

Water and Local Conflict: a brief review of the academic literature and other sources

Stockholm, Sweden

October, 2004

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Water and local conflict

Abstract

The review focuses on the nexus between water issues and local conflict and presents titles from two main streams of literature, water issues and conflict studies. Most work in the water sector tends to be done on transboundary issues while the opposite is true for current conflict research where intra-state conflict has come into focus. The objective is to briefly present material in the intersection of these areas; titles that could be of interest for individuals working with water/natural resources and conflict. Not only academic material is presented; manuals, evaluations and Internet resources etc. are cited when deemed relevant. A few hypotheses are presented discussing the dominance of the interest in international water issues and why this focus may change in the foreseeable future. Some comments are made on the often multiple role of actors in the sector and why a geographical bias in the research may be noticed.

Water and local conflict: introduction to review

The objective of this review is to briefly highlight how the area of interaction between research and practice etc. on conflict and its connections to water issues has developed and how it is currently described in academic literature and other sources. The imagined reader is any person who has a general interest in the area.

The literature on conflict and water, and less specifically, on conflict in connection to natural resources is voluminous. This review has not as a goal to in any way be a comprehensive bibliog-

raphy on this subject. The objective is to present material that exemplifies issues from current research and practice; in the best case this will serve as an introduction to the field.

The review mainly presents sources emanating from the "development discourse". This does not mean that techniques and processes proposed and used predominately in the North are not valid in a broader context. Another task for research could be to investigate to what extent such techniques are local context dependent, the same query is obviously valid for sources mainly investigating development issues.

An important caveat is the fact that there are not many sources that explicitly concentrate on local conflict in connection with water. Many of the cited sources are thus mentioned because they might be of utility in thinking on these issues or as examples of a certain way of reasoning in relation to the area.

Non academic sources deemed interesting will be mentioned and discussed. These vary; examples from the water practice of the World Bank and documentation from International Governmental Organisations (IGOs) and Non Governmental Organisations (NGOs) will be presented. Many actors in the field of development and international politics are in some way involved in the "water debate", the water issues are often regarded as fundamental in the development discourse. This means that a survey principally dealing with academic titles would exclude many interesting sources of information. The intent is to take into account various documents and resources from the side of practitioners and organisations working in the area to be able to give a more nuanced rendering of the debate. The objective is not to present only vouchsafed and peer reviewed research results; the inclusion of a document in this review does not in any way guarantee neither its quality, nor its utility.

The rather big amount of popular writing, often books with alarmist titles such as "Water wars..." etc. will not be considered in this limited perspective.

Last but not least important; the objective of the review is only to give some indications of the ongoing debate and practice. Its extremely limited extension makes it obvious that no full treatment of the subject is possible; its goal is only to serve as an introduction to the debate and some of the sources. If this brief survey can give impulses to further reading and investigation its goal has been achieved.

The concept of "conflict"

The only concept that needs a brief discussion in this context it is "conflict". It is not synonymous with armed or violent conflict but indicates rather a situation of disagreement, in this specific case often over access and the right of distribution etc. of water. A synthesis of various definitions could be: "A conflict is a social situation in which at least two actors try to, at the same time, gain access to the same set of resources". A number of conflicts definitions are available, see for instance; Wallensteen (2002); Conflict Sensitive Approaches... (2004).

Another supposition is that conflict per se does not have to be negative. Most societies have institutions that deal with conflicts; legal systems, democratic or participative procedures etc. It is when these systems either not are in place or do not work that conflicts can be become detrimental for large groups in the affected societies.

Local conflict and water issues

As mentioned above the literature touching the issues of water and conflict, and in the extension the debate on natural resources and their influence on societal and political conditions is vast. The focus of the review is the relation of these issues to local and intra-state conflict, i.e. not trans-boundary relations between states and groups originating from different nations. It might be possible to envisage three levels of scale; international, intra-state and local, but in this context "local" conflict is used as synonymous to "intra-state".

