DAMS AND DEVELOPMENT PROJECT

IDENTIFICATION, COLLECTION OF INFORMATION AND COMPILATION OF EXAMPLES OF RELEVANT PRACTICES CONCERNING THE INTEGRATION INTO POLICY/NORMATIVE FRAMEWORKS AND IMPLEMENTATION OF

Key priority issue: International Policy in Shared River Basins

Víctor Pochat
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DDP - International Policy in Shared River Basins
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<td>AfDB</td>
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<td>ASBP</td>
<td>Aral Sea Basin Programme</td>
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<td>BVOs</td>
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<td>CAPCO</td>
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<td>CIC</td>
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<td>CIDA</td>
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<td>Parana River Argentinean-Paraguayan Joint Commission (Comisión Mixta Argentino-Paraguaya del Río Paraná)</td>
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<td>Detailed Project Report (Mahakali River)</td>
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<td>ECAFE</td>
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<td>Lower Mekong Basin</td>
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<td>Nile Equatorial Lakes Region Coordination Unit</td>
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<td>NGO</td>
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<td>OP</td>
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<td>ORASECOM</td>
<td>Orange Senqu Commission</td>
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<td>PAD</td>
<td>Project Appraisal Document (World Bank)</td>
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<td>PIU</td>
<td>Project Implementation Unit (Zambezi River)</td>
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<td>Pancheshwar Multipurpose Project</td>
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<td>PSC</td>
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<td>RBO</td>
<td>River Based Organisation (Zambezi River)</td>
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<td>RSAP</td>
<td>Regional Strategic Action Plan (Zambezi River)</td>
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<td>SADC</td>
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<td>Southern African Development Co-ordination Conference</td>
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<td>SARPO</td>
<td>World Wildlife Fund Southern Africa Regional Programme Office</td>
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<td>Sustainable Development Comisión (Aral Basin)</td>
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<td>SIDAPO</td>
<td>Swedish International Development Cooperation Agency</td>
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<td>SPA</td>
<td>Southern African Development Community Programme of Action</td>
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<td>SVP</td>
<td>Shared Vision Programme (Nilo River case study)</td>
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<td>TACIS</td>
<td>Technical Assistance to the Commonwealth of Independent States</td>
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<td>Technical Cooperation Committee for the Promotion of the Development and</td>
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<td></td>
<td>Environmental Protection of the Nile Basin</td>
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<td>TPTC</td>
<td>Tripartite Permanent Technical Committee for Incomati and Maputo Rivers</td>
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<td>UN</td>
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<td>ZRA</td>
<td>Zambezi River Authority</td>
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<tr>
<td>ZRB</td>
<td>Zambezi River Basin</td>
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EXECUTIVE SUMMARY

According to the World Commission on Dams, storage and diversion of water on transboundary rivers has been a source of considerable tension between countries and within countries. As specific interventions for diverting water, dams require constructive co-operation. Consequently, the use and management of resources increasingly becomes the subject of agreement between States to promote mutual self-interest for regional co-operation and peaceful collaboration.

The main focus of the issue under consideration “International policy concerning shared river basins” is dealing with conflicting situations associated with dam projects in international waters where good faith negotiations among member states prove sometimes difficult to materialise. However, the information collected for this study shows that, in most cases, agreements have been reached between the countries within a basin or region, sharing a river stretch, or involved in a certain project. Those agreements generally aim at working together for their mutual benefit.

The issue has been analysed within the broader context of water resources management in a selected river basin, taken into account that in international shared river basins the discussions on dam projects on shared rivers cannot be limited to the projects themselves and their diverse characteristics and impacts, since they generally comprise a wider spectrum of issues related to the political relationships between the countries involved and their influence on the decisions on those projects.

Several cases in different regions of the world have been considered, showing how the involved countries have dealt with potential conflicts related to the construction and operation of dams or other water management measures. Other cases refer to the purpose of joint development of the resources of a basin or region. The agreements generally signed by the countries in that regard, offer the legal and institutional framework on which they have based their decisions related to the construction and operation of dams as well as other water management measures.

The processes that have led to the previously mentioned agreements have been carried out directly by the respective countries or – in several cases – with the participation of international organisations, which have played a constructive facilitating role in order to help the processes for progressing to a compromise solution in the best of member states interest.

The international organisations generally involved were United Nations agencies or programmes and international or regional financial institutions. Donor countries have sometimes also had important influence. The facilitating role of the international organisations and donor countries has been generally performed through technical advice and assistance, or financial support.

The inclusion of all countries of a certain basin or river reach in a joint dialogue or cooperative activities opens up new opportunities for realising win-win solutions. It also holds the promise for potential greater regional integration, both economic and political, with benefits far exceeding those derived from the basin or river itself.

The creation of shared watercourse bodies have become helpful tools for the implementation of agreements and of the programmes and projects resulting from them, as well as the discussion of bilateral or multilateral issues. To be fully effective and provide optimal benefit to member states, all these bodies should be utilised to identify and address all potential areas of misunderstanding and conflict in a frank and open manner.
1- Introduction

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IMPLEMENTATION OF
Key priority issue: International Policy in Shared River Basins
Consultant: Víctor Pochat

1. INTRODUCTION

The Dams and Development Programme (DDP) is tasked with improving decision making, planning and management of dams and their alternatives, building on the core values and strategic priorities of the World Commission on Dams (WCD) and other relevant reference materials through promoting dialogue at national, regional and global level and producing non prescriptive practical tools.

On this ground, decision was taken to produce a Compendium of relevant examples. An online inventory of policy/normative frameworks (www.unep-dams.org) and the database of examples and lessons learnt implemented during Phase 1 were established as supporting tools.

The process for elaboration of the Compendium comprises, in principle, of four stages. Stage 1 consisted in the elaboration of a checklist of key issues concerning planning and management of dams and their alternatives, a matrix analysis of their consideration by national and international frameworks and selection of a set of priority issues for further detailed analysis in further stages of elaboration of the Compendium.

The Fourth DDP Forum Meeting - held within Stage 1 - defined the following list of Priority Key Issues:

- Benefit sharing
- Stakeholders participation
- Compliance: enforcement/mechanisms
- Compensation policy
- Environmental management plans
- Options assessment
- Outstanding social issues
- Social impact assessment
- International policy concerning shared river basins

The present study corresponds to Stage 2 of the elaboration of the Compendium. The corresponding Terms of Reference establishes the following objective for the study: “Under the guidance of the Coordinator of the Dams and Development Project, the Consultant will identify, collect information and compile examples of relevant practices concerning the integration into policy/normative frameworks and implementation of International Policy in Shared River Basins. The compilation of examples is a substantive element leading to the elaboration of a Compendium on relevant practices for improved decision-making, planning and management of dams and their alternatives”.

The present Report comprises the following chapters:

2. Methodology.
3. Characterisation of the key priority issue.
4. Description of relevant examples.
1- Introduction

3. Summary of examples, general conclusions and recommendations.

Finally, a database of references on International Policy in Shared River Basins is included in an Appendix.
2. METHODOLOGY

This chapter presents a summary of the methodology adopted for the study.

The first task was devoted to the identification and collection of information on examples of regional and international frameworks and implemented mechanisms that have contributed or may effectively contribute to settle out conflicts, either adopted by member states as part of national policy, by the countries sharing the basin, by established basin organisations or by international organisations that have capacity to influence national and regional decision making processes. That task allowed elaborating a preliminary characterisation of the key priority issue. Along the preparation of the study, that characterisation required several adjustments.

The following two main criteria have led the selection of examples to be considered:

1. To be able to analyse the role, involvement and opportunities of collaboration of the international community in general and funding agencies, in particular, in the development of shared water resources involving dams.

2. To analyse the issue within the broader context of water resources management in a selected river basin. In international shared river basins the discussions on dam projects on shared rivers cannot be limited to the projects themselves and their diverse characteristics and impacts, since they generally comprise a wider spectrum of issues related to the political relationships between the countries involved and their influence on the decisions on those projects (Consultant’s observation).

A thorough search and assessment of potential sources of information was made, starting with that provided in the table of Annex B of the Terms of Reference and following with the own search for additional sources of examples and information, by means of contacts with selected key persons through e–mail, consultations of numerous websites, analysis of publications - particularly journals - and selection of publications of international organisations, multilateral development banks and specialised NGOs.

Along the work, a comprehensive database of documents dealing with the selected issue in terms of policy/normative frameworks and implementation was being elaborated. The resulting database includes the corresponding sources and web links, when available.

The identification of potential examples of integration of the priority key issue into national and international frameworks and implementation was made, followed by the gathering and thorough revision of all relevant available information concerning the examples identified, in order to collect factual information from different stakeholders regarding the examples. The scope of information had to suffice to cover the issues addressed in the presentation template (Annex A of the Terms of Reference). Given the issue under consideration, the adaptation to that template was not always straightforward.

Eleven examples - from different regions of the world - showing a variety of situations, were finally selected and described in detail.
3. CHARACTERISATION OF THE KEY PRIORITY ISSUE

3.1. Background

Some 60% of global freshwater flows are contained in the world’s 263 international rivers’ basins, which cover nearly half of Earth’s land surface and are home to around 40% of its human population. Much of the world’s freshwater is thus contained in catchments shared by two or more countries. It has long been understood that a drainage basin should be managed as a unit in order to achieve optimal use and protection. This can present challenges even when the basin is located entirely within a single country. But when a drainage basin is intersected by one or more political boundaries, an additional level of complexity is introduced.

According to the World Commission on Dams, storage and diversion of water on transboundary rivers has been a source of considerable tension between countries and within countries. As specific interventions for diverting water, dams require constructive co-operation. Consequently, the use and management of resources increasingly becomes the subject of agreement between States to promote mutual self-interest for regional co-operation and peaceful collaboration. This leads to a shift in focus from the narrow approach of allocating a finite resource to the sharing of rivers and their associated benefits in which States are innovative in defining the scope of issues for discussion.

Conflict over transboundary rivers usually results from a power imbalance amongst riparians where one State or province is sufficiently influential to exert its authority over others. Generally upstream States are considered to be in a more influential position as they can control the water source, but regional power imbalances may also make it possible for downstream riparians to exert influence over upstream States.

Such conflicts are often caused by proposals to store or divert water by constructing dams. Experience suggests that disputes over water can be resolved and co-operation developed, even where disagreements in other spheres of international relations remain unresolved. Most international river basins worldwide do not have agreements covering water allocation principles. Negotiation of such agreements between riparian States has proceeded on a case-by-case basis without any overarching globally binding legal instrument.

In the absence of effective international agreements, other measures need to be invoked. The ability of States to implement dam projects on shared rivers is often related to financial and technical support from external agencies and the effectiveness of public opinion in influencing public policy. In addition to the application of legal principles, external financing agencies have influenced and can continue to influence countries that require financial or technical support for a significant proportion of the project itself; and those that may be capable of undertaking the project independently, but rely on external support for other projects and programmes in the same sector. While for those with the financial and technical resources to be totally independent, active networking across borders can inform public opinion and encourage moves towards a policy of co-operation.

Innovative solutions are needed to solve apparently intractable problems. Often, negotiations over shared rivers have developed into disputes over allocating what may appear as an

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3 See supra Note 2.
4 See supra Note 2.
insufficient resource. A more equitable and sustainable resolution may be possible by shifting from a primary focus on the allocation of the water resource, to a focus on the benefits that derive from the use of the water, encompassing consideration of wider development objectives and the options available to meet them. This shift provides an opportunity to look more constructively at alternative programmes for meeting development objectives.

It is possible to expand the horizon of negotiations further to include other issues that optimise the comparative advantages of two or more States. Such synergies may result from differences in location, climate or resource endowment. In the wider negotiation arena, the principles of sharing benefits can include an array of other resources, including cooperation in other sectors, or financial payments. An approach centred on wider development objectives creates a link between discussions at transboundary level and strategic planning processes within countries that can be used to define needs more clearly and map out a wider range of alternatives. Early engagement can avoid disputes becoming polarised around a specific project proposal and entrenching negotiating positions.5

Openness and information sharing is a key first step in any transboundary water sharing situation. From this can follow an independent and objective assessment of the consequences and impacts of any proposed intervention. Conducted in a manner consistent with openness and information sharing, a competent, independent entity acceptable to all riparian States should conduct strategic and project-related impact assessment studies. The level and intensity of impact assessments will depend on the planning stage, but in all cases should include environmental, social, health and cultural heritage assessments. The impact assessments should be seen as part of the joint institutional strengthening activities of riparian States to provide a common, interactive approach and a sound basis for political dialogue.

Where disputes cannot be resolved, an independent panel should be established that goes beyond the remit of the impact assessment. Good faith negotiations may of themselves lead to mutually agreeable outcomes. In the event that disputes remain, and if parties do not have recourse to dispute resolution through international, regional or bilateral agreements, the affected parties could refer the matter to the International Court of Justice (ICJ)6.

3.2. International Frameworks

The Helsinki Rules on the Uses of the Waters of International Rivers were adopted by the International Law Association at the fifty-second conference, held at Helsinki in August 1966. Among their provisions, they established that “Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin”. What is a reasonable and equitable share is to be determined in the light of all the relevant factors in each particular case, such as the geography and the hydrology of the basin; the climate affecting the basin; the past utilisation of the waters; the economic and social needs of each basin State; the population dependent on the waters of the basin; the comparative costs of alternative means of satisfying the economic and social needs of each basin State; the availability of other resources; the avoidance of unnecessary waste in the utilisation of waters; the practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; and the degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State.7

5 See supra Note 2.  
6 See supra Note 2.  
Consistently with the Charter of the United Nations, States are under an obligation to settle international disputes as to their legal rights or other interests by peaceful means in such a manner that international peace and security and justice are not endangered. States are under a primary obligation to resort to means of prevention and settlement of disputes stipulated in the applicable treaties binding upon them. A State, regardless of its location in a drainage basin, should furnish to any other basin State, the interests of which may be substantially affected, notice of any proposed construction or installation which would alter the regime of the basin in a way which might give rise to a dispute.

If the States concerned have not been able to resolve their dispute through negotiation, it is recommended that they form a commission of inquiry or an ad hoc conciliation commission, which shall endeavor to find a solution, likely to be accepted by the States concerned. It is recommended that the States concerned agree to submit their legal disputes to an ad hoc arbitral tribunal, to a permanent arbitral tribunal or to the International Court of Justice.

The 1966 Helsinki Rules have no status in international law. While the principles set forth in them represent what many experts contend are long accepted principles, these Rules have not achieved the level of a binding international treaty.

The Declaration of the United Nations Conference on the Human Environment, held in Stockholm in June 1972, states among other principles, that States have the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction.

The Agenda 21, resulting from the 1992 Rio Conference, reads in its Chapter 18 “Transboundary water resources and their use are of great importance to riparian States. In this connection, cooperation among those States may be desirable in conformity with existing agreements and/or other relevant arrangements, taking into account the interests of all riparian States concerned”. And within the Programme Area on Integrated Water Resources Development and Management, it reads “In the case of transboundary water resources, there is a need for riparian States to formulate water resources strategies, prepare water resources action programmes and consider, where appropriate, the harmonization of those strategies and action programmes”.

In more recent years a number of treaties dealing with shared freshwater resources have been adopted on the global and regional levels.

In 1997 the United Nations General Assembly adopted the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses. The UN Convention, which was negotiated on the basis of a draft prepared over a period of twenty years by the UN International Law Commission, embodies substantive rules on the use and protection of international watercourses and procedural rules on such matters, as prior notification and consultation regarding new projects and the sharing of data and information.

