). 'Water Wars: Privatisation, Pollution, and Profit'. Cambridge, Mass., South End Press

Tafesse, Tesfaye (1999). 'Hydropolitics in the Nile Basin : breaking the stalemate?', *Nord-Süd Aktuelt*, Vol. 13 :4, pp. 654-667

Waterbury, John and Dale Whittington (1998). 'Playing Chicken on the Nile? The Implications of Micro-dam Development in the Ethiopian Highlands and Egypt's New Valley Project', JNRF 22:3, Natural Resource Forum, August.

Wolf, Aaron T. (2001). 'Water, Conflict and Collaboration', 2020 Focus 9 (Overcoming Water Scarcity and Quality Constraints). Brief 14 of 14, Oct. – http://www.ifpri.org/2020/focus09/focus09_14.htm

Wolf, Aaron T. (2002). 'Atlas of International Freshwater Agreements', United Nations

Environmental Program, http://grid2.cr.usgs.gov/publications/treaties/1_Front_atlas.pdf

Wood, M. (2003). 'Symposium on International Watershed Management Reveals Need for Public Participation', *University of Virginia School of Law*, http://www.law.virginia.edu/home2002/html/news/2003_spr/watershed_intl.htm

World Commission on Water for the 21st Century (1999). Press Release, http://www.worldwatercouncil.org/Vision/84430C6FE8D4EAD8C12567C4002C248D.htm

7. Diverse Interests in the Nile Basin Initiative

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ABSTRACT

The paper focuses on the Nile Basin Initiative (NBI). The paper briefly introduces the stakeholders and major players as well as the structure and history of the NBI. On this basis, the paper analyzes the problems facing the NBI and the Nile Basin based on the diverse interests between different stakeholders, countries, funding agencies/countries and players. The paper concludes by discussing different development strategies and by proposing measures that are needed to make the NBI a success.

INTRODUCTION

'The wars of the next century will be about water' Ismail Serageldin, Vice-President of the World Bank (Crossette 1995).

Dale Wittington, a University of North Carolina water expert speaking at a 1997 conference in Addis Ababa, warned that Ethiopia and Egypt 'are set 'on a collision course that both may have difficulty changing.' (Bleier 1997).

Eastern Africa experiences high variability in rainfall over time and space, including frequent episodes of flooding or drought. There is also competition for access to water resources between user groups and between countries. Some of the countries are not only dependent on freshwater for domestic, agricultural and industrial consumption, but also for hydropower generation. Hence, freshwater availability and access is a priority issue for the sub-region and concerns have been raised in recent years about declining water quality and, in particular, about the infestation of Lake Victoria with water hyacinth (Eichornia crassipes) (AMCEN/UNEP 2002).

The following paper shows the diversity of international, regional and country interests in the Nile Basin.

LOCAL AND REGIONAL INTERESTS VERSUS INTERNATIONAL INTERESTS

Security-wise, the Nile basin is of great importance to Egypt, because it contains several flashpoints that could threaten the country's national security. Conflicts within the Nile basin affect Egypt's water and security interests. These conflicts can – among other things – threaten the river's sources and tributaries, and thus undermine Egypt's political and strategic interests. Egypt views the Nile basin as a vital region, one that is susceptible to foreign influence, and one in which any problems which arise could spill over into neighbouring regions, such as the Red Sea and the oil-rich Gulf states. This explains Egypt's interest in Bush's recent tour of Africa, since this tour will have an effect on the entire continent, including Sudan and Ethiopia – two countries that Egypt views as vital to both its security and its water supply.

International treaties[87] and neighbourly relations have helped Egypt bring relative security and peace to Africa. But the interference of foreign powers in the Nile Basin region has never stopped. Political conditions in Africa make the continent particularly susceptible to international intervention. The situation is further complicated by the eruption of domestic disturbances in certain African countries.

Egypt's African policy can be summarized in a few points:

- The River Nile is a vital part of the region's geography and the riparian countries should have the upper hand in deciding what happens along the course of the waterway.
- The River Nile is the main source of water for downstream countries, particularly Egypt, and is of great strategic importance for all riparian countries.
- Some issues concerning the Nile basin states are still unresolved. This makes the Nile basin a source of concern, a potential cause of regional friction, and an area constantly monitored by foreign powers.
- Foreign interests in the region are not necessarily identical with local ones. Outsiders have their own policies and strategies and these may not dovetail with regional ones.

[87] The treaties governing the use of the Nile are the result of the influence of Great Britain. For example, the 1929 treaty prevents upper Nile countries from developing their water resources. In more recent history (see http://www.nilebasin.com/discus/messages/12/235.html?1073824584), Kenya denounced the old treaties. However, it came back to the negotiation table.

- Foreign presence in the region has altered the shape of regional relations and strategic balance in the Nile basin area.
- Any threat to Egypt's quota of Nile water is a matter of Egyptian national security, and Egypt is prepared to use all available means to counter such a threat.

Following the end of the Cold War, the political and strategic context has changed in Africa. Not only is the map of foreign influence not the same, but certain African groups have begun asserting their role; chief of these are the Economic Community of West African States (ECOWAS), the Southern Africa Development Community (SADC), and the Inter-Governmental Authority on Development[88] Ahmed Abdel-Halim 2003).[89]

The USA

The United States interference in the region is best demonstrated in the case of Sudan's civil war,[90] where the American intervention in favour of the rebel SPLA/M, [91] is the most dangerous direct intervention in Nile Basin affairs. This may be 'justified' – from the US point of view – by the fact that Sudan is under Islamic law and once harboured Osama Bin Laden (as an investor). However, it runs against Egypt's repeated trials to solve the problem without the danger of having the Sudan eventually politically split into two countries through referendum now or in the future (ArabicNews.com 1 January 2003).

Egypt is concerned now with the seeming success of the Inter-Governmental Authority on Development (IGAD) 'peace process', which calls for a referendum in South Sudan after an 'interim period' of six years. Egyptian President Mubarak highlighted the necessity of moving forward to achieve peace in Sudan and maintain its unity, security and stability (ArabicNews.com 21 December 2002). The Sudanese Government was obviously not in favour of the IGAD process and considered it as 'not the best of options' as stated by the Sudanese Foreign Minister (ArabicNews.com 7 September 2002).