A couple of quotes from the reviewed sources will suffice as a justification of this focus:

"So, while no water wars have occurred, there is ample evidence that the lack of clean freshwater has led to occasionally intense political instability and that, on a small scale, acute violence can result. What we seem to be finding, in fact, is that geographic scale and intensity of conflict are inversely related." (Wolf 1998 p. 255)

"Countering the widely held opinion that water scarcity entails prime risks of international conflicts over shared water resources, it is argued that the risk of conflicts within countries in fact is larger, [...]" (Ohlsson 1999 p. 1)

This stress does obviously not mean that research, concepts and methods etc. adopted from the field of international water topics are useless in the research on more localised conflicts that have water issues as an element or grievance. A relevant question which has occupied conflict research since its beginning and that has not so far been answered convincingly, is whether there actually is an ontological difference between inter-state and intra-state conflict. The international "water wars" of popular debate have so far not erupted. There are though many instances where water has played a part in the evolution and resolution of conflicts between parties and in some cases countries (Gleick 2003).

Transboundary vs. intra-state issues

On international and transboundary issues there is a vast array of sources (cf. the below cited bibliographies), when getting down to the local level and looking at water and conflict the material is considerably less abundant. Many of the titles mentioned in this review are also treating international issues, but have been included in terms of their relevance for local issues. The reasons for this concentration on international issues are probably manifold. A few such causes may be identified:

- Transboundary issues have a larger component of "high politics", and subsequently offer a larger visibility for international actors. This is probably true for both governments and non governmental bodies and international organisations. National "conflict generating" projects, such as large dams, are often considered solely national issues and involvement of foreign bodies is not appreciated (e.g. see heading *Internet resources/ Dams*, below).
- Even though there is a perceived lack of instruments in international law regulating water, there is a rich historical tradition of negotiating water rights and contentious issues concerning water. This area is well covered by academic research (e.g.: *Atlas ... 2002*). On the local level, the study of methods of water distribution and conflict resolution is a comparatively recent research area (e.g. Attia 1985)
- The loudest alarmist calls for future "water wars" have died away. Still, water as a source of international conflict seems to not only to loom large in the public mind but also in political circles. The current trend for "Transboundary water co-operation as a conflict prevention tool" may be seen as the inversion and paradoxically as the continuation of the idea of water as a pivotal factor in international relations (e.g. UNESCO's PC – CP project, see below *Internet resources*).

Considering the increased significance of civil war in relation to interstate war, natural resource scarcity, and terrorism related to water issues etc., one might foresee a heightened interest in researching the intra-state conflict and water area. Following the current trend of research on conflict topics one might expect that more material will be published in the near future.

The question put above concerning the difference between international and intra-state conflict begs a follow up in this context, if there is a difference, what are the consequences for research

and practice? A few titles present a more philosophical perspective on how water actually has shaped nation/states historically by defining borders, agricultural resources etc. and the contemporary implications of large infrastructure projects such as dams on national and international politics. Perry (2001a) and Perry et al. (2001b) are interesting exponents in this school of thinking. Another more theoretically biased contribution to this vein of thinking is Anton du Plessis' *Charting the Course of Water Discourse through the Fog of International Relations Theory* (2000).

Multidisciplinarity

There are a few titles that explicitly deal with the conflict – water complex. Some of the most widely known of these are compilations of texts or reprints of articles already published in academic reviews (e.g. Wolf et al. 2002) or volumes with a number of contributors, often emanating from a specific research project.

Material is found in a plethora of disciplines, from specialised journals on water management or policy, to peace and conflict studies and anthropology. To a certain extent the area is also represented in the normal development discourse, but there it tends to take on a more technical bias. Academics publishing in the sector are active in areas as diverse as Water Studies, International Relations, Public Health, Political Science, Social Anthropology and Sociology, Environmental Studies, Economy etc. Material is also found in less easily defined disciplines, such as publications on mediation and negotiation, policy analysis etc.

It should be mentioned that a lot of research is done by individuals and bodies that are closely connected to the development sector. Many of the titles and papers discussed are the direct result of such work. Both academic bodies and individuals are doing consultancies, evaluations, project design and in some cases actual project management.

No thesis that such involvement actually compromises research results is put forward; it should though be noticed and kept in mind, especially when researches/writers make references to particular projects and programmes. In most cases such affiliations are clearly accounted for in the separate works.