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8 See supra Note 7.
9 See supra Note 2.
3- Characterisation of the key priority issue

Part II of the Convention sets forth a number of general principles, including equitable and reasonable utilisation and prevention of significant harm. Part IV of the Convention is devoted to Protection, Preservation and Management of international watercourses, and obligates parties to protect and preserve the ecosystems of international watercourses. The principal categories of rights and obligations set forth in the Convention are: (a) equitable and reasonable utilisation and participation; (b) prevention of significant harm; (c) cooperation; (d) regular exchange of data and information; (e) no inherent priority of any one kind of use over other kinds of uses; (f) notification of planned measures with possible adverse effects on other riparian states; (g) protection and preservation of ecosystems; (h) prevention, reduction and control of pollution; (i) notification of and cooperation with respect to emergency situations.

The UN Convention is a framework agreement setting forth general principles and rules that may be applied and adjusted by riparian states to suit the particular needs and conditions applicable in their basin or region. Because of the process by which the UN Convention was produced, a number of its provisions may be regarded as codifications of customary international law. The customary rules reflected in these provisions are thus binding on states even though the Convention itself is not yet in force as a binding treaty. States may in effect opt out of rules of customary international law through treaties, but to the extent they do not, they will be bound by customary rules. In addition to the UN Convention and certain other instruments, evidence of such rules in the field of international watercourses may be found in decisions of international courts and tribunals and in the writings of experts on the subject.

Through a resolution of the United Nations General Assembly, this Convention attracted support from 103 countries, but three countries voted against it and 27 abstained. The Convention took 27 years to develop and has yet to be ratified by enough countries to bring it into force. Among the opposing and abstaining countries are those with major dam building programmes themselves or with an interest in restricting development projects within other riparian States.

International efforts to develop a universal framework for negotiations appear to have had limited effect and some countries refuse to respect what can generally be considered as a growing body of international opinion. The WCD views the principles of the UN Convention as an emerging body of customary law and considers that States will reduce the possibility of conflict if they are prepared to endorse and adhere to them. This contrasts with a situation where some countries have followed a unilateral approach to the use of water resources and reject the need for an integrated basin-wide framework for water resources management.

In 2004 ILA presented in its Berlin Conference the “Water Resources Law”, whose rules incorporate the experience of the nearly four decades since the Helsinki Rules were adopted, taking into account the development of important bodies of international environmental law, international human rights law, and the humanitarian law relating to the war and armed conflict, as well as the adoption of the UN Convention. Chapter III on “Internationally Shared Waters” deals with “Participation by Basin States”, “Cooperation”, “Equitable Utilisation”, “Determining an Equitable and Reasonable Use”, “Preferences among Uses”, “Using Allocated Water in Other Basin States” and “Avoidance of Transboundary Harm.”

13 See supra Note 1.
14 See supra Note 2.
15 See supra Note 2.
On the regional level, the United Nations Economic Commission for Europe (UNECE) has adopted two agreements of particular note concerning shared water resources. They are the 1992 Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes\(^{17}\) and its 1999 Protocol on Water and Health\(^{18}\). Both agreements embody strong obligations to protect and preserve shared water resources in a way that does not endanger the health of the populations that rely upon them\(^{19}\).

The international community needs to take a strong and concerted stand in the case of shared rivers. While the decision to build a dam is often considered a sovereign decision, the decision of external agencies to support a dam depends on whether the proposed project complies with that agency’s policies and guidelines. It is essential that external agencies harmonise their policies towards shared waters and deal with the sector as a whole rather than with specific projects. Such policies should incorporate aspects of notification to riparian States, the desirability of “consent” or “no objection” from riparian States, and independent expert assessment of social and environmental impacts\(^{20}\).

External financing agencies support the principles of good faith negotiations between riparian States. In the absence of agreement among riparian States, external agencies should make their involvement conditional on the findings of an independent commission as envisaged under the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses or other appropriate mechanisms agreeable to all parties. In cases where States proceed with projects in the absence of such a commission, or reject its findings, the external financing agency should withdraw its support from the sector concerned\(^{21}\).

In January 2001 the World Bank prepared an Operational Policy (OP) for use by its staff, when dealing with Projects on International Waterways. The OP refers to projects on international waterways that may affect relations between the Bank and its borrowers and between states (whether members of the Bank or not). The Bank recognises that the cooperation and goodwill of riparians is essential for the efficient use and protection of the waterway. Therefore, it attaches “great importance to riparians” making appropriate agreements or arrangements for these purposes for the entire waterway or any part thereof”. The Bank stands ready to assist riparians in achieving this end. In cases where differences remain unresolved between the state proposing the project (beneficiary state) and the other riparians, prior to financing the project the Bank normally urges the beneficiary state to offer to negotiate in good faith with the other riparians to reach appropriate agreements or arrangements.

The Bank ensures that the international aspects of a project on an international waterway are dealt with at the earliest possible opportunity. If such a project is proposed, the Bank requires the beneficiary state, if it has not already done so, formally to notify the other riparians of the proposed project and its Project Details. If the prospective borrower indicates to the Bank that it does not wish to give notification, normally the Bank itself does so. If the borrower also objects to the Bank’s doing so, the Bank discontinues processing of the project (World Bank, 2001).

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\(^{19}\) See supra Note 1.

\(^{20}\) See supra Note 2.

\(^{21}\) See supra Note 2.
3- Characterisation of the key priority issue

The Bank ascertains whether the riparians have entered into agreements or arrangements or have established any institutional framework for the international waterway concerned. In the latter case, the Bank ascertains the scope of the institution’s activities and functions and the status of its involvement in the proposed project, bearing in mind the possible need for notifying the institution. The notification contains, to the extent available, sufficient technical specifications, information, and other data (Project Details) to enable the other riparians to determine as accurately as possible whether the proposed project has potential for causing appreciable harm through water deprivation or pollution or otherwise. Following notification, if the other riparians raise objections to the proposed project, the Bank in appropriate cases may appoint one or more independent experts to examine the issues. Should the Bank decide to proceed with the project despite the objections of the other riparians, the Bank informs them of its decision.

The Project Appraisal Document (PAD) for a project on an international waterway deals with the international aspects of the project, and states that Bank staff have considered these aspects and are satisfied that (a) the issues involved are covered by an appropriate agreement or arrangement between the beneficiary state and the other riparians; or (b) the other riparians have given a positive response to the beneficiary state or Bank, in the form of consent, no objection, support to the project, or confirmation that the project will not harm their interests; or (c) in all other cases, in the assessment of Bank staff, the project will not cause appreciable harm to the other riparians, and will not be appreciably harmed by the other riparians’ possible water use.

While general principles and rules of international law provide guidance to riparian states, cooperative management of international drainage basins is best ensured and implemented through agreements between them which apply and adjust those general principles and rules to the specific characteristics of the basin and the circumstances and needs of the states concerned.

The particular agreements may deal with the development at basin level or they may be specifically related to a river reach or a project. Their negotiation may be fostered by one of the involved States or respond to a shared initiative of part or all of them. Sometimes there are old agreements adapted to certain conditions which have changed along the years and, consequently, need to be reviewed. And experience shows that implementation of the agreements is generally carried out by different type of existing or ad hoc organisations, created for that particular purpose.

3.3. Substantive elements

The preliminary checklist elaborated by DDP Secretariat addressing the main elements of Strategic Priority 7 “Sharing Rivers for Peace, Development and Security”, distinguished the following first level key issues: (1) National policy concerning shared river basins; (2) International policy concerning shared river basins; (3) Basin agreements; and (4) dispute resolution mechanisms. Within this context the main focus of the issue under consideration “International policy concerning shared river basins” is dealing with conflicting situations associated with dam projects in international waters where good faith negotiations among member states prove difficult to materialise and the international community is called to play a role in order to avoid conflict and help the process to progress to a compromise solution in the best of member states interest.

3- Characterisation of the key priority issue

Against this background and on the basis of all previous considerations and the analysis of examples to be presented, the substantive elements which characterise the topic can be summarised as follows:

a) Need for negotiation/departing situation.
   i) Unilateral initiative from one State.
   ii) Review of an old or incomplete or unclear agreement.
   iii) Desire for a common approach to developing joint resources.

b) International community/actors.
   i) UN bodies.
   ii) Donors.
   iii) Multilateral Development Banks.
   iv) International Court of Justice.
   v) Governments other than the involved states.

c) Nature of involvement of the international community.
   i) Financial: grants, loans, fund.
   ii) Technical and managerial assistance.
   iii) Neutral mediator / facilitator.

d) International framework referred to:
   i) International principles.
   ii) Outcomes of international conferences.
   iii) UN international convention, not in effect yet.
   iv) Others.

e) Scope:
   i) Specific project and location.
   ii) River reach development.
   iii) River basin(s) development.

f) Main issue(s) dealt with by agreement.
   i) Water resources allocation.
   ii) Water resources and energy allocation.
   iii) Development of programme(s) or project(s).
   iv) Definition of project characteristics.
   v) Others.

g) Negotiation and implementation mechanisms:
   i) Basin or river organisations.
   ii) Commissions.
   iii) High Level Councils.
   iv) Joint Committees.
   v) Others.

3.4. State of the art concerning frameworks and implementation

The examples to be presented will show in detail the state of the art concerning the different frameworks and their implementation. In general, it can be said that the agreements signed by the countries offer the legal and institutional framework on which the countries have based their decisions related to the construction and operation of dams as well as other water management measures.23

The processes that have led to the previously mentioned agreements have been carried out directly by the respective countries or – in some cases – with the participation of international organisations, which have played a facilitating role in order to avoid potential or real conflicts.

23 Consultant’s observation.
and to help the processes for progressing to a compromise solution in the best of member states interest.

The international organisations generally involved are United Nations agencies or programmes and international or regional financial institutions. Donor countries have sometimes also had important influence. The facilitating role of the international organisations and donor countries has been generally performed through technical advice and assistance, or financial support.

The agreements generally include some dispute resolution mechanism. It is outstanding to say that, besides the proposal of Pakistan of taking the Indus basin issue to the International Court of Justice or the UN Security Council - proposal categorically rejected by India - there is only one detected case in which countries had to submit their differences for consideration of the International Court of Justice.

The implementation of the agreements has generally been carried out by means of the establishment of ad hoc commissions or committees or the elaboration of strategic or action plans.

3.5. Conflicting views about the issues and roles of the actors

An example of conflicting views about the issues and roles of some actors is the “Nirjuli Consensus on Rivers, Wetlands and Peoples”, resulting from the Third South Asian Forum on Rivers, Wetlands and Peoples, held in Nirjuli (India), on 13–16 June 2005, organised by the NGO “South Asian Solidarity for Rivers and Peoples”.

Among other concepts, the Consensus expresses that “International Financial Institutions (IFIs) and such other financing institutions and donors should not finance dam projects without meeting the framework provided by the World Commission on Dams and no projects of any kind should be financed without resolving disputes, particularly in transboundary rivers”.

And it adds “All the existing treaties and agreements on rivers and wetlands should be reviewed in line with the emerging principles of international law and human rights of the concerned communities and nations. Most of these treaties have led to protracted conflicts and social unrests across boundaries. We demand an Independent South Asia Commission on Water-related Conflicts and Resolutions to minimise and prevent conflicts, both past, present and future, for the benefits of all concerned in the days and years to come”.

Towards achieving that goal, the Forum participants agreed to set up a South Asia Peoples’ Commission on Water-related Conflicts and Resolutions, which would start the process through research, analysis, documentation, public hearings and tribunals within the following six months. And, to avoid any future conflicts over international watercourses and benefits, they demanded “an immediate adoption of a South Asia Regional Framework Treaty on Trans-boundary Rivers and Their Management for regional peace and prosperity of all South Asians.”

24 See supra Note 23.
26 See supra Note 25.
4. DESCRIPTION OF RELEVANT EXAMPLES

4.1. Nile Basin Initiative

• **Key issue addressed. Substantive elements.**
  - International Policy in Shared River Basins.
  - Need for negotiation/departing situation: Desire for a common approach to developing joint resources.
  - International community/actors: UN bodies, donors, multilateral development banks.
  - Nature of involvement of the international community: Financial, technical assistance, neutral facilitator.
  - International framework referred to: International principles.
  - Scope: River basin development.
  - Main issues dealt with by agreement: Development of programmes and projects.
  - Negotiation and implementation mechanisms: Basin organisation, high level council, joint committees.

• **Integration.**
  - Nile Basin Initiative Act, 2002

• **Implementation.**
  - Shared Vision Programme
  - Subsidiary Action Programmes

• **Stage regarding the project life cycle.**
  - Project planning and implementation

4.1.1. Description of the framework.

• **General description of the country institutional set up where the specific policy/normative is located.**

  The countries of the Nile (Burundi, Democratic Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda) which are home to more than 300 million people, are rich in history, cultural diversity, and natural resources. Yet the region faces daunting challenges, and must achieve a rate of five per cent GDP growth for the next 25 years, just to maintain the absolute number of poor. At present, the only visible and significant link among the countries is not language, trade, commerce, or even transport - instead, the link is the longest river in the world, the Nile River.

  In the 20th century, Egypt signed a treaty with Britain that essentially gave Cairo full control over the Nile’s waters. Much to its neighbours’ disgust, Egypt held them to the pact even after they gained independence.

  The grinding poverty and civil wars in Ethiopia, Uganda and Sudan have stifled development along the upper river for decades. Dam and irrigation projects have been blocked. That, say regional leaders, has kept millions of people poor.

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www.nilebasin.org/entro/aboutus.htm#vision
Recently, however, things have begun to change. The end of the cold war eased many of the tensions between Egypt and its southern neighbours as the global powers no longer saw African nations as useful proxies in their own disputes. The ensuing political and economic reforms in Africa have pushed up demand for electricity in places such as Ethiopia, Kenya, Tanzania and Uganda. As new hydroelectric projects have started in Sudan, Ethiopia and Uganda, Egypt has realised that development along the Upper Nile is inevitable. Cairo’s leaders now know that it makes more sense for them to get involved than to carp from the sidelines.²⁹

- **Detailed description of the specific policy/normative framework addressing the key priority issue.**

While there have been several attempts among different countries to cooperate on the use of the resources of the Nile, the first to focus on a longer-term development agenda was created in 1993. This initiative was called the Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (TECCONILE). Under the auspices of TECCONILE and with the support of the Canadian International Development Agency (CIDA), a series of 10 Nile 2002 Conferences launched in 1993 to provide an informal mechanism for dialogue among the Nile Basin countries and with the international community. As a result, TECCONILE prepared a Nile River Basin action plan in 1995.

In 1998, recognising that cooperative development holds the greatest prospects of bringing mutual benefits to the region, all Nile Basin countries, except Eritrea, jointly established an inclusive transitional mechanism for cooperation until a permanent cooperative framework is established. The Nile Basin Initiative (NBI) was formally launched in February 1999 by the Council of Ministers of Water Affairs of the Nile Basin States.³⁰

- **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring.**

In 2000, a Panel of Experts (POE) – which included a three-person team of senior government lawyers and water resource specialists from each country – drafted a “Cooperative Framework” that includes general principles, rights and obligations, and institutional structure. The draft framework has provided a roadmap that has taken the NBI countries a long way and much has been accomplished. However, some key issues remain to be resolved, and the Council of Ministers agreed in August 2000 to extend the process of dialogue to seek further agreement on these outstanding issues. The United Nations Development Program (UNDP) has been supporting this process.³¹

- **Brief description of the implementation history of the norm, including enforcement and compliance aspects.**

  Developed within other items.

### 4.1.2. Description of the example

- **Project description**

  The Nile River traverses more than 6,700 km from its headwaters to its delta on the Mediterranean Sea (see Map 1). The Nile Basin drains a 3 million km² area – roughly one tenth of the African continent – and encompasses ten countries: Burundi, Democratic

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http://www.time.com/time/europe/magazine/article/0,13005,901060501-1186538,00.html  
³⁰ NBI History - From TECCONILE to NBI, Nile Basin Initiative webpage, 2006.  
http://www.nilebasin.org/From%20_TECCONILE_to_NBI.htm  
³¹ See supra Note 30.
4- Description of relevant examples: Nile Basin Initiative

Republic of Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda\textsuperscript{32}.