It is clear that – in spite of Egypt's best efforts – the pressures exerted by USA have increased both through aid to the SPLA/M and by passing the 'Sudan Peace Act' – signed into law in October 2002 – in the USA Congress, with 'punitive provisions', including the opposition of loans and grants to Khartoum, and the downgrading of diplomatic relations (IRIN June 2003). It

[88] Visit IGAD website http://www.igad.org/

[89] The author is an expert in military strategy and deputy director of the Centre for Middle East Studies.

[90] ESPAC: http://www.espac.org/usa_sudan_pages/usa_sudan.html

[91] It is important to consider that John Garnag, the Sudan People's Liberation Army's (SPLA/M) leader, has a PhD in Agricultural Economics from the United States. This adds a dimension to the interests of the NBI.

is a question, however, whether this can be taken as a sign of weakened international influence of Egypt, or as one of the reasons why it has lost favour with the USA.

After the 911 attacks, seemingly there has been an increased American interest in the Nile Basin under the guise of anti-terrorism. An 11-nation African regional task force is being set up inspired by the USA to combat disasters and help ward off terrorism in the region, a top US military official said. The 11 nations are Burundi, DRC, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Seychelles, Tanzania and Uganda (IRIN July 2003), i.e. all Nile Basin countries with the exception of Sudan.

Following the USA occupation of Iraq and its claim to instate 'democracy' there as an example to the region, seemingly the Egyptian/American relations suffered. President Bush challenged Iran, Syria and two crucial American allies in the Middle East – Egypt and Saudi Arabia – to begin embracing democratic traditions and to view the fall of Saddam Hussein as 'a watershed event in the global democratic revolution.' 'Sixty years of Western nations excusing and accommodating the lack of freedom in the Middle East did nothing to make us safe,' Bush argued, in a critique that embraced both Democrats and Republicans who preceded him, 'because in the long run, stability cannot be purchased at the expense of liberty.' He also pressed Egypt – which receives upward of $2 billion annually in aid from the United States – saying that it 'has shown the way toward peace in the Middle East, and now should show the way toward democracy in the Middle East.' But later, Bush's spokesman, Scott McClellan, said that the president was not threatening any consequences for his Arab allies if they failed to heed his warning (Sanger 2003).

What would be the effects of withdrawing/weakening USA support to Egypt on Nile Basin 'power balance'? We can only assume that it means more power to Ethiopia, a newly discovered ally, in spite of the fact that the regime there is communist and equally, if not more, non-democratic.

At the end of 1996, the US delivered $20 million of military equipment to Eritrea, Ethiopia and Uganda, intended to assist undermining the Sudanese regime (Fisher 1998). Worrisome also to other Nile Basin countries is that the USA is 'contemplating' extending military ties with Eritrea (Belida 2002).

Israel

Israel has always had ambitions in the Nile water to solve its severe water scarcity. Dr. Elisha Kally, head of the Long-Range Planning Group of TAHAL 1964-1976, the Israeli water planning agency, stated 'The Nile is the preferred foreign source for supplying the Gaza Strip with water

because of physical and political reasons' (Kally 1991-92).

Dr. Elisha Kally published a study in 1974 in which he argued for the feasibility of Nile water going to Gaza. He has repeated his arguments in subsequent reports and in his books, *The Struggle for Water* (2nd edition, 1978) and *Water in Peace* (1989). His 1986 paper includes a map which shows the El-Salam Canal (El-Salam in Arabic means 'peace') beginning near the mouth of the Nile, crossing the Suez Canal (through an underground tunnel), heading east across the North Sinai desert past El Arish and reaching Gaza and the Israeli National Water Carrier. The ultimate goal of the Northern Sinai Agricultural Development Program (NSADP), according to Dr. Kally, is to exchange 'Egyptian water to the Israeli Negev in return for the Sea of Galilee water to the West Bank.' The major component comprises the diversion of one per cent of the Nile water eastward 'to the Gaza Strip, to Israel's Negev and, under certain conditions, to the West Bank and Jordan as well' (p.66). Kally argues that the project would also be facilitated by current 'Egyptian plans to transport water to the Sinai Desert and to construct irrigation projects there ... The joint Israel-Egyptian project under discussion could thus comprise an expansion and extension of the Egyptian enterprise' (p.67) (Osman 1997; Al-Kattan 1998).

It is important to note that Sadat launched the El-Salam Canal project following his declaration in Haifa that he will transfer Nile water to the Israeli Negev desert. As if that was not enough, Sadat also declared a new project to deliver Nile water to Jerusalem. In a letter to Menachem Begin, Israel Prime Minister then, Sadat wrote 'As we embark on the comprehensive resolution of the Palestine issue, we shall make these waters a contribution from the Egyptian people and in the name of the hundred millions of Muslims, a monument to the peace accord. The Nile waters will become Zamzam[92] wells to all believers. These waters will be an evidence that we are promoters of peace, life and prosperity.' That was a part of a letter sent from Anwar El-Sadat to Menachem Begin proposing the transfer of a portion of Nile water to Israel. This was accompanied by an article published in the Cairo weekly 'October', January 16, 1979 under the heading 'The new Zamzam project', the Nile will reach to Jerusalem. It stated that Sadat had given the launching signal to the digging of El-Salam Canal between Faraskour and Al-Tina at the 25 km mark on the Ismailia-Port Said road to reach the Suez Canal to irrigate 1/2 million feddan. Sadat turned to the officials and requested a complete international feasibility study for the delivery of Nile waters to Jerusalem.

The most controversial part of the NSADP is Block 5 (El-Khodari 1993), the extension of the canal to El-Arish city. There is no economic justification for the extension since the area has

[92] Zamzam is the well that supplies the Muslim Wholly Shrine 'Ka'aba' at Mecca with water

adequate underground water and that the cost involved in pumping the water to 100 meter above sea level to reach the area makes the water uneconomically suitable for use in agriculture. There is also indication that El-Salam Canal is extended from its planned end south of El-Arish (40 km from the Israeli border) to reach Rafah, a border city divided between Egypt and Israel (Al-Ahram Daily Newspaper 1993).