Some might even sustain that such links are in the main positive, academics get hands on experience and the empiric base of the research can be made more solid. The evaluation of individual sources must obviously be made on a case to case basis. An external reviewer might in some cases note a slight naïveté on the behalf of some writers, especially considering their own roles as academics in the management and execution of programmes and evaluations.

Geographical focus of literature

Much of water research has focused on specific geographical areas. The most visible areas are divided into a few main groups:

- River basins in the developing world (e.g. the Nile, the Mekong etc.)
- Areas with high demographical pressure and water stress, especially considering access to agricultural land and in fewer cases fishing rights and other water usage issues (e.g. The Niger, Southern African rivers, The Great Lakes region etc.).
- Areas with a history of conflict (e.g. The Middle-East, The Great Lakes Region etc.).

In many cases such geographical areas can be found in more than one of the categories. If making an intuitive approximation of where most literature concentrates its interest, Africa must probably be singled out as the main area. The causes for this is probably manifold and to a certain extent justifiable. The majority of the world's poorest and most underdeveloped countries are found on the continent. Africa seems largely to be the place where local strife has the biggest impact on people's lives and where drought and water "stress" is more prominent than in many other areas.

If adopting a somewhat more critical perspective, a legitimate question may be whether some other areas have been overlooked. Basins such as the Mekong are studied, but probably less than for instance the Nile basin. Can the research interest be a consequence of the possibilities to influence decisions and development in the area? Does a functioning mechanism, e.g. the Mekong Commission (Wolf 1998: p. 262), make research less necessary?

Maybe the focuses on the Nile, on the Southern African river systems etc. simply are an outcome of where western academic interests (if we include South Africa in this community) have had most possibilities to do research. Funding of such research is often closely linked to development budgets and therefore development goals. A lot of the research, if not the main part, is funded by predominately western countries' governmental donor agencies and ministries, multilateral banks and IGOs through academic bodies and their partners in the developing world. The same argument can be made for much of conflict research; focus has been where conflicts are rife; and where western agencies traditionally have had their operational focus. It may also be mentioned that most literature concerning water and issues relating to conflict concentrate on rural conditions. This is of course linked to the extreme importance of water access and use in agriculture, this including the recurrent conflicts between pastoralists and farmers. The studying of provision of water to urban areas and its consequences are generally studied in connection with urban and urbanisation issues.

Types of sources

Bibliographies and collections of material

Many major works on water and conflict have good bibliographies attached to them. Some works, writers and articles are cited in almost all sources, this included. As far as discovered there is no specialised bibliography on water and local conflict, most sources seem to focus on larger issues such as natural resources and conflict in both intra-state and international conflicts and more specifically water in an international perspective. This reflects the above mentioned focus of water as an issue in the larger international conflict perspective; concerning co-operation over shared rivers, lakes, fishing rights etc.

Helpful when compiling this paper was Dahilon Yassin Mohamoda's *Nile Basin Cooperation. A review of the Literature* (2003). Although the geographical focus is limited Mohamoda has in a clear and exhaustive fashion outlined the major areas of discussion within the area.

Terje Tvedt's extensive *The Nile: an annotated bibliography* (2004) is another more general overview of sources which spans the river's millennial history and covering most possible topics, a few examples; Flora and fauna, Water Use and Management, Projects and reports, Travel and Exploration etc. The title contains approximately 3-4000 references.

Another interesting list of categorised titles is found in *Hydropolitics in the developing world: A Southern African perspective* by Turton, Henwood eds. (2002: p. 13-19). This work tries to categorise research and debate under the relatively new concept of "hydropolitics". The book is itself an attempt to widen the debate on water in connection to politics and general societal conditions.

Concerning the issues of the causes of conflict within the environmental and scarcity debate Gleditsch's *Armed Conflict and the Environment: A Critique of the Literature* (1998) is a helpful review. It enumerates sources and to a certain extent criticises the (according to Gleditsch) spurious casual links between scarcity and conflict established by some researchers. Ross' *What Do*

We Know About Natural Resources and Civil War? (2004) examines the area further with an exposé covering the more recent literature studying the links between natural resources and civil war. It includes an up-to-date bibliography.

Pal Tamas' *Water Resource Scarcity and Conflict: Review of Applicable Indicators and Systems of Reference* (2003) gives an interesting account of the current state of research within the water-conflict area and has an extensive bibliography covering the subject.