The NBI defined as its Vision “to achieve sustainable socioeconomic development through the equitable utilisation of, and benefit from the common Nile Basin water resources”. And its Objectives are:

- to develop the water resources of the Nile in a sustainable and equitable way to ensure prosperity, security and peace for all its people
- to ensure efficient water management and the optimal use of the resources
- to ensure cooperation and joint action between the riparian countries, seeking win-win gains to target poverty eradication and promote economic integration
- to ensure that the program results in a move from planning to action\textsuperscript{33}.

• Implementation of the key issue

In 1997, the Council of Ministers of Water Affairs of the Nile Basin States (Nile-COM) asked the World Bank to lead and coordinate donor support for their activities. Thus, the World Bank, the UNDP, and CIDA became cooperating partners to facilitate dialogue and cooperation among the Basin countries and established a mechanism through which the countries could work together for their mutual benefit and for the sustainable use of the river and its resources.

Recognising that sustained cooperation on the Nile requires a permanent institution with a development focus and agreement on core legal principles, the Nile basin countries established a forum for a process of legal and institutional dialogue in 1997\textsuperscript{34}.

In 1998, recognising that cooperative development holds the greatest prospects of bringing mutual benefits to the region, all Nile Basin countries, except Eritrea, joined in a dialogue to create a regional partnership to facilitate the common pursuit of sustainable development and management of Nile resources. In an historic step, they jointly established an inclusive transitional mechanism for cooperation until a permanent cooperative framework is established. The transitional mechanism was officially launched in February 1999 in Dar es Salaam by the Nile-COM. In May 1999, the overall process was officially named the Nile Basin Initiative (NBI)\textsuperscript{35}.

The NBI-Operational Structure consists of the Council of Ministers of Water Affairs of the Nile Basin Countries (Nile-COM), which provides policy guidance; the Technical Advisory Committee (Nile-TAC), which renders technical advice and assistance to the Nile-COM; and the Nile Basin Secretariat (Nile-SEC), which renders administrative services to the Nile-COM and Nile-TAC.

The Nile-TAC is made up of one representative from each riparian country and one alternate. Including alternates, this currently makes a total of 18 members. The World Bank, UNDP, CIDA and other external partners may attend to its meetings as observers by invitation. The modus operandi of the committee is governed by its Terms of Reference and Rules of Procedure which have been approved by the Council of Ministers. The chairmanship of the Nile-TAC rotates yearly among the Nile basin countries.

\textsuperscript{32} See supra Note 28.
\texttt{www.nilebasin.org/Documents/SVP\%20Master\%20PAD_Final.pdf}
\textsuperscript{34} See supra Note 33.
\textsuperscript{35} See supra Note 27.
4- Description of relevant examples: Nile Basin Initiative

The Nile-SEC works to ensure the efficient and effective administration, financial management and logistical support to the Nile-COM and Nile-TAC as they carry out their responsibilities and work programs.\(^36\)

To translate the NBI’s shared vision into action, a Strategic Action Programme was launched to identify and prepare cooperative projects in the Basin. The Programme consists of two complementary sub-programmes\(^37\):

a) Shared Vision Programme - Building a Foundation for Cooperative Action.

The basin-wide Shared Vision Programme currently includes seven projects, which build upon each other to form a coordinated program. Four of these are thematic in nature, addressing issues related to environmental management, power trade, efficient water use for agriculture, and water resources planning and management. The remaining four are facilitative, supporting efforts to strengthen confidence-building and stakeholder involvement, applied training, and socio-economic development, benefit-sharing and coordination.

b) Subsidiary Action Programmes - Seeking Mutual Benefits and Investments on the Ground.

Two Subsidiary Action Programmes are being developed. The Eastern Nile (ENSAP) currently includes Egypt, Sudan and Ethiopia; while the Nile Equatorial Lakes Region (NELSAP) includes the six countries in the southern portion of the Basin, as well as the downstream riparians Sudan and Egypt. These subsidiary groups have identified joint investment opportunities which warrant further investigation and preparation.\(^38\)

The NBI is supported by contributions from the NBI countries themselves and through the support of several multilateral and bilateral donors. The financial mechanisms in support of the NBI are designed with several objectives in mind: to maximise riparian ownership and control of the process; to meet donor requirements for fiduciary accountability; and to provide timely and efficient administration of funds.

Given the nascent nature of the cooperative Nile institutions, the magnitude of financial resources involved, the imperative for early implementation of projects, and following extensive consultation with potential donors, a World Bank–managed, multi-donor trust fund - the Nile Basin Trust Fund (NBTF) - was established as the preferred initial funding mechanism (although alternative funding mechanisms are also used). This was to allow funds to be transferred according to established disbursement and procurement procedures. The objective is the eventual transfer of the trust fund to a Nile Basin institution as programme implementation progresses and a permanent institutional framework is established.\(^39\)

Donors that contribute through the NBTF include: Canada, Denmark, Netherlands, Norway, Sweden and the United Kingdom.

Currently, the NBTF supports the preparation and/or implementation of the NBI programmes, including the basin-wide Shared Vision Programme (SVP) and the sub-basin investment programmes in the Eastern Nile (ENSAP) and the Nile Equatorial Lakes Region (NELSAP). At the basin-wide level, NBTF funds support the implementation of the projects

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\(^38\) See supra Note 36.

\(^39\) Nile Basin Initiative, 2006. How we are funded, NBI webpage. [http://www.nilebasin.org/howWeAreFunded.htm](http://www.nilebasin.org/howWeAreFunded.htm)
4- Description of relevant examples: Nile Basin Initiative

Map 1: Nile River Basin

within the SVP and strengthen NBI institutional capacity. It is also used to facilitate the process of NBI dialogue and engagement. At the sub-basin level, NBTF funds support the preparation and implementation of investment projects, build capacity for regional for regional coordination and preparation of joint projects, and provide advisory services and support to sub-regional institutions.

Some donors may be unwilling or unable to provide their support through the NBTF. In such cases, support to individual projects or to the NBI’s executive arm, the NBI Secretariat, will be arranged through mutually agreed channels, for example, bilaterally to the NBI.

The core costs of the Nile Council of Ministers, NBI Technical Advisory Committee, and NBI Secretariat are supported by the Nile Basin countries through their continued payment of annual dues. Riparian countries provide counterpart funds for all projects, and contribute additional funds to the NBI Secretariat. Sponsorship of SVP project management units, whose local costs are to be financed by the host countries, is another avenue of riparian support to the NBI41.

- Outcomes and results.

Within the Nile Equatorial Lakes Subsidiary Action Programme (NELSAP) several projects are being planned. Among them, a Water Resource Management and Development Programme is foreseen. It will support the development of new and effective mechanisms of joint water resources management and planning, and the provision of the hydrological infrastructure necessary for management decision making. These activities will lay a common ground for future national and international investments in water resources development. The projects focus on the creation of an enabling environment for investments and will be “fast tracked” to reach that objective.

The NELSAP-Coordination Unit (NELSAP-CU) facilitates the projects preparation process; manages financial resources and builds sub-regional capacity for continued preparation and implementation of the NELSAP programme of transboundary investment activities42.

Table A shows the NELSAP Programme Project Portfolio, consisting of 7 projects grouped under two sub programmes.

As regards particularly the Rusumo Falls Hydro-Electric Power Development, its objective is to supply new energy and capacity to the existing power grid based on renewable hydropower energy, to electrify new areas and improve regional power supply reliability by interconnecting the power networks of the Democratic Republic of Congo-East/ Burundi/ Rwanda and the national network of Tanzania. The project consists of construction of a small dam, a reservoir, a 40-60 MW hydropower station at the Rusumo Falls on the Kagera river, and the building of transmission lines to the riparian countries. Preparation activities include an updated design of the existing documentation, a design review of alternative options including a run-of the river scheme, a Preliminary Environmental Impact Assessment (EIA), a cost/benefit assessment of different options and a design review of regional transmission interconnections. In the second phase detailed design will be undertaken and a full EIA and a Resettlement Action Plan conducted.

On the other hand, the Eastern Nile Subsidiary Action Programme (ENSAP) is an investment program by the Governments of Egypt, Ethiopia and the Sudan under the umbrella of the NBI. It is led by the Eastern Nile Council of Ministers (ENCOM) and an ENSAP Team (ENSAP'T) formed of three technical country teams. The objective of

41 See supra Note 39.
ENSAP is to achieve joint action on the ground to promote poverty alleviation, economic growth and reversal of environmental degradation⁴³.

The Eastern Nile Technical Regional Office (ENTRO) started operation in June 2002 in Addis Ababa, Ethiopia, and was restructured in 2004/2005. ENTRO manages and coordinates the preparation of ENSAP projects, capacitate and strengthen institutions and provides secretariat support to ENCOM/ENSA PT. As a regional organisation, it has a distinct role and profile in working for the sustainable integrated development of the Eastern Nile under the umbrella of the NBI. It serves ENCOM and ENSAP in their pursuit to ensure cooperation and joint action in the Eastern Nile by: providing technical expertise and adopting best practices for the coordinated identification, preparation and possible implementation of regional development programmes and projects in the Eastern Nile; enhancing capacities of ENSAP institutions; building and strengthening networks among the stakeholders; and enabling people from the Eastern Nile to work together.

Table A. NELSAP Programme Project Portfolio⁴⁴

<table>
<thead>
<tr>
<th>Natural Resources Management and Development sub programme</th>
<th>Funding (amount/source)</th>
<th>Duration/Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Lakes Edward and Albert fisheries</td>
<td>USD 2.43 million/ADF</td>
<td>30 months/June 2005</td>
</tr>
<tr>
<td>2. River basin management projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mara Transboundary IWRM</td>
<td>USD 5.183 million/Sida, EU and Norad</td>
<td>4 years/January 2006</td>
</tr>
<tr>
<td>Kagera Transboundary IWRM</td>
<td>USD 7.942 million/Sida, EU and Norad</td>
<td>4 years/January 2006</td>
</tr>
<tr>
<td>Sio-Malaba-Malakisi Transboundary IWRM</td>
<td>USD 5.184 million/Sida, EU and Norad</td>
<td>4 years/January 2006</td>
</tr>
<tr>
<td>3. Regional Agriculture Program</td>
<td>under preparation/financing is not yet secured</td>
<td></td>
</tr>
<tr>
<td>4. Water hyacinth abatement in the Kagera River Basin</td>
<td>implemented under the Second Phase of the Lake Victoria Environmental Management Programme</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Power Trade and Development sub programme</th>
<th>Funding (amount/source)</th>
<th>Duration/Effective date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Rusumo Falls Hydroelectric Power and Multipurpose Development</td>
<td>USD 6.5 million</td>
<td></td>
</tr>
<tr>
<td>6. Regional Transmission Feasibility Interconnection</td>
<td>USD 3 million/ADF</td>
<td>2 years/January 2006</td>
</tr>
<tr>
<td>7. Strategic Sectoral Social and Environmental Assessment of Power Development options</td>
<td>USD 1.8 million/Sida</td>
<td></td>
</tr>
</tbody>
</table>

ADF – African Development Fund
EU – European Union
Norad – Norwegian Agency for Development Cooperation
Sida - Swedish International Development Cooperation Agency

Preparation of ENSAP investment projects is funded through grants from the World Bank, the African Development Bank (AfDB), and the Governments of Canada, France, Norway, the Netherlands, Austria and Japan. ENTRO has its own operational budget, financed by the Member Governments and through various aid programs. The World Bank, the United Kingdom Department for International Development (DFID) and the Government of Finland are the main donors to core budget and comprise ENTRO’s Consultative Committee.

The initial set of proposed sub-projects within the framework of the Integrated Development Programme of the Eastern Nile (IDEN) – the first ENSAP project- is listed in Table B. These sub-projects will be more fully defined during the project preparation process.\(^{45}\)

Among ENSAP projects in preparation, the Baro-Akobo Basin, located in southeastern Ethiopia on the Ethiopian – Sudanese border, provides a potential opportunity to develop and manage a multi-purpose water resources project which may provide win-win benefits to the Eastern Nile countries. The area, though currently poor, relatively undeveloped, and subject to erosion and land degradation, has plentiful land and water resources. There is a substantial untapped potential for hydropower development, and opportunities for developing irrigation as well as improving rainfed agriculture. Portions of the basin which are subject to extensive flooding and high evaporation and seepage rates could potentially yield important conservation gains. The area contains natural assets, such as wetland and wildlife areas.

<table>
<thead>
<tr>
<th>Sub-projects</th>
<th>Estimated Preparation Costs (million USD)</th>
<th>Indicative Implementation Costs (million USD) for (*)</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Preparati on (months)</td>
<td>Implementation (months)</td>
</tr>
<tr>
<td>Eastern Nile Planning Model (*)</td>
<td>0.4</td>
<td>5 - 6</td>
<td>6</td>
</tr>
<tr>
<td>Flood Preparedness and Early Warning (*)</td>
<td>3.0</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Baro-Akobo Multipurpose Water Resources Development (*)</td>
<td>3.0</td>
<td>&gt; 400</td>
<td>&gt; 24</td>
</tr>
<tr>
<td>Ethiopia-Sudan Transmission Interconnection (*)</td>
<td>10.0</td>
<td>150</td>
<td>TBD</td>
</tr>
<tr>
<td>Eastern Nile Power Trade Investment</td>
<td>12.61</td>
<td>TBD</td>
<td>18 - 24</td>
</tr>
<tr>
<td>Irrigation and Drainage (*)</td>
<td>12.0</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Watershed Management</td>
<td>2.1</td>
<td>400</td>
<td>8 - 12</td>
</tr>
</tbody>
</table>

\(^*\) Identified for “fast-track” preparation and implementation. 
TBD. To be determined

\(^{45}\) See supra Note 43.
\(^{46}\) Integrated Development of the Eastern Nile. [www.nilebasin.org/entro/IDENprojects.htm](http://www.nilebasin.org/entro/IDENprojects.htm)
Single purpose projects to address any of these opportunities, however, would have limited benefits. Development of multi-purpose water resources and associated rural development investments, however, could optimise gains and provide transboundary benefits. Water resources infrastructure which provides storage and river regulation, particularly if coupled with non-structural measures and socio-economic development activities, could provide opportunities for agricultural production, water conservation, navigation, fisheries, environmental management, flood and drought mitigation, and hydropower, providing the economic growth for substantial improvement of livelihoods for the local population as well as broader socioeconomic benefits for the region.

The immediate objective of the proposed Baro-Akobo sub-project is multi-purpose development of the basin, so as to bring regional benefits to all countries. Within the framework of IDEN, the sub-project will adopt an integrated approach. Sub-project outputs will be refined during the project preparation process, but are likely to include: (a) improved management of water resources for multiple water uses; (b) increased hydropower generation and irrigation development; (c) improved flood management and increased water yield; (d) enhanced environmental protection of the basin; (e) enhanced watershed management and agricultural productivity; (f) improved livelihoods and opportunities for income generation in the basin; (g) strengthened institutions.

**Assessment of outcomes/results by involved stakeholders**

For the first time in history, all ten Nile basin countries expressed a serious concern about the need to work together to fight poverty. Recognising the need to take concrete steps to realise the development potential of the Nile, the riparian countries took a historic step towards cooperation in establishing the Nile Basin Initiative (NBI). The Initiative is a transitional arrangement until a permanent framework will be in place.

With strong international backing and success in attracting funding the NBI has progressed rapidly in the last years and is now at the stage of project preparation and implementation. Many of these projects represent an unprecedented opportunity to develop the waters of the river and the environment within the basin to optimise the benefits available to all countries. This can significantly advance socio-economic development within all basin countries whilst helping to reduce conflict and insecurity.