It is important also to consider that, according to the Economist Intelligence Unit, Egypt in 1991 agreed to abandon the Northern Sinai Agricultural Development Program (NSADP), due to pressures from the World Bank and donor countries, as its resources, both financial and water, cannot afford that project. Miraculously, the scheme was activated again in 1992, in spite of an environmental impact assessment prepared according to the World Bank procedures that undermined the economic and social benefits of the project and concluded that the project is strongly negative to the environment. Its first recommendation was that Egyptian government should reconsider the plan (Euroconsult 1992). That study was ignored by both the Egyptian government and, apparently, the World Bank. Both kept it under lock and key.

Egypt, after Sadat, may have been pressured to go ahead with the NSADP for fear of Israeli water projects in Ethiopia that would ultimately affect its share of Nile water. Egypt has complained of Israeli water engineers working in Ethiopia and Sudan, designing new irrigation systems which would reduce the flow of the Nile, Egypt's only source of fresh water (ORAE 1990). In 1994, Sudanese President Omar Hassan Al Bashir complained about a visit to Israel by the leader of the Sudan Peoples Liberation Army (SPLA). President Al Bashir claimed that Israel had its eyes on the untapped natural resources in Southern Sudan and on the sources of the Nile as an effective leverage over Egypt (IPS 1994).

In view of the repeated denials by Egyptian authorities and repeated accusations by upper Nile countries, the present author believes that the issue of whether or not the El-Salam Canal water does or does not reach Palestine/Israel can easily be verified through the use of satellite imagery of the area.

A major source of concern in the Arab world generally, and in Egypt in particular, is the relationship between Ethiopia and Israel. 'There is also a misconstrued theory that Israel has been helping Ethiopia to build dams and other projects on the River Nile,' Ethiopian Prime Minister Meles Zennawi said. He hinted that Egypt was even suspected of providing Nile water to Israel. 'It is the same old myth that Egyptian kings had about the ancient Ethiopian kings' ability to hold back the Nile waters,' Zennawi said. He explained that in medieval times Ethiopian kings threatened to block the course of the Nile and hold back the Nile waters if the Egyptians failed to send the Abuna to head the Ethiopian Orthodox Church. The Egyptians, he said, actually feared

that the Ethiopians would interfere with the flow of the Nile, even though the Ethiopians lacked the technological know-how. Yet, the myth has persisted down through the ages. In much the

same vein, Zennawi said, 'some Egyptians today fear that Ethiopia, with Israeli assistance, would be able to hamper the flow of the river' (Nkrumah 2003).

Israel has two military bases in Eritrea, one on the Dahlak islands, another in the Mahel Agar mountains near the Sudan border. It is also suspected of taking part in destabilizing Sudan (Fisher 1998). The Sudanese foreign minister Mustafa Othman Ismael, accused Israel and Uganda of cooperating with the rebels in South Sudan and pointed out the attempts of this movement to buy large amounts of weapons. Ismael also indicated that there are also deeper contacts between the rebels and Israel 'and we follow up and monitor these contacts and moves' (Arabic.Com 6 January 2003).

REGIONAL GROUPS: EQUATORIAL LAKES GROUP VERSUS EAST NILE GROUP

The East Nile group – Egypt, Sudan, Ethiopia and Eritrea – have different concerns than the Equatorial group. The East Nile Group needs more water, if Ethiopia's (and Eritrea who is not fully involved in the Nile Basin Initiative (NBI), but attends the meetings as an observer) demands for water, needed to shift from the inconsistent and seasonal rain-fed to the more stable surface irrigation, are to be met. This is estimated at 9.5 BCM/year. The NBI way to solve this puzzle,[93] without affecting the current 'quotas' – according to the disputed bilateral 1959 agreement – of Egypt and Sudan – is apparently by allowing Ethiopia to have its needs of waters met while keeping the old Nile treaties as they are, so preventing the other riparian countries from their 'rights'. Ethiopia's share can be compensated by the NBI projects (Jonglei Canal mainly) that make use of an increased flow from the White Nile.

The Equatorial Lakes group (Uganda, Kenya, Tanzania, Burundi, Rwanda and the DR Congo) has much rain water that is more stable and essentially do not need the water. However, they need development assistance, e.g. investment, preferable trade agreements, etc. in exchange of their legible 'share' of water needed by the East Nile Group.

[93] Increased demand upstream with the same amount of Nile water.

In fact the harmony within each group is *currently* at its best with some sore points in each, Eritrea in the East Nile group and DR Congo in the Lake Victoria group. That by no way means that there are no 'dormant' problems that can explode at any time in-between each group.

The East Nile Group

Recently, Egypt approved the construction of a dam in Ethiopia at the Koga River. Under the plan, some 15,000 acres will be irrigated, providing supplemental water for crops during the erratic rainy season and a steady supply of water for a previously unthinkable second crop during the long dry season. When the African Development Bank notified the Egyptians that it was considering financing the $50 million Koga project, Cairo gave its support. 'They are really suffering in Ethiopia,' says Abdel Fattah Metawie, the chairman of the Nile water sector in Egypt's Ministry of Water Resources and Irrigation. Without development in the Blue Nile basin, he said, 'you have to expect a crisis in the area.'[94]

Moreover, according to the region's new math, what helps Ethiopia can also help Egypt. The countries are studying a plan for four hydropower dams on the Blue Nile. These dams could produce enough energy not only to supply Ethiopia's domestic demand but also to feed into Egypt's extensive power grid for sale to users all the way up to Europe. The dams would also serve as sediment traps for the topsoil that washes down from Ethiopia's denuded hillsides. Currently, the silt from the Blue Nile is building up in Egypt's Aswan Dam and a couple of smaller dams in Sudan. Over time, if the runoff is not controlled, the silting could cripple the dams. Engineers from both countries agree that dams in the cool and moist Ethiopian highlands, storing water in deep natural gorges, would lose far less water to evaporation than the Aswan Dam in the hot, dry Egyptian desert. They calculate the savings on evaporation could compensate for the amount of water Ethiopia proposes to use for irrigation. 'There's enough water – it is a matter of managing it,' says Egypt's Mr. Metawie. 'To look at the Nile from a selfish point of view won't help anyone' (Thurow 2003).