Most of the cited titles cited below contain good bibliographies and can be used as starting points for investigating further the issues treated.

In the context of bibliographies the vast compilation of articles and chapters edited by Wolf (2002) must be mentioned: *Conflict prevention and resolution in water systems. The management of water resources*. The volume (>800 p.) reprints 41 texts, the first published in 1946. The essays, articles and chapters are ordered thematically and cover many of the subjects involved in the current debate on water and conflict. The collection is invaluable in giving a historical perspective on the evolution of the discipline and is a stark reminder of the fact that new research is not necessarily more valuable or interesting than older research findings and writings on the subject. The book's focus is on presenting the "human dynamics" that shape water interventions and policies.

Another large compilation is the forthcoming *History of Water* (2005) in three volumes edited by Tvedt et al. It prints a large number of texts where many have bearing on the water and conflict nexus.

Peter H. Gleick's *Water Conflict Chronology* (2003) is an enlightening list of instances where water has been an issue in conflict, from Sumerian myths of ca. 3000 BC to the destruction of water infrastructure during the war in Iraq. Its categorisation of conflicts may be discussed but the list is fully referenced and serves as a reminder of the centrality of water in human culture. Easily accessible on the Internet it may serve as an impulse to think wider about the role of water in conflict, both international and intra-state.

Analyses of causes for conflict

A consistent body of academic material denies the causal relation between natural resources scarcity and armed conflict, Gleditsch (1998) has already been mentioned. This is a subject several authors have made their special area of interest.

Thomas Homer-Dixon has in several titles developed his concept of "ingenuity" in relation to outbreak of conflict emanating from a perceived or real resource scarcity (1994, 1995, 1999). Likewise, Leif Ohlsson has developed his thinking on the connection between conflicts and resource scarcity in a number of titles (e.g. 1995, 1999a, 1999b).

There are few studies based on large amounts of data that persuasively prove the correlation between scarcity (or perceived scarcity) of natural resources and violent conflict. Hauge and Ellingsen (1998: p. 314) conclude:

"Our findings are quite clear: countries suffering from environmental degradation – and in particular from land degradation – are more prone to civil conflict. However, economic factors are far more important in predicting domestic armed conflict than are environmental factors. In general, this also holds true of political factors."

There seem to be some consensus on the fact that poverty and lack of institutions to manage conflicts are more important reasons for conflict than actual scarcity. Some authors point out that the causal relationship may be the opposite, i.e. a lack of policies, institutions etc. leads to environmental degradation and resource scarcity and thus exacerbates social conflicts, e.g. Tamas (2003).

Most research deal with a general concept of "resource scarcity" and do not occupy itself with the specific question of water scarcity in relation to conflict. This mirrors the discussion on the specificities of water as a societal factor; in many instances it may be difficult to compare water with other resources. Many of the natural resources mentioned when investigating roots of conflict are more easily used as means for economic gain, such as oil, diamonds, timber, minerals used in the electronics industry etc. The literature in this area is growing quickly, and can be said to have started in the late nineteen nineties, cf. Collier, Hoeffler (1998). A recent survey (and critique) of this literature is offered by the above mentioned article by Ross (2004).

Policy, policy analysis and evaluations

There is some material describing or prescribing policy in water management and specifically relating to conflict. An interesting document is a survey of European aid policies: Tony Allan and Alan Nicol's *Water resources, prevention of violent conflict and the coherence of EU policies in the Horn of Africa* (1998). A passage worth quoting is when the authors briefly describe interventions in the area of what they call "small water": p. 23.

"Small Water: It would appear that the development of water resources has the greatest impact on the potential causes of violent conflict in the Horn at the intra-society level, and principally the most localized "small water" type interventions in community water supply. The principal reason is that the approach taken by funders and implementers is frequently patchwork in a particular area and, though usually under a governmental "umbrella", is not co-ordinated effectively between agencies. Thus, where water supply in arid, pastoral areas involves the development of deep boreholes for human and livestock consumption, the impact on surrounding livelihood systems can be great."