Early on donors and national governments recognised that the desired ‘win-win’ development objectives could only be achieved if the NBI successfully addressed the views and concerns of Nile Basin civil society. Stakeholder participation should therefore become a priority at all stages in project development, including capacity to consult effectively and equitably with local communities in project-affected areas. At the same time it was recognised that there was a need for civil society to organise at a basin level in order to establish more strategic and long-term inputs into the Nile Basin Initiative.

In the last years the NBI has been led at a governmental level through successive inter-governmental agreements. Civil society involvement has lagged far behind both in understanding what the NBI is about and how to influence the major development processes unfolding. Proposals are being made about developing long-term, strategic input into the NBI by Nile Basin civil society through using the vehicles of effective knowledge development and dissemination, establishing channels for detailed consultation, research and outreach within local communities in project areas and establishing long-term capacity.

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4. Description of relevant examples: Nile Basin Initiative

building and training activities so that civil society can effectively monitor and evaluate impact at all level, including at a regional level.

A key modus operandi is the integration of water sector interventions - whether the development of new irrigation, hydro-power, watershed management or flood control infrastructure - within broader socio-economic policies and processes existing and/or emerging at regional, national and local levels. A range of tools are envisaged to be used from harnessing local knowledge, supporting non-state actor participation within development processes, training and capacity building and using the development of knowledge networks to influence more widely within the basin50.

4.1.3. Overall Conclusions.

Over the past 30 years, various sub-groups of the Nile countries have engaged in cooperative activities. However, the inclusion of all countries in a joint dialogue opens up new opportunities for realising win-win solutions. It also holds the promise for potential greater regional integration, both economic and political, with benefits far exceeding those derived from the river itself51.

The Nile Basin Initiative provides a unique forum for the countries of the Nile to move forward a cooperative process to realise tangible benefits in the Basin and build a solid foundation of trust and confidence52.

50 See supra Note 49.
51 See supra Note 48.
4.2. Zambezi SADC (Southern African Development Community)

- **Key issue addressed**
  International Policy in Shared River Basins
  - Need for negotiation/departing situation: Desire for a common approach to developing joint resources.
  - International community/actors: UN bodies, donors.
  - Nature of involvement of the international community: Financial: grants; technical assistance.
  - International framework referred to: International principles, outcomes of international conferences, UN international convention, not in effect yet.
  - Scope: River basins development.
  - Main issues dealt with by agreement: Development of programmes and projects.
  - Negotiation and implementation mechanisms: Basin organisations, high level councils, joint committees.

- **Integration**
  SADC Revised Protocol on Shared Watercourses, August 2000\(^{53}\).

- **Implementation**
  Integrated Water Resources Management Strategy for the Zambezi River Basin. Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania and Zimbabwe

- **Stage regarding the project life cycle**
  Policy

4.2.1. Description of the framework

- **General description of the country institutional set up where the specific policy/normative is located**
  With the exception of the island states of Mauritius and Seychelles, all the other continental Southern African Development Community (SADC) countries share international drainage basins with one or more neighbouring countries. The major shared water basins of Southern Africa are the following: Congo, Zambezi (see Map 2), Okavango, Rovuma, Cunene, Cuvelai Orange, Limpopo, Incomati, Umbeluzi, Save, Buzi, Nile, Pungwe and Maputo\(^{54}\). The Southern African water endowment thus presents considerable challenges for water resources management, as well as for general economic and infrastructure investment planning\(^{55}\).

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Competition for the use of those transboundary waters is increasing among some of the riparian states. SADC has thus recognised that in the absence of balanced cross-boundary and cross-sectoral integration, riparian countries may easily get into conflicts over shared waters. As such the development and management of regional water resources in a holistic manner provides an opportunity to prevent possible occurrence of such conflicts. The signing of the Protocol on Shared Watercourse Systems in 1995, by the majority member states, and the setting-up of the SADC Water Sector Coordination Unit in 1996, are clear manifestations of SADC’s recognition of the need for regional integrated water resources development and management in these shared watercourses. The main thrust of the Protocol which is a legally binding document, is to ensure equitable sharing of water and also ensure efficient conservation of the scarce resource. A Revised Protocol was signed in August 2000.

- Detailed description of the specific policy/normative framework addressing the key priority issue


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Its overall objective is to foster closer cooperation for judicious, sustainable and co-coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation.

In order to achieve this objective, it seeks to: (a) promote and facilitate the establishment of shared watercourse agreements and Shared Watercourse Institutions for the management of them; (b) advance the sustainable, equitable and reasonable utilisation of the shared watercourses; (c) promote a co-ordinated and integrated environmentally sound development and management of shared watercourses; (d) promote the harmonisation and monitoring of legislation and policies for planning, development, conservation, protection of shared watercourses, and allocation of their resources; and (e) promote research and technology development, information exchange, capacity building, and the application of appropriate technologies in shared watercourses management57.

For the purposes of the Protocol the State Parties recognise the principle of the unity and coherence of each shared watercourse and, in accordance with this principle, undertake to harmonise the water uses, ensure that all necessary interventions are consistent with the sustainable development of all Watercourse States and observe the objectives of regional integration and harmonisation of their socio-economic policies and plans.

The utilisation of shared watercourses within the SADC Region shall be open to each Watercourse State, in respect of the watercourses within its territory and without prejudice to its sovereign rights, in accordance with the principles contained in the Protocol. The utilisation of the resources of the watercourses shall include agricultural, domestic, industrial, navigational and environmental uses.

The State Parties undertake to respect the existing rules of customary or general international law relating to the utilisation and management of the resources of shared watercourses. They shall maintain a proper balance between resource development for a higher standard of living for their people and conservation and enhancement of the environment to promote sustainable development.

The Protocol also establishes that the Watercourse States shall in their respective territories utilise a shared watercourse in an equitable and reasonable manner. In particular, it shall be used and developed with a view to attain an optimal and sustainable utilisation, taking into account the interests of the Watercourse States concerned, consistent with adequate protection of the watercourse for the benefit of current and future generations.

State Parties shall take all appropriate measures to prevent the causing of significant harm to other Watercourse States. Where significant harm is nevertheless caused, the State whose use causes such harm shall take all appropriate measures to eliminate or mitigate it and, where appropriate, to discuss the question of compensation58.

- Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring

For the implementation of the Protocol the following SADC Water Sector Organs were established:

The Committee of Water Ministers - comprising Ministers responsible for water - monitors the implementation of the Protocol and assists in resolving potential conflicts on shared watercourses; guides and co-ordinates cooperation and harmonisation of legislation, policies, strategies, programmes and projects; advises the SADC Council of Ministers on policies to be pursued; recommends to it the creation of other organs necessary for the implementation of the Protocol, and provides regular updates on the status of its implementation.

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57 See supra Note 27.
58 See supra Note 27.
The Committee of Water Senior Officials - comprised by Permanent Secretaries or officials of equivalent rank responsible for water - examines all reports and documents put before them by the Water Resources Technical Committee and the Water Sector Co-ordinating Unit; initiates and advises the Committee of Water Ministers on policies, strategies, programmes and projects to be presented to the Council; recommends to that Committee the creation of other organs necessary for the implementation of the Protocol, and provides regular updates on the status of its implementation59.

The Water Sector Co-ordinating Unit - executing agency of the Water Sector - monitors the implementation of the Protocol; liaises with other SADC organs and Shared Watercourse Institutions; provides guidance on its interpretation; organises and manages all technical and policy meetings, drafts terms of reference for consultancies and manages the execution of those assignments; facilitates the mobilisation of financial and technical resources for the implementation of the Protocol; submits annually a status report on its implementation to the SADC Council through the Committee of Water Ministers; keeps an inventory of all shared watercourse management institutions and their agreements on shared watercourses within the SADC Region.

The Water Resources Technical Committee provides technical support and advice to the Committee of Water Senior Officials through the Water Sector Co-ordinating Unit with respect to the implementation of the Protocol; discusses issues tabled by the Water Sector Co-ordinating Unit and prepares for the Committee of Water Senior Officials; considers and approves terms of reference for consultancies; appoints working groups for short-term tasks and standing sub-committees for longer term tasks, and addresses any other issues that may have implications on the implementation of the Protocol.

The Watercourse States undertake to establish appropriate institutions such as watercourse commissions, water authorities or boards. The responsibilities of such institutions shall be determined by the nature of their objectives, in conformity with the principles set out in the Protocol.

The Shared Watercourse Institutions shall provide, on a regular basis or as required by the Water Sector Co-ordinating Unit, all the information necessary to assess progress on the implementation of the provisions of the Protocol, including the development of their respective agreements.

The State Parties shall strive to resolve amicably all disputes regarding the implementation, interpretation or application of the provisions of the Protocol. If the disputes between State Parties are not settled amicably, they shall be referred to a Tribunal. If a dispute arises between SADC on the one hand and a State Party on the other, a request shall be made for an advisory opinion in accordance with the Treaty60.

- Brief description of the implementation history of the norm, including enforcement and compliance aspects

The Southern African Development Co-ordination Conference, SADCC, the Conference, the forerunner of the Southern African Development Community, SADC, the Community, was established in April 1980. The transformation from Conference to Community occurred in August 1992, being signatories of the corresponding Treaty the Governments of Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Tanzania, Zambia and

59 See supra Note 27.
[It should be noted that the SADC Summit of Heads of State and Government at their extra ordinary meeting in Windhoek Namibia, in March 2001 took a decision to restructure SADC institutions which entailed abolishing of some of the institutions referred to above such as the Sectoral Committee of Ministers and Official, and the Sector Coordinating Unit, replacing them with the Integrated Committee of Ministers and the SADC Water Division, respectively. The Protocol is to be amended to reflect this new changes.]
60 See supra Note 27.
Zimbabwe, later joined by the Democratic Republic of the Congo (1997), Mauritius (1996), Seychelles (1997), and South Africa (1994), by accession to the Treaty. The ultimate objective of SADC is to build a Region in which there will be a high degree of harmonisation and rationalisation to enable the pooling of resources to achieve collective self-reliance in order to improve the living standards of the people of the region.

SADC has developed since then, to become an organisation, covering several broad economic and social sectors, namely, Energy, Tourism, Environment and Land Management, Water, Mining, Employment and Labour, Culture, Transport and Communications and Agriculture and Natural Resources, Trade Finance and Investment, among others.

SADC elaborated the SADC Programme of Action (SPA), which is a totality of Sectoral Programmes, with their policy objectives, strategies and projects designed to realise its overall goals and objectives. Under the SPA, several protocols have been developed and signed, the Protocol on Shared Watercourse Systems being one of the first to be signed.

SADC also established a Water Sector with requisite Coordination Structure in August 1996, which has been tasked with creating the enabling environment for the integrated management of shared watercourses on a regional rather than national level. The two pillars supporting this integrated approach are the Protocol on Shared Watercourses and the Regional Strategic Action Plan (1998), developed as a result of the decision in 1995 of the SADC Ministers responsible for water resources to bring forces together to develop a regional strategic approach to integrated water resources development and management.

The SADC Protocol on Shared Watercourses was used as a basis in the process that led to the formation of the Zambezi Watercourse Commission (ZamCom). The ZamCom process has contributed to collective learning, networking, leveling the playing field and confidence building in Southern Africa.

Seven of the Zambezi river basin states signed the agreement to establish ZamCom in July 2004. However, the negotiations to establish ZamCom date back to the late 1980s. These were suspended in the early 1990s to allow for discussions on the SADC Protocol on Shared Watercourse Systems signed in 1995. The need for such a protocol came about during discussions on ZamCom and it was realised that before the River Basin Organisation (RBO) was formed, there was need for a more comprehensive and all inclusive legal framework to govern the management of shared watercourses.

The first Protocol on Shared Watercourse Systems signed in 1995 was based on the Helsinki Rules which tilt heavily towards the principle of territorial sovereignty of a watercourse state. According to these rules, an upstream state has the right to use water resources within its territory with no regard to any effects that this may have on the downstream state. The adoption by the UN General Assembly, in April 1997, of the UN Convention on the Law of the Non-navigational Uses of International Watercourses became one of the strong factor that contributed to the revision of the 1995 protocol. The Protocol was revised in 2000 and came into force in 2003 upon ratification by the required two-thirds majority.

The main differences between the old and the revised protocols is that the latter places emphasis on watercourses as opposed to watercourse states, and calls for the establishment of appropriate river basin management institutions including commissions, of which the

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61 SADC. History, evolution and current status
http://www.sadc.int/english/about/history/index.php
http://www.sardc.net/imercsa/zambezi/zambezi/eng/view.asp?vol=16&pubno=v6n1
following have been established for the Zambezi, Limpopo, Okavango and Orange Senqu river basins.

4.2.2. Description of the example

- Project description

Southern Africa is a water scarce region with numerous transboundary river basins and complex international water rights issues. The region is characterised by extreme temporal and spatial rainfall variability, resulting in endemic drought and occasional floods; rapidly growing and urbanising populations, leading to growing water scarcity and water pollution; low coverage of the urban and rural poor with water and sanitation services and consequently high incidence of water-borne diseases; heavy dependence on extensive agriculture, with generally very low water use efficiency; degraded watersheds and deteriorating water quality; and a growing importance of hydropower.

Several major river systems, including the Orange, Limpopo, Save, Okavango, Zambezi and Congo rivers, rise in uplands above the plateau, and have lengthy runs through dry downstream terrain. Seasonal and annual flow variations are very large, necessitating on-river storage in reservoirs to regulate flows for many uses, to provide water storage capacity for the 8-9 months a year that much of the region is without rain and to buffer inter-annual variation.

In 1987 the Zambezi River Authority Act was passed simultaneously in the two states of Zambia and Zimbabwe dissolving the Central African Power Corporation (CAPCO) and reconstituting it as Zambezi River Authority (ZRA). The ZRA took the responsibility of the operation and maintenance of Kariba Dam Complex, investigation and development of new dam sites on the Zambezi River and analyzing and disseminating hydrological and environmental information.

On 28 May 1987 the Governments of Botswana, Mozambique, Tanzania, Zambia and Zimbabwe signed at Harare the Agreement on the action plan for the environmentally sound management of the Common Zambezi River system, known as the Zambezi Action Plan, or ZACPLAN, and requested its endorsement by the Council of Ministers of SADC, as a concerted action programme of that Conference. They also requested the Executive Secretary of SADCC and the Executive Director of UNEP to start immediate consultations regarding the implementation of the ZACPLAN and the raising of external finances to ensure that implementation started before the end of 1987. The then SADCC - now the Southern African Development Community (SADC) - adopted the ZACPLAN.

The ZACPLAN consists of 19 components. To meet the goals of the Action Plan and some other agreed specific short-term goals, several programme categories and activities, known as Zambezi Action Plan projects (ZACPRO) were planned. In particular, ZACPRO 2 consisted of an up-to-date compilation of national and international laws of the river basin countries related to the utilisation and the protection of water and the environment. In order of priority requirements, it foresaw the development and adoption of a regional convention on the environmentally sound management of the common Zambezi river system and additional protocols to promote the further development and implementation of the ZACPLAN.

64 See supra Note 29.
65 Zambezi River Authority. History.
http://www.zaraho.org.zm/history.html
As regards ZACPRO 6, it consists of two phases. The first phase, which started in 1995, had two components: a) the collection of meteorological and hydrological data leading to the establishment of the Zambezi River Basin Information System and Database (ZACBASE), and b) the assessment of water use and wastewater discharge and the creation of scenarios for future water use and discharge. Both components of Phase I of the ZACPRO 6 project were completed by 1998.66

- **Implementation of the key issue**

The ZACPRO 6, Phase II Project (ZACPRO 6.2) was designed upon the vision that the eight riparian states would achieve a higher and sustainable socio-economic development for all, through equitable and sustainable utilisation of the shared water resources of the Zambezi River Basin. ZACPRO 6.2 is to build further upon the results of Phase I, to develop an integrated water resources management strategy and to establish a river basin institution.67

In March 2001, SADC obtained funding from the Nordic countries through their development cooperation agencies, the Swedish International Development Cooperation Agency (Sida), the Danish International Development Agency (DANIDA), and the Norwegian Agency for Development Co-operation (NORAD) to implement ZACPRO 6.2. The ZRA, with its head office in Lusaka, Zambia, was designated as the project implementing institution.