Even relations between Egypt-Sudan and Sudan-Ethiopia are at their best, in spite of earlier attempts of 'polarization' of Sudan by both Egypt and Ethiopia. It seems that Ethiopia and Sudan are even more united (unfortunately against Eritrea).

[94] This is by far a much more 'sympathetic' tone than the previously documented threats of war by Egypt and the interference to block financing any irrigation projects in Ethiopia.

The Nile Equatorial Group

Kenya, Uganda and Tanzania launched the East African Community in 1999. The regional co-operation and integration envisaged in the EAC is broad based, covering trade, investments and industrial development; monetary and fiscal affairs; infrastructure and services; human resources, science and technology; agriculture and food security; environment and natural resources management; tourism and wildlife management; and health, social and cultural activities. Other areas of co-operation include free movement of factors of production; and co-operation in political matters, including defence, security, foreign affairs, legal and judicial affairs.[95]

The East African Legislative Assembly (EALA) in 2003 stated that:

- East African countries were arm-twisted by donor institutions to recognize the controversial 1929 Nile Treaty,[96]
- The World Bank and other donors were using their financial power to protect Egypt's interests regarding River Nile, and
- Donors had refused to fund water projects in the Lake Victoria region unless Egypt consented.

The members resolved to immediately negotiate, as a bloc, all matters relating to Lake Victoria and the Nile Basin (Olita 2003).

DONORS VERSUS NILE BASIN GOVERNMENTS INTERESTS

During the Kananaskis, Canada, June 2002 meeting, the G8 conditioned aid to Africa with 'consolidating democracy and sound economic management, and promoting peace, security and people-centred development.'[97] They stated that their 'partners' will be selected on the basis of 'measured results' in these areas. In fact, Tony Blair tried to push the 'Africa Marshal Plan' that was promised in the G8 previous meeting in Genoa, Italy. But only Britain and Canada had 'money on the table' (Denny and Elliott 2002).

[95] http://66.110.17.178/about_us.htm

[96] The 1929 treaty. Please see
http://www.nilebasin.com/cgi-bin/discus/show.cgi?tpc=12&post=4888#POST4888

[97] G8 Africa Action Plan

Even during their meeting in Evian, France (June 2003) to 'revisit' the program for improving the provision of water for drinking and sanitation across Africa, as part of the G8 African Action Plan of 2002, they failed to commit any new resources.[98]

The donors' desire to push democracy and economic reforms for aid is – to say the least – a bitter medicine that most African leaders, including Nile Basin countries, are hesitant to swallow. In fact NEPAD's[99] 'bear review', though hailed at the 2002 G8 meeting, falls short of meeting the above criteria, mainly because it only includes economic but not political review. Simply put, if true democratic reforms are applied, most of the African 'leaders' will lose power.

The Nile Basin countries are much more interested in short-term economic gains, rather than the long-term social or even environmental development. They are all facing severe economic problems that may lead to civil strive and internal conflict.

The author is also doubtful that the USA, with its influence in the G8, IMF and World Bank, would readily commit to funding the core NBI projects that would take place in Sudan.

The other part of the equation is seemingly 'turf protection' by the World Bank, administering the NBI process. It is unthinkable that a UN agency like the UNEP is not involved in the NBI planning process that would eventually involve a cascade of dams on the Nile River. Even FAO, who is in charge of some projects within the NBI, is excluded from the 'NBI planning process' according to a FAO source. Even the role of the UNDP, who started the process with the World Bank, seems to somehow have been 'minimized' following the move of the main UNDP 'officer' working on the NBI to the World Bank. The Nile Basin Society is still calling for the importance of immediate involvement of all UN agencies in the project, as the projects have now entered the stage of implementation. The NBS took the initiative by pre-registering a Nile River Basin HELP proposal.[100]

GOVERNMENT VERSUS CIVIL SOCIETY INTERESTS

The issue of true public participation in development projects remains a contentious issue for the NBI, as demonstrated by the process[101] of forcing a 'civil society' structure termed the *Nile*

[98] Water - a G8 Action Plan.

[99] It is important to remember that Egypt spearheaded the NEPAD 'approach'.

[100] See: http://www.nilebasin.com/cgi-bin/discus/show.cgi?tpc=5365&post=4754#POST4754

[101] If interested please see the paper by the author, presented at the 3rd World Water Forum' entitled "NBI: Business as Usual? Nile Basin Discourse' http://nilebasin.com/wwf/doc/NBD.doc

Basin Discourse (NBD), with the World Bank and IUCN[102] as part of its 'governing structure' as planned by Mr. Len Abrams[103] of WaterPolicy.com, now a World Bank employee.[104]

The 'selected' Steering Committee of the NBD includes three 'national representatives' with no relation whatsoever to civil society. In fact they are governmental employees. The rest are members (or rather heads) of what can be termed as GONGOs ('Governmental NGOs') that only act as 'contractors' to the governments in projects that the donors insist to be handled by NGOs. They never oppose the government and never act on behalf of the people.

What is appalling is that the person who presented the 'NGO Statement'[105] at the 1st International Consortium for Cooperation on the Nile (ICCON) meeting[106], held in Geneva, 26-28, 2001 was one of the three government employees, though the author has no objection on the statement itself, except the blind support for the NBI without really knowing the projects planned or involvement (by NGOs) of the planning process.

The NGO/Government relations regarding the NBI have been strained by what I call the 'Bujagali Hydroelectric Dam experience', in which a single NGO, the National Association of Professional Environmentalists (NAPE, Uganda) successfully campaigned and stopped the project..[107] The end result of which is that the US hydroelectric power that proposed the project has withdrawn[108] after 'probes' by the US government of alleged bribing of Ugandan Officials. The IMF CAO[109] report[110] is a condemnation of the NBI.