The above cited report was commissioned by the NGO Saferworld. Such critique is rarely to be found in project documentation and evaluations by donors and donor agencies. Evaluations seldom give a global picture of even one single donor country's experiences with projects in the water sector. When larger programs (e.g. concerning water authorities, water projects spanning several countries etc.) are evaluated, focus is rather on shortcomings of an organizational and a technical kind than on questions of policy and the ideology behind interventions, e.g. Sida (2001a, 2001b). If conflict at all is mentioned it is in a general discussion on participation and consultation of the populations influenced by the intervention.

Evaluations are often made by groups of academics with close connections to the donor agencies. The intention is not to question the integrity of individual evaluators, but a conflict of interest may be perceived. Especially international NGOs with funding from many different sources may seem less cautious in their analysis of donor policy and the influence of aid on local conflict.

It may be sustained that the often criticized World Bank questions its own (i.e. funded by the Bank) projects in a more profound way than many other donors. An example of the Bank's work with conflict that have arisen in water projects can be found in the inspection panel procedure on the social, economical and environmental aftermath of the Yacireta dam project on the border between Paraguay and Argentina: World Bank (2004a, 2004b, 2004c). Whether the in-

spection panel's conclusions and recommendations will lead to change in general Bank practice remains to be seen.

Local methods to solve local conflicts

The identification and study of local methods of conflict management and resolution has for some time been present in the peace and conflict research community. A few titles study these methods in relation to water. The volume edited by Baechler, Spillmann and Suliman *Transformation of resource conflicts: approach and instruments* (2002) contains several contributions taking issue with water conflicts in their local context. The book constitutes the final report of an international research project on "Environmental Conflict Management" (ECOMAN). An example is Medhane Tadesse's (2002) contribution which discusses traditional conflict resolution mechanisms in relation to various ethnic groups in Ethiopia and how they are used in dealing with among other things also water issues. Tadesse explains how different methods are used in various communities and comments on the interaction between communities:

"Although both groups have a rich tradition of resolving conflicts within their respective communities, they have difficulties to turn it into a mechanism of conflict resolution in interethnic wars. There may be several reasons for this fact. Firstly, the two main groups maintain distinct cultural identities. Secondly, it seems to be difficult to harmonize two different systems and provide them with religious justification. Thirdly, there is no common base on which an initiative could be launched. Thus most of the time the resolution of conflicts between the Borana and the Somalis necessitates the involvement of a third party, preferably a powerful one such as the central government. Nevertheless, this does not mean that local initiatives are always weak."
p. 203

The volume is rich in empirical material and interesting conclusions, and mixes theoretical hypothesis on resource conflicts in the Horn of Africa with what the editors call "action-oriented [...] field research", though concluding "However, the project results are predominately of scholarly nature" (p. 9-10). The third part of the book is entitled "Water Management and Conflict Resolution". The different contributions' references add up to an exhaustive bibliography covering the subject.

Wolf's article *Indigenous Approaches to Water Conflict Negotiations and Implications for International Waters* (2000) investigates different water distribution and conflict resolution methods present in two communities; Berbers in the High Atlas in Morocco and Bedouin in the Negev Desert in Israel. Wolf's aim is to investigate how these modes can be adapted in larger international contexts, and he finds some of the base concepts both interesting and challenging, especially the Berber allocation of water in time units and not quantity. The descriptions of local conflict resolution mechanisms serve as a mirror of an international system Wolf would like to see in action. As Tadesse above Wolf sees difficulties in adopting local methods on the interethnic and international level but still recognizes their inspirational power.

Water, Culture, and Power: Local Struggles in a Global Context (1998) edited by John M. Donahue and Barbara Rose Johnston illustrates local water conflict by examining cases from mainly American locales. Cases from the USA, Mexico, Honduras, and The Virgin Islands are described and discussed within the perspectives of gender, water rights and impact of industrial and infrastructure projects such as mining, dams, irrigation and the distribution of drinking water. There are also contributions on cases in Zimbabwe, Japan, and Bangladesh and on the Arab-Israeli conflict. Each chapter is ended by a "Food for Thought" paragraph; the book is more a compilation of cases than actual rendering of research. Many contributions are interesting, especially by the

way of treating water issues involving indigenous groups in comparatively richer societies as “conflicts”.