ZACPRO 6.2 implementation started in October 2001 when a Project Implementation Unit (PIU), comprising a Project Manager and a Water Resources Expert, was established in ZRA’s head office in Lusaka, Zambia.

A review of project implementation towards the end of its first year (September 2002) revealed a number of shortcomings in the project design and operations and recommended a restructuring of the project from a relatively rigid project driven output oriented approach to a process management approach focusing on development facilitation, maximum flexibility in project implementation and more effective stakeholder participation through confidence building measures and information exchange.

Greater emphasis in the restructured project will be on the establishment of an institutional framework for basin-wide integrated water resources management in the Zambezi Basin, which would provide a sound base for the development of strategies, models and tools for basin wide water resources management.

The overall objective of the refocused project was then defined as “to improve integrated water resources management to facilitate social and economic development, and protection against floods, droughts, water resources pollution and environmental degradation in the Zambezi River basin” and the immediate project objective was then defined as: “to assist and facilitate efforts of the Zambezi Riparian States to create and develop an enabling institutional environment for the achievement of the overall objective”68.

The institutional environment includes the proposed basin-wide organisation for water resources management, the Zambezi River Basin Commission (ZAMCOM), the Project Steering Committee (PSC) and National Steering Committees (NSCs). The PSC, composed of representatives from each of the riparian states, represents the regional ownership of the Project; while the NSCs, established in each riparian country, provide the communication line between the Project and the stakeholders in each riparian country, and provides a

66 Agreement on the action plan for the environmentally sound management of the Common Zambezi River system signed at Harare, 28 May 1987. [http://www.fao.org/docrep/W7414B/w7414b0j.htm](http://www.fao.org/docrep/W7414B/w7414b0j.htm)
67 - ZACPRO 6 Phase II Project (ZACPRO 6.2) [http://www.zacpro.org/](http://www.zacpro.org/)
68 See supra Note 41.
platform on which national consensus could be reached on water resources management issues. The refocused project started in the 2nd quarter of 2005.

The guiding principles for ZACPRO 6.2 implementation are:

- **Active stakeholder involvement.** Stakeholder participation in the ZACPRO 6.2 is in principle built into the process through the PSC and NSCs. The Project maintains continuous dialogue with the stakeholders, not merely occasional consultation. The Project also recognises the need to involve all stakeholders to the lowest appropriate level i.e. at community level, sub-catchment level, catchment level, and national or international river basin level. The participation of women in stakeholder fora is actively encouraged and supported. The NSCs are the main instrument to pursue active stakeholder involvement. The Project has stimulated this specific role of the NSCs, by providing them with information material and support during the initial stage of their functioning.

- **Ownership by the eight riparian states.** The government has an essential role as enabler in a participatory, demand driven approach to development, therefore when the riparian states are not ready for it, joint water resources management at a Basin scale will never take off. The Project, as such, cannot lead the countries through this process. The riparian countries of the Zambezi River Basin have taken the initiative and they dictate the pace and the direction of the process to the Project team. This ownership principle has been built into the Project through the establishment of the PSC and NSCs.

- **Process management approach.** In this case, the change from individually setting up isolated projects to jointly managing and developing the resources of the Zambezi River Basin. To conclude this “process to change” successfully, a careful management of the process itself is required. Transparency in the rules and ways of decision taking, commitment of the stakeholders and the sense of security these stakeholders feel in their involvement in the process, should be guarded closely.

- **Outcomes and results**

  The ZAMCOM Agreement was signed by the Zambezi Riparian States on 13 July 2004. Its objectives and functions include (a) to collect, evaluate and disseminate all data and information on the Zambezi Watercourse; (b) to promote, support, coordinate and harmonize the management and development of the water resources of the Zambezi Watercourse; (c) to advise Member States on the planning, management, utilisation, development, protection and conservation of the Watercourse; (d) to advise Member States on measures necessary for the avoidance of disputes and assist in the resolution of conflicts among Member States with regard to the planning, management and utilisation, development, protection and conservation of the Zambezi Watercourse, and (e) to develop procedures for equitable allocation of water resources amongst Member States.

  As an example of activities being carried out, it can be mentioned that in 2004 the WWF Southern Africa Regional Programme Office (SARPO) initiated a process aimed at addressing the complexities surrounding the sustainable development of the Zambezi River Basin (ZRB). Drawing from programme experiences as well as findings of a series of consultative meetings, WWF SARPO linked with ZACPRO 6.2 Project Implementation Unit (PIU) in Zambia.

  The two agencies selected an integrated river basin management (IRBM) approach and accept that its adoption requires buy-in from all the relevant stakeholders in the basin. Pursuant to this they agreed that there should be a preparatory phase, through which it is anticipated that all the key stakeholders, including the local people, local-level institutions, research organisations, and civil society would be engaged in a common understanding on

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69 ZAMCOM, Background, objectives and functions. [http://www.zacpro.org/default.cfm?pid=72&lang_id=1](http://www.zacpro.org/default.cfm?pid=72&lang_id=1)
the use of that approach. This phase will produce a project proposal which will articulate a more comprehensive IRBM programme for the ZRB.

A suite of activities will be carried out, such as collecting existing socio-economic, biophysical and spatial data; production of maps through geographic information systems (GIS) and remote sensing techniques; national and regional workshops; developing linkages with other river basin management programmes, such as the Lesotho Highlands, Nile Basin Initiative, Danube or Mekong; linking the proposed IRBM to current and proposed sustainable development programmes in the ZRB; design a clear monitoring and evaluation plan with measurable indicators and means of verification. The preparatory phase will run for 15 months, starting January 1, 200670.

On the other hand, the Zambezi River Authority has made a Request for Proposals for Consulting Services for the Formulation of an Integrated Water Resources Management (IWRM) Strategy for the Zambezi River Basin, funded by the Nordic Countries through Sida, DANIDA and the Royal Norwegian Embassy in Lusaka, Zambia. The submission date was not later than 19 May 2006. The overall objective of the assignment is to define a set of medium to long-term measures that address key water resources management and development issues in the Zambezi River Basin71. A team of consultants has now been engaged to carry out the development of the Basin Wide Water Resources Management Strategy for the next 18 months starting in October 2006. An inception report has been produced and reviewed by the Project Steering Committee at its meeting in Windhoek, Namibia, on the 20 – 21 November 2006.

- **Assessment of outcomes/ results by involved stakeholders (government, developer, civil society)**

The long time that it took to finalise the ZAMCOM agreement has resulted in a powerful, comprehensive and much more complex pact than other agreements signed earlier. It propelled transboundary water issues to the top of the political agenda in SADC. The importance of resource sharing and the need to integrate management of shared water resources became a popular topic for discussion during this negotiation process. Today, integrated water resources management (IWRM) is discussed at almost every forum that has a water agenda.

It took more than a decade for negotiations on the establishment of ZAMCOM to be concluded. During these years, many developments took place. These include the negotiation and signing of the SADC Protocol on Shared Watercourses, initiation of a few other river basin organisations, and the formulation by SADC of the Regional Strategic Action Plan for IWRM. The process has also won the much needed political commitment within SADC member states.

Luis de Almeida, ZACPRO6.2 Task manager at SADC, said that some of the key lessons learnt from the process include (a) the fact that there is now political commitment and guidance at highest possible SADC level; (b) there is now a broader framework for regional integration and development; (c) the realisation of the use for a SADC protocol on shared watercourses; (d) the region has adopted a holistic approach for IWRM; (e) there is ownership and leadership of the Commission by the basin states; (f) the Commission has adopted a benefit approach as opposed to water sharing, to allow those with less water to benefit; (g) there is national funding of regional initiatives as a result of the Commission;

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(h) mutual trust and confidence was built; (i) the realisation that any well meaning processes are time consuming; and (j) the importance of using a process approach instead of a project management one.\(^{72}\)

Zambia is still to to sign the Zambezi Watercourse Commission (ZAMCOM) agreement. Geoffrey Mukala, Permanent Secretary in the Ministry of Energy and Water Development, said in an interview that Zambia could not sign because environmental groups and private sector are still holding consultations on the ZAMCOM\(^{73}\) Agreement.

### 4.2.3. Overall Conclusions

A number of shared watercourse bodies have become the tools for the implementation of the SADC Protocol:

The Orange Senqu Commission (ORASECOM) was established in 2000 between Botswana, Lesotho, Namibia and South Africa to manage the Orange Senqu River. Other institutions within the basin deal with more specific issues or projects, like the Lesotho Highlands Water Commission - which is responsible for the overall management of the Lesotho Highlands Water Project - and the Permanent Water Commission between Namibia and South Africa.

Limpopo Watercourse Commission was established in November 2003 between Botswana, Mozambique, South Africa and Zimbabwe to manage the Limpopo River. A Joint Permanent Technical Committee between Botswana and South Africa is also in place to discuss bilateral issues.

For the Incomati and Maputo Rivers, a Tripartite Permanent Technical Committee (TPTC) has been in existence since 1982 as a forum to promote transboundary water management of the two basins. The Joint Water Commission between South Africa and Swaziland oversees the implementation and management of the Komati Basin Project in a sub-catchment of the bigger Incomati Basin. The design, construction, operation and maintenance of two dams (one in South Africa and one in Swaziland) has been entrusted to a Bi-National Authority, the Komati Basin Development Authority (KOBWA).

A Joint Water Commission between South Africa and Mozambique and also one between Mozambique and Swaziland are used to discuss bilateral issues. One or possibly two river basin commissions, aligned with the Revised Protocol, between Mozambique, South Africa and Swaziland, to manage the Incomati and Maputo Rivers is envisaged.

To be fully effective and provide optimal benefit to member states, all these bodies should be utilised to identify and address all potential areas of misunderstanding and conflict in a frank and open manner. Participative management of shared rivers by states is the appropriate approach that offers an opportunity for co-operation for mutual benefit – a foundation stone for lasting peace.\(^{74}\)

\(^{72}\) See supra Note 36.


\(^{74}\) See supra Note 28
4.3. Water Resources Management on the Indus Basin

- **Key issue addressed**

  International policy concerning shared river basins

  - Need for negotiation/departing situation: Desire for a common approach to developing joint resources.
  - International community/actors: Donors, multilateral development bank.
  - Nature of involvement of the international community: Financial: grants, loans; technical assistance, neutral mediator / facilitator.
  - Scope: River basin development.
  - Main issues dealt with by agreement: Water resources allocation, development of programmes or projects.
  - Negotiation and implementation mechanisms: Commissions.

- **Integration**

  Standstill Agreement between the Chief Engineers of East Punjab (India) and West Punjab (Pakistan), 20 December 1947.
  Delhi Agreement, 4 May 1948.
  Indus Waters Treaty, 19 September 1960\(^{75}\).

- **Implementation**

  Some one hundred projects, including Mangla dam on the Jhelum River; link canals with a conveyance capacity of 14 MAF per year; five new and remodeled barrages; extensive tubewell and drainage works, and Tarbela Dam on the Indus River.

- **Stage regarding the project life cycle.**

  Policy, development and operation

4.3.1. Description of the framework

- **General description of the country institutional set up where the specific policy/normative is located**

  The Indus system of rivers (see Map 3) had been used for irrigation since civilisation began in the area. Sporadic conflicts were not uncommon, but were resolved through locally available means. Things started to change in the middle of the nineteenth century due to sizable works on the waters of the Indus system\(^{76}\).

  The dispute on the Indus waters began long before the independence of India and Pakistan. The dispute started in the form of inter-state differences between the Punjab, Sind, Bahawalpur and Bikaner. After the creation of Pakistan in 1947, the dispute became an international issue between East Punjab (in India) and West Punjab (in Pakistan), and was exacerbated by the fact that the political boundary between the two countries was drawn right across the Indus Basin, leaving India the upstream and Pakistan the downstream

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4- Description of relevant examples: Indus Basin

riparian on five of the six rivers in the Indus system. Most of the water-rich headwater went to India, and Pakistan was left as the water-short lower riparian.

Moreover, two important irrigation headworks, one in Madhopur on the river Ravi and one at Ferozepur on the river Sutlej, on which two irrigation canals in West Punjab had been completely dependent for their supplies, were left in Indian territory. India was therefore given the physical capacity to cut off vital irrigation water from large and valuable tracts of agricultural land in West Pakistan. India, which had large areas that needed irrigation, claimed the right to devote to its own use the waters from all six of the rivers as long as they were flowing outside Pakistan territory. Even if India’s claim were not to be enforced to the prejudice of Pakistan’s historic use, the quantum of water available to Pakistan for the development of new uses would be substantially curtailed.77

Map 3. Indus River Basin System78

- Detailed description of the specific policy/normative framework addressing the key priority issue

The partition of India and Pakistan had not dealt with the waters of the Indus. Indeed, when the British Act of Parliament was passed on July 18, 1947, the boundary between the two new dominions was not demarcated and so it was impractical to deal with the allocation of

77 See supra Note 76.
waters. To remedy the legal vacuum created by the partition, the chief engineers of East Punjab (India) and West Punjab (Pakistan) signed a Standstill Agreement on December 20, 1947 providing, inter alia, that until the end of the then current rabi crop, on March 31, 1948, the status quo would be maintained with regard to water allocation in the Indus Basin irrigation system.

The authorities in East Punjab refused the renewal of the agreements upon expiration and on April 1, 1948, halted the supply of water to several canals in Pakistan territory. The real reason for the misunderstanding is hard to determine, but deliberately or inadvertently, West Punjab, until the expiry date of the agreement on March 31, 1948 had not taken initiative to negotiate any further agreement. On April 1, India discontinued the delivery of water from the Ferozepur headworks to Dipalpur Canal and to the main branches of the Upper Bari Doab Canal. While Pakistan criticised the incident, India relied on the fact that the agreements had simply lapsed and stated that the proprietary rights in the waters of the rivers in East Punjab continued to be vested in East Punjab (India), and that West Punjab (Pakistan) could not claim rights to any share of those waters.

In this situation, one option for Pakistan was war, and there were many who advocated for it, but it would have been an error for Pakistan because it could hardly use the Bari Doab, where all the strategic advantages were held by India. Authors have noted that a declaration of war by India might have led to the extinction of the new State. Pakistan could not face the kharif season without water for 5.5 percent of its cropland. So Pakistan opted for negotiations and decided to send its delegation to New Delhi to negotiate for restoration of the canal waters.

India remained firm and wanted recognition of their rights to all of the waters in the Eastern Rivers (Sutlej, Beas and Ravi) and they wanted Pakistan to pay for such water supplied by the Indians until such time as Pakistan could find replacement. India proclaimed its purpose to use all the water in the Eastern Rivers, but because this was not immediately possible, Pakistan would have time to develop alternative supplies. Moreover, India claimed that Pakistan’s agreement to pay water dues in the Standstill Agreement of December 1947 was tantamount to recognition by Pakistan of India’s proprietary rights. Pakistan, on the other hand, insisted that these payments had been for the costs of operating and maintaining the irrigation works, not payment for water that belonged to Pakistan by right of prior allocation.