[102] It is important to stress that the IUCN is not an NGO; it is an inter-governmental organization that accepts NGOs as 'class B' members, with hefty membership fees. Furthermore, it is a close ally/partner of the World Bank, particularly in water projects.

[103] See CV at http://www.waterpolicy.com/CV_Len_Abrams.htm.

[104] It is obvious that – from the CV – Mr. Abarms is really a 'consultant' for Nile Basin governments and the World Bank. He should have never been the NBD first facilitator. Due to the author's initiative, that did not go very well with Mr. Len Abarams, a personality clash if you will, or most probably a 'misunderstanding' of the true role of NGOs. The result? The author has not been sponsored to any NBD event ever since, though mostly invited. With the NBS lack of funding, it is quite impossible to participate, as they well know.

[105] See: http://www.nilebasin.com/cgi-bin/discus/show.cgi?tpc=10&post=1228#POST1228

[106] see http://www.nilebasin.org/ICCON1.htm

[107] A Nile Basin Society affiliate and the co-organizer of the NBS 3rd WWF session 'The role of NGOs and Media in the NBI'. Unfortunately, there are currently a law suite in Ugandan courts regarding the 'overtake' of NAPE by another group than its founders. Two of the new group are now also 'elected' members of the Ugandan National Forum of the NBD.

[108] See http://www.nilebasin.com/discus/messages/514/3023.html?1061333177

[109] Compliance Advisor Ombudsman

[110] http://nilebasin.com/wwf/doc/annex.htm

The publishing by the NBS of allegations of corruption in the NBI[111] did not help matters much. In fact, it may have led to the announcement by CIDA, the major funding agency of the NBI process, for the position of a Canadian Program/Procurement Advisor.

CONCLUSIONS

The NBI process is indeed a difficult one, however the author hopes for more transparency of the process as well as increased accountability and public participation. There is a need to get issues solved through a 'summit' of presidents of the Nile Basin countries. Ratification of the Convention on the non-navigational uses of watercourses is required to solve the 'legal' issues.

All countries must adopt a 'regional vision' rather than a narrow 'national' one. The fact that the text of the 'Shared Vision' has been removed from the NBI's main web page is troublesome.

Donors have the ethical responsibility of funding this precarious region of the world. However, they also must enforce their regulations (fiscal and monitoring) to prevent abuse of funds or their re-allocation to other projects.

Donors have also a role in capacity building of regional and national NGOs as well as the responsibility of providing incentives and mechanisms to ensure improved ethics by foreign investors and agencies operating in Nile Basin countries ought to be put in place. 'Given the link between governance and development worldwide, the responsibility of the international community cannot be overstated at this juncture. In this sense, governance is at a crossroads. There is still a soft and wavering commitment to improving governance in many quarters today, including members within the OECD and the G8, and as stated, there are challenges within the EU itself. Admittedly, the crucial requirement for political will in this area, where powerful vested interests conspire against the concrete progress which is essential for development, cannot be ignored' (Kaufmann 2003).

[111] The complete text of the original accusations received is published at http://www.nilebasin.com/cgi-bin/discus/show.cgi?tpc=5365&post=3355#POST3355. It includes allegations of misappropriation of funds by the NBI Executive Secretary, abuse of power in procurement and employment (of allegedly non-qualified persons) in sensitive positions as the administrator and financial controller and the 'Senior Secretary' who is 'a nursery teacher' (later alleged to be the Executive Secretary's mistress by the same source; see http://www.nilebasin.com/cgi-bin/discus/show.cgi?tpc=5365&post=4753#POST4753. It is apparent now that these allegations were taken seriously after publishing by the NBS. Now there is a new financial controlled selected by UNOPS (see http://www.nilebasin.com/cgi-bin/discus/show.cgi?tpc=10&post=3030#POST3030). CIDA is also in the process of appointing a 'Procurement Advisor' see http://www.acdi-cida.gc.ca/cida_ind.nsf/852562900065548585256252000683 80/50c32d7fcdbbf68485256d36005aec2b?OpenDocument

REFERENCES

Abdel-Halim, Ahmed (2003). *Upstream and simmering*. Al-Ahram Weekly, 7 - 13 August 2003, Issue No. 650.

Al-Ahram Daily Newspaper (1993). An interview with Gen. Mounier Shash, [then] Governor of North Sinai [in Arabic], August 22, 1993, page 17

Al-Kattan, Mohammed (1998). *As Prospects for Regional Political Settlements Fade, Israel Still Party to Valuable Water-Sharing Pacts*. Washington Report on Middle East Affairs, December 1998, p. 70.

AMCEN/UNEP (2002). Africa Environment Outlook: Past, present and future perspectives. Geoffrey Bird, Jacquie Chenje and Sarah Medina (Editors). Published by UNEP, ISBN: 9280721011. Available online at http://www.unep.org/aeo/index.htm

Arabic.Com (2003). Sudanese- Ethiopian talks on common issues. January 6.

ArabicNews.com (2002). *Egypt's relations with Sudan question of life or death*. 7 September 2002.

ArabicNews.com (2002): *Mubarak receives a message from Al Bashir*. 21 December.

ArabicNews.com (2003). *Egypt gives priority to relations with Sudan*. January 1st.

Belida, Alex (2002). *US Contemplates Military Ties with Eritrea*. Voice of America, 17 June

Bleier, Ronald (1997). Will Nile Water Go To Israel? North Sinai Pipelines and the Politics of Scarcity, Middle East Policy September 1997, Volume V; Number 3, pp. 113-124. Also available online at the Demographic, Environmental and Security Issues Project. http://desip.igc.org/WillNile1.html

Crossette, B. (1995). Severe Water Crisis Ahead for Poorest Nations in Next Two Decades, New York Times, 10 August.

Denny, Charlotte and Larry Elliott (2002). *Blair losing struggle to get new G8 deal for Africa*. The Guardian, June 26.