Conflict Manuals, methodological proposals and conflict resolution practice

There is a large group of titles with a more “practical” direction, even within the academic publishing, dealing with the subject of conflict management and resolution. In the extra-academic camp there are many documents instructing on how to design projects, set up participation schemes etc. Many organisations have their own guidelines for designing projects in line with contemporary findings in conflict studies. There are a few titles that deal specifically with water issues, many of the existing “manuals” try in general terms to describe and prescribe methods for successful conflict analysis and management.

Jean-Daniel Rinaudo and Patrice Garin's *An Operational Methodology to Analyse Conflicts over Water Use at the River Basin Level* (2003) proposes a method of conflict analysis and local participation when exploring possible water interventions. This methodology is illustrated with two case studies, drawn from projects dealing with water conflicts in the Hérault and the Lère watersheds in southern France. Concepts from mainstream conflict analysis are adapted to water issues and explored in relation to the cases. The presence of strong institutions in France naturally makes it difficult to adapt such a methodology in situations where these mechanisms are not in place. Many of the findings are though of a general nature and the article makes for interesting reading even holding different geographical and societal perspectives in mind.

In the development and humanitarian assistance sector there are several initiatives proposing a deeper conflict perspective when analyzing situations and designing interventions. One such title which is not only constrained to developing countries is Valerie Brown et al's *Risks and opportunities. Managing environmental conflict and change* (1995). The book is divided into three parts where the last part is titled “Managing conflict and Change: A Learning Programme”. It is a step-by-step manual of how to deal with environmental change/scarcity and its consequences. Two of the three hypothetical test cases concern water issues. In certain respects somewhat simplistic but in other ways interesting.

An example of a conflict analysis template that could be used in local conflicts involving water is DFID's *Conducting Conflict Assessments: Guidance notes* (2002). It is a straightforward example of how a big donor agency views conflict analysis and its uses in both international and intra-state conflict.

Another more general conflict managing manual is Simon Fisher et al's *Working with conflict: skills and strategies for action* (2000). The book is an example of how conflict theory is adopted by NGOs and made into methodology.

A promising initiative in the “conflict management” genre is *Conflict sensitive approaches to development, humanitarian assistance and peace building: Tools for peace and conflict impact assessment* (2004). It has been produced by a group of NGOs that all have experiences of peace-building, conflict management etc. (Africa Peace Forum, Center for Conflict Resolution, Consortium of Humanitarian Agencies, Forum on Early Warning and Early Response (FEWER), International Alert, Saferworld).

It is refreshing in its way it underlines the complexity of conflicts and the difficulties in addressing them. Annex 1 is a survey of existing conflict assessment tools and manuals including the above cited DFID (2002) and Fisher et al (2000), the World Bank's *Conflict Analysis Framework (CAF)* (2003) and many other from both government agencies, NGOs and IGOs (GTZ, CARE, EU, ICRC etc.). These tools are all well described and fully referenced with Internet links etc. As its title implies the objective is to promote “conflict sensitivity”, no preference is given to any particular

method. It gives advice on how such sensitivity can be achieved in the project cycle and in the sectoral approaches often used by donors when addressing water issues in developing countries.

IWRM sources on local conflict

An argument proffered by some IWRM (Integrated Water Resource Management) professionals is that IWRM per se is a method of resolving conflict. Managing water resources is to distribute and handle a resource which in some way is scarce; to do that successfully is a way of managing conflict.

There is an abundance of material on the “technical” aspects of water management and many of these titles include mechanisms for managing conflict. To track mainstream concepts in this context the Global Water Partnership’s IWRM Toolbox (see below *Internet resources/ GWP*) is enlightening. The Toolbox stresses participation, social impact assessments, building of institutional capacity etc. but it would be difficult to sustain that the toolbox has operationalised the more process oriented thinking of the conflict resolution and management literature.

Many interesting titles deal with participatory techniques (e.g. the already cited Rinaudo, Garin 2003); the general literature on participation is vast within the development sector.

There is much interesting material within the IWRM debate; on participation, on different techniques to use in specific water management situations such as workshops, role-plays etc, the discussion on the optimal scale of water management projects which is important when judging who is affected and not etc.