Following extensive discussions in an Inter-Dominion conference held in New Delhi on May 3-4, 1948, a new agreement was signed (commonly called the Delhi Agreement) on May 4, 1948. Under the terms of that Agreement, East and West Punjab recognized the necessity to resolve the issues in the spirit of goodwill and friendship. Without prejudice to its own rights, the government of East Punjab granted to West Punjab the assurance that it would not suddenly withhold the supply of water without providing sufficient time for West Punjab to develop alternate sources. The agreement also provided for the gradual diminishing of supply of water to Pakistan, and for Pakistan to tap alternative resources. West Punjab continued to stress the need for reasonable time to develop alternative resources. Contrary to the expectation, the agreement could not stay intact for long and on issues relating to the interpretation of the agreement, the dispute continued.

Consistent with the conflicting rationales of the two countries, the combination of a series of decisions and actions by India and Pakistan precipitated a dispute that led to Pakistan’s formal denouncement of the agreement in 1950. Pakistan proposed that the issue be submitted to the International Court of Justice or the UN Security Council, but India categorically rejected third-party involvement in dispute resolution and urged that the Inter-Dominion Agreement be made permanent.

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79 See supra Note 76.
80 See supra Note 76.
81 See supra Note 76.
Although the Inter-Dominion Agreement did not settle many of the issues, it at least blocked out the arguments and provided a modus vivendi until 1960, when it was formally superseded by the Indus Waters Treaty.82

**Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring**

Disputes over sharing of water between Punjab and Sind provinces, the two major users of irrigation water, were not uncommon. However, the Government of India, the then Central Government, acted as a neutral third party to facilitate resolution through negotiations and, if the negotiations failed, appointed an independent commission to arbitrate. The first major dispute between the two provinces was settled through arbitration by the Anderson Commission in 1935; the second through arbitration by the Rau Commission in 1942; and the third through negotiations between the provinces in 1945. The Indus Basin, therefore, had a sound system to address water disputes and establish and protect the rights of all canal systems of the Basin.83

In October 1939, for instance, Sind had formally complained to the Governor-General about the Bhakra Project, initiated by Punjab. As the provinces were then separate and irrigation was a provincial matter, a special commission (Indus Commission) with quasi-judicial powers was appointed by the government of India in September 1941. A report was presented by the Commission in July 1942. Sind tried to use the Commission as a forum in which to have Punjab prevented from encroaching on what Sind regarded as its share of the river. Thus Sind not only complained about projects that had already been built or were being considered, but also tried to guess which projects the Punjab might try to build in the future. Punjab admitted to having further plans for using the Sutlej, but on a much smaller scale than Sind had suggested.

The Indus Commission’s findings essentially acknowledged the damage that would occur to Sind’s inundation canals if the Bhakra Dam was constructed. To protect these canals, the Commission recommended the construction of two barrages across the river Indus flowing through Sind (the Gudu and the Hajipur barrages), and suggested that Punjab contribute to the costs of these works. But neither Punjab nor Sind accepted the Indus Commission’s findings, and both appealed to the central government. Some informal meetings were held under the auspices of the central government officials, without reaching any final accord. In 1947 the Government of India referred the case to the Secretary of State for India in Whitehall. However, the events of partition overwhelmed the dispute momentarily. It was re-opened later as an international conflict between India and Pakistan.84

**Brief description of the implementation history of the norm, including enforcement and compliance aspects**

Developed within other items

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82 See supra Note 76.
84 See supra Note 76.
**4- Description of relevant examples: Indus Basin**

**4.3.2. Description of the example**

- **Project description (Objective, location, developer, relevant institutional and organisational set up, timeframe)**

The Indus system comprises the main river Indus and its major tributaries: the Kabul, the Swat and the Kurram from the West; and the Jhelum, the Chenab, the Ravi, the Beas and the Sutlej from the East. The main river of the system, the Indus, rises north of the Himalayas. Originating near Lake Mansarovar, the Indus flows in Tibet for about 200 miles before it enters the southeastern corner of Kashmir at about 14,000 feet. Skirting Leh in Ladakh (India), the river flows on toward Gilgit and after 35 miles toward the southwest enters Pakistan, long before it emerges out of the hills near Attock (at 1,100 feet), where it receives the waters of the Kabul-Swat system. For several miles after this, the Indus assumes the character of a many channeled, braided river rather than a meandering, volume-variable one, before it falls into the Arabian Sea near Karachi.

Until 1967, the entire irrigation system of Pakistan was fully dependent on unregulated flows of the Indus and its major tributaries. The agricultural yield was very low for a number of reasons, the most important being a lack of water during critical growing periods. This problem stemmed from the seasonal variations in the river flow and the absence of storage reservoirs to conserve the vast amounts of surplus water during periods of high river discharge.

- **Implementation of the key issue**

David Lilienthal, former Chairman of the Tennessee Valley Authority, visited India and Pakistan in February 1951. Following his visit, Lilienthal wrote an article in which he made a series of recommendations pertaining to the Indus system of rivers. Among others, the recommendations included that the Indus Basin be treated, exploited, and developed as a single unit; that financing be provided by India, Pakistan and the World Bank; and that the Indus be administered by an Indo-Pakistan mixed body or a multinational body. In fact, Lilienthal's proposal was based on a return to a pre-partition premise for the Indus Basin irrigation system. At that time Mr. Lilienthal believed that the waters from the basin were sufficient to support the needs of the two countries, a belief that would not be confirmed by later studies. But regardless of future studies, Lilienthal’s proposal had two notable advantages. It provided a new avenue of negotiations that could be based on technical and engineering data, and it introduced a third party in the negotiations process that was also a potential source of financial assistance.

The President of the World Bank at the time acquiesced to Lilienthal’s recommendations and decided to react positively to the opportunity. In this context it is also important to note that in 1949, when matters were still undecided between India and Pakistan, India had approached the World Bank for loans for the construction of the Bhakra-Nangal Multipurpose Project on the Sutlej and the Damodar Valley Project in the State of Bihar. Pakistan had cited the water controversy in its objections to the Indian Bhakra-Nangal Project proposal to the Bank. Only a few weeks before the Lilienthal’s article appeared, India had also objected to a Pakistani request for financing a barrage at Kotri on the Indus. The Bank was aware of the already strained relations between India and Pakistan and was reluctant to make loans for projects that involved any unresolved disputes, not only because the investment was risky, but also because once built, these projects could exacerbate the existing dispute.

Upon its President’s decision, the World Bank offered its good offices for discussion of the dispute and negotiation of a settlement, and proposed that a solution to the problem be

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85 See supra Note 76.
86 See supra Note 76.
looked for based purely on technical and engineering grounds. On November 18, 1951, the President of the World Bank proposed the establishment of a working group of engineers which, building on Lilienthal’s recommendations, would deal with the problem of Indus as a single unit without taking into account any past negotiations or political considerations. The World Bank made a clear distinction between the “functional” and “political” aspects of the Indus dispute and asserted that it could most realistically be solved if the functional aspects of disagreement were negotiated apart from political considerations. The World Bank noted that it was important to assess how best to utilise the waters of the Indus Basin while leaving aside questions of historic rights or allocations. India’s previous objections to third-party arbitration were remedied by the World Bank's insistence that it would not adjudicate the conflict, but instead work as a conduit for agreement.

Through an understanding dated March 10, 1952, India and Pakistan welcomed the good offices of the World Bank and committed that they would not reduce the supply of water for the other country’s actual use until mediation was carried out. While at times both parties failed to comply with their commitments, provisional understandings made it possible to contain the conflict. Each party appointed a Special Commissioner to follow up the implementation of the provisional understandings and to settle any differences. In case settlement was impossible, negotiations would resume in Washington and each of the two governments could call upon the World Bank to intervene.

The World Bank proposed a comprehensive plan for the joint development of the waters of the basin, but the plan failed to take into account all the sensitive issues and was not endorsed by either party. The World Bank’s expectation for a quick resolution to the Indus dispute was premature. Although the Bank had expected that the two sides would come to an agreement on the allocation of waters, neither India nor Pakistan seemed willing to compromise their positions. The substantive technical discussions that were hoped for were stymied by the political considerations.

In the meetings in Karachi in November 1952 and in Delhi in January 1953, the two countries could not agree on a common approach to developing the waters of the Indus system. The World Bank suggested that both countries prepare their own plans. The two countries’ water use and allocation plans were submitted to the World Bank on October 6, 1953. They differed significantly and, obviously, it was difficult to reconcile them. After some discussions and concessions from both parties, the plans were modified.

From the proposals and counter-proposals, it became apparent that political sovereignty and the joint development and use of water resources of a river basin as a single unit were not compatible at all. The only formula that was likely to provide an acceptable basis for settlement was the quantitative division of waters between the two countries, leaving each of the two countries free to carry out its own development independently of the other, and in accordance with its own plans. Indeed, this was the basis for the Bank’s revised proposal.

It is interesting to note that the Bank’s revised proposal signified a complete departure from Lilienthal’s proposal to develop the water resources of the Indus Basin as a single unit through the construction of storage dams and other facilities. In fact, the Bank went in the opposite direction in its proposal to divide the water resources of the basin between the two countries on the basis of political boundaries. The Bank envisaged no cooperative development. The justification for this approach was that after transfer works were completed, each country would be independent in the operation of its supplies and avoid the complexities that would arise if the supplies from particular rivers were shared by the two
countries. This new formula, proposed by the World Bank on February 5, 1954, was in principle endorsed, albeit with a few reservations.\(^9^0\)

Pakistan contended that a system of link canals would not be adequate to meet all uses without including storage reservoirs in the replacement works. The Bank agreed to examine Pakistan’s contention, and carried out its own independent studies to examine the issues in dispute and to prepare an adequate system of works to replace Pakistan’s uses on the Eastern Rivers. The studies confirmed that there was not enough surplus water in the Western Rivers, particularly in the critical crop periods, to replace Pakistan’s uses and that storage reservoirs were necessary to meet the shortages.

Recognising the impossibility of resolving the dispute without additional financing for the huge cost of replacement works, and the fact that neither India nor Pakistan were in a position to bear the costs of the replacement works, the Bank decided to mobilise funds from bilateral donors. At this point, the issue pending in the dispute was practically resolved. After almost two years of negotiations on many complex technical, operational and legal issues, an agreement was finally reached between the parties.

On September 19, 1960, the Indus Waters Treaty was signed at Karachi by the President of Pakistan and the Prime Minister of India. For the purpose of some specific articles, a Representative of the World Bank also became a signatory (Indus Water Treaty, 1960). As noted by some purists, the legal status of the World Bank as a party to the Indus Treaty is not equal to that of India and Pakistan. However, the World Bank played a crucial role in the Treaty, much more from a functional rather than a normative perspective.\(^9^1\)

The Indus Treaty is a complex instrument whose basic approach was to increase the amount of water available to the two parties and to apportion the water resources of the Indus equitably between them. It is indeed a complete Treaty in view of its objectives. It has normative as well as functional values as it contains, in addition to the substantive rules regarding the regime of the Indus system of rivers, provisions regarding the implementation of an administrative and institutional mechanism and the management of the basin resources.

The primary objective was to fix and delimit the rights and obligations of each country’s use of the waters in relation to the other. With its preamble, followed by 12 articles and eight annexures (including appendices), the Indus Treaty attempts comprehensively to deal with the issues of water allocation and the flow of water.

The eight Annexures are quite elaborate and deal with issues that are technical in nature. While Annexure A specifies the extinction, on April 1, 1960, of the May 4, 1948 Agreement, Annexure B deals with the use of certain tributaries of the Ravi by Pakistan for agricultural purposes. Similarly while Annexure C provides details regarding the use of the Western Rivers by India, Annexures D and E respectively deal with the supply by India of hydropower from some Western Rivers and with the stocking by India of water from such Western Rivers. Annexures F and G of the Treaty deal respectively with the appointment of neutral experts and the constitution of an arbitral tribunal. Finally, Annexure H provides details on specific transitional measures.\(^9^2\)

Principle of Water Sharing: Eastern and Western Rivers. Briefly put, the waters of the three Eastern Rivers (the Ravi, Beas, and Sutlej) were allocated to India, subject to a duty during a transition period of 10 years to supply a certain quantum of water to Pakistan while Pakistan was carrying out the necessary construction works on the Western Rivers to replace its Eastern Rivers sources.

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\(^{90}\) See supra Note 76.

\(^{91}\) See supra Note 76.

\(^{92}\) See supra Note 76.
Pakistan received the flow of the Western Rivers (the Indus, Jhelum and Chenab), subject to the right of India to use some of the water for irrigation, the generation of hydroelectric power, and other designated purposes before the rivers crossed into Pakistan. Pakistan was to refrain from any interference with the waters of the Sutlej Main and Ravi Main and of their tributaries until the rivers had finally flowed into Pakistan, but was permitted by way of exception to take water for domestic use, non-consumptive use and certain limited agricultural use. Similarly, India was to refrain from any interference with the waters of the Indus, the Jhelum and the Chenab, except for domestic use, non-consumptive use, and certain limited agricultural use and power generation.

During a 10-year transitional period, India was to limit its withdrawals for agricultural use, to limit its abstractions for storage, and to make deliveries to Pakistan from the Eastern Rivers. The period of transition could be extended for further periods up to a total of three years if Pakistan required additional time to secure replacement waters, but was in no event to terminate later than March 31, 1973.93 94

Because Pakistan was no longer to have water from the Eastern Rivers, a system of works was required in order to transfer water from the Western Rivers to the canal system of Pakistan. These works would permit substantial additional irrigation development, develop 3,000,000 kW of hydroelectric potential, contribute to soil reclamation and drainage by lowering water levels in water-logged and saline areas, and give some protection from floods.95

A Permanent Indus Commission consisting of two Commissioners (one appointed by India and another by Pakistan) was to establish and maintain cooperative arrangements for the implementation of the Indus Treaty. The commission was to promote cooperation between the parties in the development of the waters of the rivers, and in particular to study matters referred to it to help resolve questions concerning the interpretation or application of the Treaty, and to make tours of inspection.

The Commissioner, unless either government decides to take up any particular question directly with the other government, is the representative of his government for all matters arising out of the Treaty and serves as the regular channel of communication on all matters relating to the implementation of the Treaty. As the Commission comprises the two commissioners who are the representatives of their governments, the decision on a matter can only be taken by agreement.

Elaborate provisions concerning the settlement of differences and disputes are included in the Treaty. The task of dealing with disputed questions in the first instance falls to the Permanent Indus Commission. If the Commission cannot agree, either Commissioner may have the “difference” deferred to a neutral expert who is to be a highly qualified engineer. If the “difference” does not fall under one of 23 established categories or the neutral expert decides that the “difference” should be treated as a “dispute”, the governments are to negotiate with the assistance of mediators if they so desire. Finally, the “dispute” may be laid before a Court of Arbitration if the parties agree to do so or at the request of either party if the dispute is not likely to be resolved by negotiation or mediation or one party or the other considers that the other is “unduly delaying the negotiations”.96

In the context of maintaining an ever-lasting peace, and in addition to the general scope of responsibilities pertaining to the administration of the Indus Basin assumed by the Permanent Indus Commission, the Indus Treaty also envisages assistance in basin administration from bilateral and multilateral organizations, including and in particular the World Bank.

93 See supra Note 75.
94 See supra Note 76.
95 See supra Note 76
96 See supra Note 76
If at any time the execution of works is unfavorably affected by hostilities beyond Pakistan's control, the World Bank would provide its good offices, with a view to reaching mutual agreement as to whether any modifications of the provisions of the Treaty are appropriate and advisable under the circumstances. The World Bank was also vested with responsibilities to designate the Neutral Expert, fix the remuneration, and to nominate the President of the Court of Arbitration.

Along with the Indus Waters Treaty, two other agreements were concluded. The first agreement, the Indus Basin Development Fund Agreement, was between Australia, Canada, Federal Republic of Germany, New Zealand, Pakistan, the United Kingdom and the United States of America, and the World Bank. The second one, pertaining to the implementation of the Indus Basin Project, was a Loan Agreement between Republic of Pakistan and the World Bank\(^{97}\).