El-Khodari, N. (1993). *Block 5 NSADP*. Presented as a poster session in the International Symposium on 'Water Resources in the Middle East: Policy and Institutional Aspects', University of Illinois at Urbana-Champaign, Urbana, Illinois, USA, October 24-27.

ESPAC: http://www.espac.org/usa_sudan_pages/usa_sudan.html

Euroconsult (1992). Northern Sinai Agricultural Development Project Environmental Impact Assessment (Executive Summary). Submitted to the World Bank/Government of Egypt.

Fisher, Keith (1998). *Everything You Wanted To Know About Eritrea But Were Afraid To Ask.*.

G8 Africa Action Plan

IGAD website http://www.igad.org/

InterPress Services (IPS) (1994). April 14.

IRIN (2003): *Ethiopia: Anti-terror regional task force set up*, 30 July.

IRIN (2003): *Special report: Humanitarian gains as peace hopes rise*. 26 June 2003.

Kally, E. (1991-92). Options for Solving the Palestinian Water Problem in the Context of

Regional Peace.

Kaufmann, Daniel (2003). Rethinking Governance: Empirical Lessons Challenge Orthodoxy. A draft publication of the World Bank Institute.

Nkrumah, Gamal (2003). Interwoven destinies. Al-Ahram Weekly, 26 June - 2 July 2003, Issue No. 644.

Olita, Reuben (2003). *Legislative Assembly Wants Power Over Nile*. New Vision (Kampala), June 23, 2003

Operational Research and Analysis Establishment (ORAE), National Defense Dept., Ottawa, Canada (1990). Climate warming, water resources and geopolitical conflict: A study of nations dependent on the Nile. Paper #55.

Osman, Khalil (1997). *Spate of studies on water projects reflects Israel's appetite for every drop: Water And Peace: Water Resources And The Arab-Israeli Peace Process*, by Elisha Kally with Gideon Fishelson, Praeger Publishers, Westport, CT 06881, US. 1993, pp.127.

Sanger, David E. (2003). Bush calls on Middle East to open arms to democracy: Hussein's fall a 'watershed' for the world. *San Francisco Chronicle, Friday, November 7, 2003*.

Thurow, Roger (2003). *Ravaged by Famine, Ethiopia Finally Gets Help From the Nile*. The Wall Street Journal, November 26.

8. From Water 'Wars' to Water 'Riots' – Summary of Conference Discussions and Conclusions

Jannik Boesen and Helle Munk Ravnborg

While water wars are not immediately imminent, water riots and conflicts are. This was the general agreement emerging from the conference *'From water 'wars' to water 'riots'? The role of the poor and implications for water management institutions in future water related conflicts'* held at DIIS in Copenhagen, December 2003. The image of 'water wars', featuring so prominently in recent debates on water management has been so powerful that it has not only succeeded in directing considerable attention to the importance of transboundary water resources and international water treaties in preventing water 'wars'; whether intended or not, it has also meant that attention has been diverted away from local water conflicts and from the concerns of the poor. This may, however, slowly be changing, as the danger of 'wars' appears more remote, and 'riots' more threatening. Given the attention devoted to the management of transboundary water resources, the fact that a local conflict takes place within a transboundary river basin enjoying the attention of the international donor community, as the conflicts over the Pak Mool dam described in the paper by Lang, may be instrumental for directing international attention towards this type of local conflicts and the extent to which the interests of the poor are being accommodated.

Moreover, the conference supported the view that rather than water scarcity, water-related conflicts are caused by the way in which water use is governed. Water governance includes not only the technical aspects but also the political aspects related to decisions on the distribution of water as well as of the associated costs and benefits. Thus, as Torkil Jønch-Clausen stated in his presentation, 'the world is facing a water governance crisis rather than a water [availability] crisis'.

Since the International Conference on Water and the Environment (ICWE) held in Dublin 1992, there has been broad international consensus about the need to address the water governance crisis through integrated water resources management (IWRM). IWRM aims to 'ensure the coordinated development and management of water, land, and related resources by maximising economic and social welfare without compromising the sustainability of vital environmental systems' (Solanes and Gonzalez-Villareal, 1999). In 1996, the Global Water Partnership was created to foster IWRM and the World Summit on Sustainable Development (WSSD) in Johannesburg 2002 called for countries to develop Integrated Water Resources Management and Water Efficiency Plans by 2005 (Jønch-Clausen, 2003). An important conclusion from the

conference is the appeal not to conceive of water management and the development of water management plans as a merely technical issue. Hence, donor organizations, in their effort to support local, national and international water management should encourage that the political aspects of water management are explicitly addressed.

HYDROLOGICALLY BASED OR ADMINISTRATIVELY/POLITICALLY BASED WATER MANAGEMENT

Several of the so-called Dublin principles[112] underlying the thinking on IWRM have led to heated debate. One of the debates, inspired by the text explaining the first principle[113] has concerned the need to manage water within a hydrological unit (e.g. basin, watershed or aquifer) or within conventional political and/or administrative units. This issue was also a subject of discussion at our conference held in Copenhagen, December 2003.

There seems to be a growing awareness everywhere that with increasing scarcity and the increasing tendency to allocate formal water rights to individual and corporate users, i.e. rights to withdraw or otherwise use certain quantities or proportions of water within specified periods of time, it is necessary to manage water according to its physical boundaries. If not, allocation of water rights might end up surpassing the actual amounts of water available in some localities. However, managing water within its hydrological unit poses a new set of challenges. Of these, three challenges were discussed at the Conference:

First, it is important to recognize that political and social institutions are not – and should not be – organized according to hydrologically defined units. Thus, ways will have to be found through which to articulate political structures for the discussion and negotiation of development concerns and priorities with hydrologically defined approaches to monitoring and allocating available water (the latter according to politically and technically negotiated priorities).

Second, the most appropriate hydrological unit for water management is not once and forever given. Like Chinese boxes, hydrological units are nested within each other, ranging from micro-

[112] These four principles concern water as a finite, ecological resource; participatory water management; the need for a gender perspective in water planning and policy formulation; and the need to manage water based on the recognition of water as an economic good.