Internet resources

There is a wealth of information on water and conflict on the Internet. The selection below is only meant to single out a few useful sites within the water and (local) conflict area. Many of the homepages have a good selection of links to other and often more generalist sources. Many of the cited sources also have lists of useful websites, e.g. Mohamoda (2003: p. 34).

Dams

Any rendering of the contemporary water – conflict debate must include the issue of dams. It might be the first water issue where the parties have made extensive use of the Internet to spread information and propagate opinions. The “dam complex” has also been taken up by the NGO community as an emblematic issue of development and globalization. The World Commission on Dams final report, WCD (2000), at: <http://www.dams.org/report/contents.htm> and the World Wildlife Fund’s DamRight! initiative at: <http://www.panda.org/dams> are two good starting points. A plethora of websites deal with dams both in the local and international perspective. A list of websites and references is found on page 26 of WWF (2003) available at: <http://www.panda.org/downloads/freshwater/investorguidedams.pdf>.

The Gender and Water Alliance

<http://www.genderandwateralliance.org/>

The alliance focuses on gender issues and has much interesting information available on its website. When adopting a conflict perspective there is much to ponder when it comes to comparing male and female conditions in relation to water and water access.

Especially enlightening is the 2003 annual report with an extensive bibliography and overview of gender issues in water management, download at:

<http://www.genderandwateralliance.org/english/annual.asp>

AWIRU

<http://www.up.ac.za/academic/libarts/polsci/awiru/>

African Water Issues Research Unit (University of Pretoria). Department headed by Anthony Turton. Good source of information on water issues in Southern Africa. Archive with reports, occa-

sional papers etc. and information of the department's current projects. Most material on trans-boundary issues, but some material is focussing on local conditions.

UNESCO - From Potential Conflict to Co-operation Potential: PC - CP

<http://www.unesco.org/water/wwap/pccp/index.shtml>

A large project managed by UNESCO's division of water sciences. The PC – CP project publishes widely around conflict and water issues and is a rich source of information, e.g. Tamas (2003) has been mentioned above. For a quick introduction to the project, its activities and objectives see:

<http://www.unesco.org/water/wwap/pccp/brochures/index.shtml>

An annotated list of the project's publications, many of these by recognized authorities in the field and often dealing with issues pertaining to local and intra-state conditions, is found at:

<http://unesdoc.unesco.org/images/0013/001324/132477e.pdf>

Green Cross International Water Conflict Prevention

<http://www.gci.ch/GreenCrossPrograms/WATERRES/waterresource.html>

The environmental NGO Green Cross has a programme relating to water and conflict and has among working with other partners also co-operated closely with UNESCO in the PC – CP project. A vast list of links to internet water resources (poorly updated but still useful) is found at:

<http://www.gci.ch/GreenCrossPrograms/WATERRES/links/links.html>

The World Bank

<http://www.worldbank.org/html/extdr/hottopics/water.htm>

The World Bank is working with water in many contexts; a good place to start to look for material is the "hot-topics" water page. The Bank's amount of material is overwhelming; to form an idea about how the Bank thinks and deals with conflicts in water management the documentation on the Yacireta dam aftermath cited above may be instructive (World Bank 2004a, b, c). Less specifically, the "Conflict Prevention and Reconstruction Unit" is another starting point:

<http://inweb18.worldbank.org/ESSD/sdvext.nsf/67ByDocName/ConflictPreventionandReconstruction>

GWP - Global Water Partnership

<http://www.gwpforum.org>

The GWP works with spreading the Integrated Water Resource Management as a method to alleviate water problems and create sustainable water management. Some focus is put on conflict management in the "IWRM Toolbox" promoted by GWP especially in the context of the goal to promote the development of national water resources management plans:

<http://gwpforum.netmasters05.netmasters.nl/en/index.html>

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Swedish Water House's Conflict & Water Group

This review is a part of a project sponsored by Swedish Water House, an organism jointly funded by the Swedish Foreign Department and the Ministry for Environment.

The Conflict & Water Group is made up of researchers and practitioners working in the sectors of development and conflict management. It works with a network of academics, individuals, practitioners and policy-makers investigating the issues of local and intra-state conflict in connection with water.

For further information on the group's activities or comments/questions on the present review please contact the writer, Fredrik Thomasson at f.thomasson@telia.com.

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