- **Outcomes and results**

Beginning in 1960, the Indus Basin Development Project (IBDP) encompassed the design, financing, and construction of some one hundred projects in less than fifteen years including: Mangla dam on the Jhelum River; link canals with a conveyance capacity of 14 MAF per year; five new and remodeled barrages; extensive tubewell and drainage works; and Tarbela Dam on the Indus\(^{98}\).

Mangla Dam was constructed about 60 miles southeast of the Pakistan federal capital, Islamabad. The main structures of the dam include 4 embankment dams, 2 spillways, 5 power-irrigation tunnels and a power station. The project was designed primarily to increase the amount of water that could be used for irrigation. Its secondary function was to generate electrical power from the irrigation releases. The project was not designed as a flood control structure. Since its first impounding in 1967, sedimentation has reduced its live capacity from 5.34 MAF to 4.58 MAF\(^{99}\).

Tarbela Dam was the second such development. Approved by the World Bank in 1965, its construction started in 1968. The expected time of completion of the dam was April 1975, but it was built ahead of schedule and the test filling of the reservoir stated in July 1974. A serious problem occurred in all four tunnels at water levels of 1462 and the reservoir had to be depleted. After rectification, the dam was completed in 1977, but normal operation of the reservoir could not start before the *kharif* of 1978.

The Tarbela Dam is the largest earth and rockfill dam of the world and has a live storage of 4.2 MAF. Its primary function is to regulate the Indus River flows for the benefit of irrigation. A secondary function is the generation of electric power. Incidental benefits include limited flood control of the Indus River, a substantial contribution to tourism, commercial fishing possibilities and added employment opportunities during and after construction\(^{100}\).

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\(^{97}\) See *supra* Note 76.
\(^{100}\) Pakistan Water Gateway. Tarbela Dam. [http://www.waterinfo.net.pk/fstd.htm](http://www.waterinfo.net.pk/fstd.htm)
Some other works completed under the IBDP are shown in the following table:\textsuperscript{101}

<table>
<thead>
<tr>
<th>Description of Work</th>
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<tr>
<td><strong>Link Canals</strong></td>
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<td>Trimmu - Sidhnai</td>
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<tr>
<td>Sidhnai - Mailsi</td>
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<td>Mailsi - Bahawal</td>
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<td>Rasul - Qadirabad</td>
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<td>Qadirabad – Balloki</td>
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<tr>
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<td><strong>Barrages</strong></td>
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<td><strong>(Year of completion)</strong></td>
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<tr>
<td>Sidhnai (1965)</td>
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<td>Marala (1968)</td>
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<td>Mailsi (Siphon) (1965)</td>
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<td><strong>Remodelling of Existing Works</strong></td>
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<td>Balloki – Suleimanksi Link I</td>
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<td>Marala – Ravi Link</td>
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<td>BRBD Link</td>
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<td>Balloki Headworks</td>
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\textbullet\textit{Assessment of outcomes/results by involved stakeholders}

The Indian agricultural revolution of the 1960s and 1970s owes a great deal to the Indus Treaty because, through major financial contributions from supportive countries, new link canals, dams and reservoirs could be built that helped raise the agricultural performance of Punjab and extended the Indus canal network to Rajasthan. Similarly, the construction of large reservoir and canal networks has increased Pakistan’s food production immensely\textsuperscript{102}.

With institutions like the Permanent Indus Commission, which tend to depoliticise disagreements, the resolution of disputes – mainly over shares – has become smoother, more efficient and far less likely to be incorporated in a wider political or ideological confrontation. Limiting any quarrel to purely technical dimensions was one of the major objectives of the treaty architects. The basic precondition for this institution to work

\textsuperscript{101} Asianics Agro-Dev. International (Pvt) Ltd. 2000. Tarbela Dam and related aspects of the Indus River Basin, Pakistan, A WCD case study prepared as an input to the World Commission on Dams, Cape Town, www.dams.org

\textsuperscript{102} Paukert, M., 2002. Report The Indus Umbilical, Himal South Asian, Pakistan Special

\url{http://www.himalmag.com/2002/july/report_3.htm}
successfully is transparency, with each side required to exchange river data through regular communication and adhere to agreed-upon mechanisms of co-ordination. Plans for constructions like barrages that might alter a river’s flow significantly, thereby leading to changes in water release schedules as fixed in the treaty, are to be put forward in advance so they may be discussed by the commissioners. The commission has achieved its stated goals\(^\text{103}\).

According to Salman and Upetry\(^\text{104}\), the establishment of the Indus Basin Development Fund and the role played by the World Bank therein are particularly noteworthy illustrations of the potential role of international financing organizations that are able to mobilise expertise and sizable international financial resources for development. At various stages, the World Bank could politely impose its independent proposals. Pakistan, being a lower riparian, was not prepared to risk breakdown of negotiations for that reason. India’s own second five-year plan depended on massive economic aid from the World Bank and from the developed World Bank member countries. These exogenous factors enhanced the effective role of the World Bank in the negotiations. Indeed, the World Bank did not have political power but ability to bring together several countries. With the financial commitment it was a third-party inducement to the successful resolution of the dispute. The effort by the World Bank in bringing India and Pakistan to the mediating table and keeping them there until the Treaty was signed, is also a testimony to the Bank’s commitment to resolving international water disputes\(^\text{105}\).

According to by M. Paukert\(^\text{106}\), “despite shared expectations to the contrary, transboundary water sharing comes relatively easy to India and Pakistan – providing a sign of hope that a good treaty can bridged troubled waters”. Applying modern international law on transboundary watercourses, the Indus is defined as the common property of all riparians, serving the needs of all without requiring lower riparians to renounce vital interests. In fact, the detailed treaty provisions – accompanied by a second document on development schemes and their budget (the Indus Basin Development Fund Treaty) – place India, as the upper riparian, in a position of responsibility over its neighbour. Under the terms of the treaty, Indian withdrawals for both non-consumptive uses like power generation and consumptive uses like irrigation are limited so as to leave enough water to sustain Pakistan’s vital needs.

The treaty focuses on a particular sector – irrigation – and a particular region, the Punjab. Other sectors (such as power generation) and regions (such as Kashmir) are only marginally addressed or left out altogether. In the light of this, the current criticism by Jammu and Kashmir – in the form of a legislative assembly resolution calling for a review of the treaty – addresses the inequitable allocation of funds. Unlike Punjab, Kashmir has neither significant federal nor international financial support to develop the great potential of the rivers for power generation and irrigation\(^\text{107}\).

Amending this comprehensive treaty could include the integration of environmental concerns, like salinity, and enhanced economic measures to support the needs of other riparian states like Kashmir and Sindh. Such regional coordination and cooperation may not after all be wishful thinking, as indicated by the recent decision of meteorological experts from Bangladesh, China, India, Nepal and Pakistan to establish the Hydrological Cycle Observation System (HYCOS) to improve flood management through regional data exchange. With resource issues that transcend purely national considerations, it can be useful to build bridges between countries\(^\text{108}\).

\(^{103}\) See supra Note 102.  
\(^{104}\) See supra Note 76.  
\(^{105}\) See supra Note 76.  
\(^{106}\) See supra Note 102.  
\(^{107}\) See supra Note 102.  
\(^{108}\) See supra Note 102.
4.3.3. Overall Conclusions

The conclusion in 1960 of the Indus Waters Treaty between India and Pakistan was a remarkable achievement. After a long period of negotiations carried out under the auspices and mediation of the World Bank, the Indus Waters Treaty brought to an end the long-standing dispute between India and Pakistan on the use of the waters of the Indus River systems for irrigation and hydropower.\(^{109}\)

The Indus Treaty is a relevant example of successful settlement of a major international river basin conflict. Also it is the first dispute regarding water use in which an international organisation played a successful mediating role in resolution. Even if it was far from an optimum economic solution and failed to cover vital drainage issues, the Treaty is regarded as a major achievement as it has been able to divide the Indus and its tributaries unambiguously between the riparians. The fact that there were six rivers in the system offered the simple solution of the three Western Rivers (the Indus, Jhelum and Chenab) being reserved for consumptive use by Pakistan, and the three Eastern Rivers (the Ravi, Beas and Sutlej), being reserved for consumptive use by India. The Treaty’s originality has contributed importantly to its success. The allocation of the waters of the three rivers to India and three to Pakistan is in the nature of a territorial division. Since the Treaty was signed, the two parties have not had to deal jointly with water administration other than to enforce the Treaty’s terms and iron out some practical difficulties.\(^{110}\)

The Treaty has also set an optimistic tone. Thanks to protracted negotiations, the dispute that had brought the two countries to the brink of war was resolved with the emergence of an effective Treaty. Also noteworthy is the fact that the critical discussions were taken at a political level, but the protracted and complex negotiations were between senior professional engineers. India’s chief negotiator was always an irrigation engineer and Pakistan was represented for some time by an engineer who was replaced by a senior administrative civil servant. It follows then that in delicate issues involving rivers shared among nations, the decision-makers at the highest level of government must be brought into the process.\(^{111}\)

4.3.4. Complementary Bibliography


\(^{109}\) See supra Note 76.


\(^{111}\) See supra Note 76.
4- Description of relevant examples: Indus Basin


- The Indus Basin Development Fund (Supplemental) Agreement, 1964

- Transboundary Freshwater Dispute Database. Indus Water Treaty. Case Summary.
http://www.transboundarywaters.orst.edu/projects/casestudies/indus.html
4.4. Ganges River

- **Key issue addressed**
  
  International Policy in Shared River Basins.
  
  - Need for negotiation/departing situation: Unilateral initiative from one State.
  - International community/actors: UN bodies.
  - Nature of involvement of the international community: Neutral mediator / facilitator.
  - International framework referred to: International principles.
  - Scope: Specific project and location, river basin development.
  - Main issues dealt with by agreement: Water resources allocation.
  - Negotiation and implementation mechanisms: Commissions, joint committees.

- **Integration**
  
  
  A Partial Accord for the test running of the Farakka feeder canal through diversion of waters from the Ganges, 18 April 1975.
  
  
  Indo-Bangladesh Memorandum of Understanding on the sharing of the Ganges, 7 October 1982.
  
  Memorandum of Understanding, 22 November 1985.
  

- **Implementation**
  
  Sharing of waters of the Ganges River; Bangladesh and India
  
  **Stage regarding the project life cycle.**
  
  Implementation.

4.4.1. **Description of the framework**

- **General description of the country institutional set up where the specific policy/normative is located**
  
  On April 10, 1971, the proclamation of independence of the People’s Republic of Bangladesh (which was until then East Pakistan) was issued. The turn of events that followed resulted in wide scale violence within Bangladesh, and the eruption of a full-scale war between India and Pakistan. The geopolitics of the South Asian Sub-continent at that time forced the newly emerging nation of Bangladesh into close ties with its mighty neighbour, India.
  
  A Joint Communique issued on February 8, 1972 had already identified two pressing bilateral issues. One of them was the Farakka Barrage that India had built to divert some of

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112 Treaty Between the Government of the Republic of India and the Government of the People’s Republic of Bangladesh on Sharing of the Ganga/Ganges Waters at Farakka, signed on December 12, 1996. [http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/172ENG.htm](http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/172ENG.htm)
the waters of the Ganges River (see Map 4) away from Bangladesh to the Hooghly River that flows toward Calcutta. Ironically, the Barrage was completed in the very same year that Bangladesh emerged as an independent nation with the help of India. Work in the feeder canal had already started and would continue at the time India and Bangladesh were trying to strengthen and formalise their relationship. The barrage would continue to be the single most important and difficult issue in the relationship of the two nations for the next quarter of a century.  

The process of strengthening the ties between the two countries continued. On March 19, 1972 the two Prime Ministers signed the “Treaty of Friendship, Cooperation and Peace between the Republic of India and the People’s Republic of Bangladesh”. The Treaty would come into force with immediate effect and would remain in force for 25 years.


Shared water resources and the problems associated therewith figured out quite prominently in the relationship of India and Bangladesh from the very start. Fifty-four rivers, including the three large ones, the Ganges, Brahmaputra and Meghna, are shared between India and Bangladesh, with Bangladesh being the lowest riparian for all of them. Utilisation of those rivers, particularly the Ganges, has been a hotly contended issue. It is worth mentioning that no agreement had been reached between India and Pakistan, prior to the emergence of Bangladesh, on any of those rivers.\(^{115}\)

During the 1950s and 1960s, Pakistan had strongly opposed the construction of the barrage, and tried different diplomatic channels to stop its construction, by insisting that any decrease in the flow of the Ganges would negatively affect irrigation, water supply, fishery production, groundwater tables, and river navigation, and would worsen the problem of salinity.

India had maintained for much of the dispute that the Ganges was not an “international river”. To have entered into negotiations with Pakistan would have been a denial of this line of argument. This claim was based on the fact that about 80 percent of the Ganges Basin area lies in India. However, despite the contention that the Ganges was not an international river, and as such was not subject to international negotiations, India denounced on March 26, 1956 the “International Convention and Statute Concerning the Regime of Navigable Waterways of International Concern, 1921”, commonly known as the Barcelona Convention. Pakistan protested that denunciation by India, concluding that the action was meant to enable India to go ahead with the construction of the Farakka Barrage without being accused of breaching its international obligations. India replied that that Convention and Statute dealt with only some aspects of inland navigation and its purpose had been superseded by the General Agreement on Tariffs and Trade (GATT).\(^{116}\)

It should be recalled that during those years, negotiations between India and Pakistan over the Indus River, which were mediated by the World Bank, were progressing well and culminated in the signing of the Indus Treaty on September 19, 1960. With this in mind, Pakistan proposed to India the intervention of an agreed United Nations body to assist in the cooperative development of the Eastern Rivers. But India was not persuaded. In 1962 Pakistan proposed the construction of the Ganges Barrage on the Ganges River in East Pakistan, close to the borders with India. The barrage would be used for restoring the wet season flow of the Ganges for use during the dry season. In 1969, Pakistan presented the feasibility report to India. However, India viewed the idea of the Ganges Barrage as a measure against the Farakka Barrage. The idea of the Ganges Barrage kept emerging during the different eras of the dispute.\(^{117}\)

- **Detailed description of the specific policy/normative framework addressing the key priority issue**

As regards the area of water resources within the Treaty of Friendship, Cooperation and Peace, the parties agreed “to make joint studies and take joint action in the fields of flood control, river basin development and the fields of hydroelectric power and irrigation”.

Subsequently, during the period of more than twenty years since the Farakka Barrage was commissioned, four agreements were concluded between India and Bangladesh on sharing the waters of the Ganges during the dry season, and on attempts to reach an agreement on

\(^{115}\) See supra Note 113.

\(^{116}\) See supra Note 113.

augmenting its flow during such season. However, each of those four agreements was a short-lived one, and both parties viewed each as an interim arrangement during the search for the long-term solution of augmenting the flow, which has not yet materialised. The last of those interim agreements, the 1985 Memorandum of Understanding (MOU), expired on May 31, 1988, leaving behind a vacuum that lasted for more than eight years.

This vacuum was filled by the signing on December 12, 1996 of a Treaty known as the “Treaty between the Government of the Republic of India and the Government of the People’s Republic of Bangladesh on Sharing of the Ganga/Ganges Waters at Farakka”. The Treaty is to remain in force for a period of thirty years, and “shall be renewable on the basis of mutual consent”.

A distinguishing factor between the previous agreements and the Treaty is that this one prescribes an actual formula for sharing the waters of the Ganges between the two countries, in addition to including an indicative schedule giving the implication of the sharing arrangements under the formula, whereas the previous agreements included only a schedule for sharing the waters. It should be added, however, that both the previous agreements and the Treaty deal only with the issue of sharing the waters during the dry, or lean, season. For the remaining part of the year - the rainy season, or the monsoon - the issue is rather the flood control. Moreover, like the previous agreements, the Treaty also recognises the necessity of augmenting the flow of the Ganges during the dry season as the long term solution to the problem of shortage of the waters.