[113] "Since water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or groundwater aquifer".

watersheds defined by a spring forming a little stream to large river basins, defined by rivers such as the Nile and the Mekong and their tributaries, creating strong hierarchical interdependencies between different levels of hydrological units in terms of water availability and quality. Managing these interdependencies represents the second challenge – a challenge which is closely related to a second major discussion at the Conference (and in water management in general), namely the issue of what constitutes the lowest appropriate level for water management.

Third, management of water within a watershed perspective often have downstream consequences, i.e. consequences which transcend the hydrologically defined unit. The technical response to deal with such downstream consequences would be to recommend that water be managed at basin level, in an attempt to 'internalize' the downstream consequences. However, this may in some cases contradict the second Dublin principle of managing water at 'the lowest appropriate level' (see discussion below!). Thus, rather than choosing to centralize by insisting on basin-level water management, options of strengthening conflict resolution mechanisms cutting across hydrological levels and boundaries should be explored, involving specific water management institutions and government institutions as well as civil society organizations at different levels, both *within* and *beyond* the hydrological unit.

PARTICIPATORY WATER MANAGEMENT AT THE LOWEST APPROPRIATE LEVEL

In the Conference discussions, at least two simplifications which seem to have characterized much of the discussion on how to translate the Dublin principle of striving towards participatory water management at the lowest appropriate level[114] were pointed out. The first of these simplifications is the tendency to equate 'lowest appropriate' with 'local'. As pointed out at the Conference, the lowest appropriate level is not always the local level. What constitutes the lowest appropriate level depends on the issue at stake. If the issue at stake is the management of water in an artesian irrigation system or in a gravity drinking water scheme, the lowest appropriate level is likely to be very 'local', comprising perhaps one or a couple of communities. However, if the issue at stake is the management of water in the context of a hydropower and/or flood control dam, then the lowest appropriate level is more likely to be a region, perhaps even transcending national boundaries.

[114] In following text explains the Dublin principle on participatory water management: "The participatory approach involves raising awareness of the importance of water among policy-makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation and involvement of users in the planning and implementation of water projects."

The other simplification – or rather omission – is that while we might agree on this issue-based approach to identify in each context what constitutes the lowest appropriate level, that does not solve the problem of overlapping and often conflicting water management levels. The gravity drinking water scheme, although managed locally, might be situated within the basin feeding the dam and thus might experience that their rights of water management and use are undermined by more powerful claims to water related to the dam. This points us back to the initial appeal of not conceiving water management as a merely technical issue but also as a political issue.

Despite the high-level discussions and rhetoric on the need for participatory water management, there seems to have been a slow movement worldwide towards *actual* water management (including conflict resolution) at lowest appropriate level, including genuine stakeholder involvement (e.g. Wester *et al.* 2003). Apart from the common reluctance of central national authorities to give up powers, an obvious obstacle is the fact that what may constitute the lowest appropriate level with respect to one type of use of a water resource (e.g. a irrigation district for the distribution of water for irrigation) may not be the most appropriate level for another type of use of the same water resource (e.g. a region for the use of water for power production). While sounding attractive, the practical implications of the subsidiarity principle are less obvious, as neither specific water resources nor specific water management functions can unambiguously be assigned to specific and neatly demarcated levels.

In addition to debates of how to determine the lowest appropriate level of water management, there has been an emerging trend in efforts to support water governance, particularly at the international level to emphasize the equal sharing of benefits from water use rather than the equal sharing of water per se (e.g. in the World Bank-led support to the Nile Basin Initiative (Sadoff *et al.* 2002). While this makes a lot of sense at the conceptual level, it is much more difficult to implement at the practical level due to a number of reasons, e.g. which benefits and – not to forget – which costs to include, how to assess and compare them, and at which level. Very often, as discussed particularly in the papers on the Mekong, the construction of dams might be presented as implying net benefits to a country or a region; yet within that nation or region, those reaping the benefits might very well not be the same as those bearing the costs. Thus, in the international efforts to promote the principle of benefit sharing rather than water sharing as the basis for water governance and treaties, efforts have to be made to assess and communicate potential costs and benefits for and between all stakeholders.

The Mekong serves as a case in point. In their presentations, as well as in the ensuing discussions, both Lang and Hirsch forcefully emphasized the importance of supporting independent research and impact assessments in order to document not only the benefits, but also the costs of specific

basin development plans – costs which in the absence of independent research would at best be under-estimated, at worst go unrecognized.[115]

INVOLVEMENT OF THE POOR AND CIVIL SOCIETY IN WATER MANAGEMENT – A DONOR RESPONSIBILITY?

There seems to be evidence that the sharing of transboundary water resources between two or more nations tend to give rise to collaboration between governments on developing the shared water resource rather than conflict. However, there is a risk that the interests and concerns of less powerful and influential constituencies, such as the poor, as well as environmental concerns are left out of such collaborative efforts. In this context the conference discussed the possible and potential role which donor organizations can and should play in promoting participation of the poor and of civil society organizations at large in water resources management both at the transboundary level and at the national level. Currently, the general trend is for donor organizations to opt for entering into policy dialogues with recipient governments, urging them and to varying degrees posing as a general conditionality that they should put 'their house in order', e.g. by allowing and facilitating civil society participation in various phases of planning, consultation and implementation and by ensuring investments to meet the Millennium Development Goals (MDGs). This current tendency of posing general conditionalities is in contrast to posing specific project or issue-based conditionalities. In the context of the MRC or the NBI, however, this may be an artificial dichotomy. To a large extent, both the MRC and the NBI are heavily dependent upon donor organizations both in their creation and for their actual operations.

Thus, several conference participants expressed the view that donor organizations should seize the opportunity of working directly with these transboundary river basin institutions to ensure that they develop into true platforms for assessing and negotiating basin development plans through the facilitation of environmental and social impact assessments to the extent possible undertaken or coordinated by affected (positively and negatively) groups themselves, consultations, etc. In this way, donor organizations could help creating or enlarging the space for the participation in water management not only of national governments but also of the poor and civil society organizations at large. This is essentially different from posing conditionalities; it implies supporting an enabling institutional environment which actually only exists partially in the various countries in the Nile and the Mekong regions. Recognizing that even in transboundary

[115] Danida's support for the Mekong fisheries programme has been very instrumental in documenting the impacts on fishery sector in the Mekong of various basin development plans.

water management, a substantial part of the actual and potential conflicts are local in nature, enlarging the space in transboundary water management institutions not only for formal stakeholder representation which is inherently difficult to organize but for ad-hoc, issue-based participation of civil society organizations might from a poverty perspective entail important, positive spill-over effects also for national water management.

REFERENCES

Jønch-Clausen, Torkil (2003). *Integrated Water Resources Management (IWRM) and Water Efficiency Plans by 2005. Why, what and how?*. Global Water Partnership (GWP), Technical Committee (TEC).

Sadoff, Claudia W.; Dale Whittington and David Grey (2002). 'Africa's International Rivers: An Economic Perspective'. *Directions in Development*. Washington, D.C: The World Bank.

Solanes, Miguel and Fernando Gonzalez-Villareal (1999). 'The Dublin Principles for Water as Reflected in a Comparative Assessment of Institutional and Legal Arrangement for Integrated Water Resources Management'. *TAC Background Papers* no. 3. Global Water Partnership. Technical Advisory Committee.

Wester, Philippus; Douglas J. Merrey and Marna de Lange (2003). 'Boundaries of Consent: Stakeholder Representation in River Basin Management in Mexico and South Africa'. *World Development*, Vol. 31, no. 5, pp. 797-812.

Annex I : Conference Programme

From water 'wars' to water 'riots'?
The role of the poor and implications for water management institutions in future water related conflicts

Conference, organized by Danish Institute for International Studies (DIIS), Copenhagen
Sponsored by Danida
December 3, 2003

Venue: Conference room, DIIS, Strandgade 71, Copenhagen

Programme

09.15-10.00	**Registration and coffee**
Session I	**Past, present and future water related conflicts – their characteristics and implications for their management** Chair: Jannik Boesen, Senior Research Fellow
10.00-10.40	**Danida's interest in Conflict Prevention and Mitigation in Water Resources Management** ▪ Kurt Mørck Jensen, Senior Advisor, Danida **From water 'wars' to water 'conflicts'. Introduction to the conference** ▪ Helle Munk Ravnborg, Senior Research Fellow, DIIS
10.40-11.00	**Water, Conflict, and Cooperation: The Global Context** ▪ Torkil Jönch-Clausen, Chair, Danish Water Forum
11.00-11.20	**Water and Conflict: Conceptual overview** ▪ Bjørn Møller, Associate Professor, Aalborg University, Denmark
11.20-12.00	**Discussion**
12.00-13.15	Lunch break
Session II	**Water related conflicts in the Nile and the Mekong River basins** Chair: Martin Hvidt, Associate Professor, Syddansk Universitet
13.15-13.35	**Who owns the Nile? Conflicting interests** ▪ Nabil El-Khodari, Chief Executive Officer, Nile Basin Society, Canada
13.35-13.55	**Power, conflict and participation in the Mekong from the perspective of local communities** ▪ Malee Traisawasdichai Lang, Aalborg University, Denmark. Journalist, previously employed by 'The Nation', specialized in conflicts over development projects in the Mekong.
13.55-14.15	**Development assistance in a transboundary river setting: The role of institutional mechanisms in safeguarding poor people's livelihoods and rights to land and water in the Mekong Region** ▪ Philip Hirsch, Associate Professor of Geography, University of Sydney, Australia
14.15-15.00	Discussion
15.00-15.30	Coffee break
Session III	**The role of the poor and implications for water management institutions in future water related conflicts** Chair: Poul Erik Lauridsen, Research Fellow, DIIS
15.30-16.30	▪ Introduction: Helle Munk Ravnborg ▪ Brief statements (2 minutes) from previous speakers ▪ Discussion
16.30-17.00	**Summary and closing remarks** ▪ Kurt Mørck Jensen, Danida ▪ Helle Munk Ravnborg, DIIS

Annex II: Conference Participants

Kimmie Alexandersen Student	Roskilde University Centre, TEK-SAM
Torsten Rødel Berg Ph.D. Researcher	Center on Development and International Relations (DIR), Aalborg Universitet
Jannik Boesen Senior Researcher	Danish Institute for International Studies
Elisabeth Riber Christensen Senior Consultant	NIRAS Consulting Engineers
Rekha Das Consultant	Nordic Consulting Group A/S
Nabil M El-Khodari Dr.	Nile Basin Society
Jessica Friedman Student	Danish Institute for Human Rights/Roskilde University Centre
Esbern Friis-Hansen Senior Researcher	Danish Institute for International Studies
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Molly Hellmuth Dr.	UNEP-Risø Center
Claus Hersom Student	Institute of Geography, University of Copenhagen
Klaus Hinsby Senior Research Hydrogeologist	Geological Survey of Denmark and Greenland (GEUS)
Philip Hirsch Associate Professor	School of Geosciences (F09), University of Sydney
Leif Hommelgaard Senior Technical Advisor	Royal Danish Ministry of Foreign Affairs, Technical Advisory Service
Gitte Hundahl	Royal Danish Ministry of Foreign Affairs, Africa Office
Søren Hvalkof Researcher	Danish Institute for International Studies
Martin Hvidt Ph.D., Associate Professor	University of Southern Denmark, Center for Contemporary Middle-East Studies
Stig Jensen Researcher	Danish Institute for International Studies

Kurt Mørck Jensen Senior Advisor	Royal Danish Ministry of Foreign Affairs, Danida
Kristine Zeuthen Jeppesen Freelance Consultant	
Torkil Jönch-Clausen	Danish Water Forum
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Mette Lykke Knudsen Student	Danish Institute for International Studies
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Poul Erik Lauridsen Researcher	Danish Institute for International Studies
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