Other important features distinguishing the previous agreements and the Treaty is the basis for calculating the flows of the Ganges reaching Farakka during the lean season. Under the previous agreements, the average flow of the Ganges reaching Farakka was based on 75% water availability from observed data for the 25 year period between 1948 and 1973. Under the Treaty, the figures under the indicative schedule are based on the average total flow (and not 75% availability) of the Ganges during the 40 year period between 1949 and 1988. As a result, the average total flow of the Ganges under the Treaty for each ten-day period exceeds the average flow under the previous agreements for the same period by a margin of almost 10% for each such period, which means that the Treaty assumed a higher level of water availability than the previous agreements.

The previous agreements included provisions dealing with the cases of exceptionally low flow of the Ganges. The 1977 Agreement included a clause which guaranteed Bangladesh a minimum of 80% of its share during each ten-day period, however low the flow of the Ganges may be during that period. However, the guarantee clause was a short lived one. It was not included in either of the 1982 or 1985 MOUs. Instead it was agreed by the two parties, under both MOUs, that in case of exceptionally low flow of the Ganges, the two governments would “hold immediate consultation and decide how to minimise the burden to either country”.

The Treaty does not include, in the case of exceptionally low flow of the Ganges, any guarantee to Bangladesh, either similar to the guarantee clause in the 1977 Agreement, or even the burden sharing arrangements included in the MOUs. Instead, the Treaty addressed the situation where the flow at Farakka falls below 50,000 cusecs in any ten-day period, and states that, in such a situation, “the two governments will enter into immediate consultations.

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to make adjustments on an emergency basis, in accordance with the principles of equity, fair play and no harm to either party.\footnote{119}

It should also be added that the sharing arrangements under the Treaty are not binding on the parties for the entire thirty year period of the Treaty, which states that the sharing arrangements “shall be reviewed by the two governments at five years’ interval, or earlier as required by either party, and needed adjustments, based on principles of equity, fairness and no harm to either party made thereto. If necessary, it would be open to either party to seek the first review after two years to assess the impact and the working of the sharing arrangements as contained in the Treaty. In addition, it stipulates that in the absence of mutual agreement on adjustments following reviews, India shall release downstream of Farakka Barrage, water at a rate not less than 90% of Bangladesh's share, until such time as mutually agreed flows are decided upon.\footnote{120}

- **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring**

A Joint Declaration issued at the end of the visit of the Prime Minister of India to Bangladesh on March 19, 1972 had included the decision “to establish a Joint Rivers Commission comprising the experts of both countries on a permanent basis to carry out a comprehensive survey of the river systems shared by the two countries, formulate projects concerning both the countries in the fields of flood control and to implement them”. The Joint Declaration had gone on to state: “Experts of the two countries are directed to formulate detailed proposals on advance flood warnings, flood forecasting, study of flood control and irrigation projects on the major river systems and examine the feasibility of linking the power grids of Bangladesh with the adjoining areas of India, so that the water resources of the region can be utilised on an equitable basis for the mutual benefit of the people of the two countries”. In addition, “the Commission shall also perform such other functions as the two governments may, by mutual agreement, direct it to do.”\footnote{121}

On June 26, 1972, in its first meeting, the Joint Rivers Commission decided to set up a joint study group to assess the flood situation in the eastern region of Bangladesh and adjacent areas in India and formulate possible short-term and long-term measures for reducing the flood damage in this area. On November 24, 1972, the two countries signed the Statute of the Indo-Bangladesh Joint Rivers Commission.

On the other hand, subsequently, under both the previous agreements and the Treaty, a Joint Committee of representatives of both Governments was established. It was authorised to set up suitable teams at several sections to observe and record the daily flows. The main responsibility of the Committee is implementation of the arrangements made, and examining any difficulty arising out of the implementation of those arrangements, and of the operation of the Farakka Barrage.\footnote{122}

- **Brief description of the implementation history of the norm, including enforcement and compliance aspects**

Although the Treaty provides a fair and equitable framework for sharing the waters of the Ganges river between India and Bangladesh during the dry season, implementation of the sharing arrangements will depend to a large extent on the availability of sufficient water in the Ganges during such season which, judging by the flow of the Ganges during the dry season in 1997, may not always be the case. Hence, an agreement on how to augment the

\footnote{119}{See supra Note 113.}
\footnote{120}{See supra Note 118.}
\footnote{121}{See supra Note 113.}
\footnote{122}{See supra Note 113.}
4- Description of relevant examples: Ganges River

flow of the Ganges during the dry season seems to be the most viable solution to the problem of the dry season flow.

Regarding any difference or dispute, if the Joint Committee failed to resolve it, under the previous agreements, such difference or dispute would be referred to a panel of equal number of experts, and if this panel also failed to resolve such dispute, then it would be referred to the two governments, who would handle the issue at the appropriate level. However, the Treaty revived the Indo-Bangladesh Joint Rivers Commission and instructed the Joint Committee to refer to it any difference or dispute that the Joint Committee could not resolve. If the Joint Rivers Commission fails to resolve such a difference or dispute, then the Treaty directs that the matter “be referred to the Governments which shall meet urgently at the appropriate level to resolve it by mutual discussion”. As such, the parties opted for political means, and not arbitration, as the method for resolving any difference or dispute arising out of the implementation of the Treaty.

4.4.2. Description of the example

- Project description

The Ganges river, known in India as the Ganga, and in Bangladesh as the Padma, is an international river to which India, Bangladesh, Nepal and to a small extent China are the riparian states. Within India the river is an inter-state river. It originates in the state of Uttar Pradesh where it is known as the Bhagirathi, and is joined by a number of tributaries originating inside India such as the Yamuna, the Tons and the Gomti. It is also joined by other tributaries originating in Nepal such as the Kamala and the Bagmati, and in the Nepal-China border, in Tibet, such as the Kosi and Gandak. They account for about 45 percent of the Ganges flow.

The delta of the Ganges starts at Farakka, in the state of West Bengal. Downstream from Farakka the river splits into two: the Padma which flows east-ward forming the boundary between India and Bangladesh for about 80 miles before entering Bangladesh, and the Bhagirathi which continues to flow southward into West Bengal. After the Bhagirathi is joined by the Jalangi river, it is known as the Hooghly river. Calcutta city, the capital of West Bengal and one of India’s most important ports, is situated on the Hooghly river. South of Calcutta, the Hooghly is joined by the Damodar river and flows into the Bay of Bengal.

In Bangladesh, the Padma, is joined by both the Brahmaputra river, which is known in Bangladesh as the Jamuna river, and also by the Meghna river. The combination of the three rivers, which continues to be called the Padma, splits downstream into a number of channels, all flowing into the Bay of Bengal. The total length of the Ganges is about about 2,500 kilometers. About 80% of the Ganges basin is in India, about 18% in Bangladesh and about 2% is in Nepal and China.

The seasonal variations in the flow of the Ganges are so acute that they can result in both drought and floods. During the dry season from January to May every year, drought could prevail. On the other hand, Bangladesh suffers from severe floods during the monsoon, which lasts from June to September when the melting snow of the Himalayas and the heavy rain in the region reach Bangladesh through the three mighty rivers and the smaller ones, on their way to the Bay of the Bengal. This situation is made worse by the monsoon rain in Bangladesh. About 2.6 to 3 million hectares are flooded annually.

The dispute over the Ganges erupted as a result of India's decision to construct the Farakka Barrage, about 10 miles from the borders with Bangladesh that was then East Pakistan. The

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123 See supra Note 113.
124 See supra Note 118.
125 See supra Note 113.
Farakka Barrage, India contended, was needed to divert enough waters from the Ganges to the Hooghly River to maintain its flow and make it navigable, and thus make the Calcutta Port accessible, by flushing down the silt that gradually deposits in it. Other incidental reasons for the barrage were to overcome the problem of salinity, and to provide water to Calcutta for irrigation, domestic and municipal purposes.

The decision to construct the Farakka Barrage was made in 1951. Actual work on the barrage started in 1961 and was completed in 1971. The feeder canal from the barrage was completed in 1975 and the barrage came into operation on April 21, 1975. The purpose of the barrage was to ensure that the Hooghly River would receive, however low the flow of the Ganges may be, up to 40,000 cubic feet per second (cusecs) of water diverted from the Ganges. With the assumption that the availability of water in the Ganges at Farakka in the worst lean season would be around 50,000 to 55,000 cusecs, the remaining 10,000 to 15,000 cusecs would be released to East Pakistan.

• Implementation of the key issue

As mentioned before, the Farakka Barrage was completed in the very same year that Bangladesh emerged as an independent nation with the help of India. Work in the feeder canal had already started and would continue at the time India and Bangladesh were trying to strengthen and formalise their relationship.

Their successive joint declarations kept expressing confidence that a mutually satisfactory solution to the issue of the Farakka Barrage would be arrived at soon. The tide was clearly flowing in favor of the commissioning of the Farakka Barrage.

On April 18, 1975, Bangladesh agreed to the test running of the feeder canal through diversion of waters from the Ganges. A Partial Accord was announced in a joint press release and as such, was not signed by the parties. The Accord stated that “while discussions regarding allocation of fair weather flow of the Ganga during lean months are continuing, it is essential to run the feeder canal of the Farakka Barrage during the current lean period”.

Thus the Farakka Barrage came into operation, taking the Indo-Bangladesh relationship into another chapter. India had finally fulfilled its quarter-of-a-century-old plan of diverting the waters of the Ganges to the Calcutta Port, and did so through an agreement rather than unilaterally, thus giving legitimacy to its initial controversial and contested action. Bangladesh culminated its acceptance of the barrage, not only through an accord, but it also sent a delegation to attend the inauguration of the Farakka Barrage.

The share of Bangladesh during the remaining period of 41 days of the lean season of 1975 represented about 77 percent of the total amount of water for that period, while the share of India for the same period was about 23 percent. The Accord lasted only for that remaining period. It expired on May 31, 1975, and was not renewed or replaced by another agreement. India started withdrawals to the full capacity of the feeder canal of 40,000 cusecs after expiry of the Accord. However, because such withdrawal was begun during the monsoon season, its effects were not immediately felt in Bangladesh.

The Joint Rivers Commission held six meetings between June 1974 and June 1975, and one of the main issues discussed was the augmentation of the flow of the Ganges River. India proposed augmenting its flow through diversions from the Brahmaputra by a link canal connecting the two rivers. Bangladesh proposed storage reservoirs in the upper reaches of the Ganges in India and Nepal. The impasse over their contrasting proposals would last for the next 21 years.

126 See supra Note 113.
127 See supra Note 113.
128 See supra Note 113.
Relations between the two countries started to deteriorate. The Accord of 1975 appeared in retrospect to have been a miscalculation on the part of Bangladesh. It gave India the right to commission the barrage without a real quid pro quo in terms of fixed amounts of releases to Bangladesh for a reasonable number of years until the issue of augmentation was agreed upon. Now that the feeder canal was working to its full capacity, Bangladesh's argument that the 1975 Accord was just for test running the feeder canal did not seem to carry much weight. It was not reasonable for Bangladesh to expect India to close the gates to the feeder canal, after test running it for six weeks of the dry season and seven months of the monsoon season. Perhaps the Prime Minister of Bangladesh was optimistic of working out some kind of an agreement with his Indian colleague during the wet season of 1975. That might have been the basis of his agreement to the test-running of the feeder canal, and perhaps that might have been the reason why the agreement was termed Partial Accord.

India continued diversion of the water of the Ganges to the full capacity of the feeder canal after the end of the monsoon season and during the lean season of 1976. The bilateral talks were showing no progress, and the relations between the two countries continued to deteriorate.

On August 21, 1976, Bangladesh decided to take its dispute with India to the United Nations. India indicated its regret that Bangladesh had interrupted the process of bilateral negotiations and had sought to internationalise the issue. In preparation for the discussion of the issue at the United Nations, Bangladesh prepared in September 1976, a White Paper on Farakka, describing the disastrous effects the withdrawal had on Bangladesh. The paper chronicled the events from 1951 until 1976 and concluded by stating that India's repeated assurances of safeguarding the legitimate rights of both countries will be demonstrated by her restoring the normal flow of the Ganges to Bangladesh and agreeing to a permanent solution to the problem by the cooperative efforts of the co-riparian countries through construction of storages in the Ganges Basin. India responded by issuing its own paper on India's Case of the Farakka Barrage, which addressed the points raised by Bangladesh and tried to negate them.

Both papers discussed the principles of international water law and both claimed that those principles favoured their position in the dispute over the Ganges. Both countries referred to the Helsinki Rules and cited Article IV that “each basin state is entitled within its territory to a reasonable and equitable share in the beneficial use of the waters of an international drainage basin”. However, Bangladesh enumerated its uses of the water of the Ganges River and claimed that those were existing uses that have been made for centuries, resulting in a pattern of interdependence between land, water and human life, whereas the use of the Ganges by India for the Calcutta Port was totally new and a wasteful use as the silt could be removed by dredging the channel. In this regard, Bangladesh quoted Article VIII of the Helsinki Rules which states: “An existing reasonable use may continue in operation unless the factors justifying its continuance are outweighed by other factors leading to the conclusion that it be modified or terminated so as to accommodate a competing incompatible use”. Bangladesh also invoked the theory of injury claiming that the injury caused to Bangladesh through the diversion of the waters to the Hooghly River was clear and substantial, quoting Principle 21 of the Declaration on the Human Environment.

India’s reply was that the Helsinki Rules do not oblige the upper riparian to leave intact the existing quantum of flow, and that insistence on the historical or natural flow was a total denial of the principle of equitable sharing enshrined in the Helsinki Rules, and amounted to an exercise of a veto on the rights of the upper riparian’s right to a reasonable and equitable share.

The decision of Bangladesh to take the dispute over the Ganges River to the United Nations represented a major escalation in the dispute and indicated the extent of deterioration of the relationship between the two countries. Bangladesh was able to muster enough support to get
4- Description of relevant examples: Ganges River

the issue included in the agenda of the thirty-first session of the General Assembly, and to have it discussed in the political committee. Bangladesh presented a resolution but was not able to muster enough support for it. Instead, a Consensus Statement was adopted on November 26, 1976, which included, among other points for the parties, the affirmation of their adherence to the Declaration on Principles of International Law concerning Friendly Relations and Cooperation among States; the agreement that the situation called for an urgent solution, particularly with the onset of another dry season; the agreement to meet for negotiations with a view to arriving at a fair and expeditious settlement; the undertaking to give due consideration to the most appropriate ways of utilising the capacity of the United Nations system, and that either party could report to the General Assembly at its thirty-second session on the progress achieved in the settlement of the problem131.

The Consensus Statement adopted in November 1976 by the United Nations General Assembly proved to be a jump starter to the Indo-Bangladesh negotiations over the Ganges. However, the political change that resulted from the elections in India in March 1977 proved more important to the Ganges dispute. The new Government moved quickly in the direction of reaching an agreement with Bangladesh. After a series of ministerial level meetings and lengthy negotiations, the two parties were finally able to define the issues for an agreement: a temporary arrangement for sharing the waters of the Ganges while a long-term solution for augmenting its flow during the dry season was being sought.

An Agreement specifying the share of each country was signed on November 7, 1977, about seven weeks before the start of the 1978 lean season. The preamble emphasised the desire for finding a fair solution of the question for the parties “without affecting the rights and entitlements of either country other than those covered by this Agreement, or establishing any general principles of law or precedent”. Clearly, India did not want the Ganges Agreement to tie its hands in any future negotiations over any of the more than 50 rivers that it shares with Bangladesh as an upper riparian.

Less than a month before the expiry of the 1977 Agreement, the two countries concluded a new one. The Memorandum of Understanding (MOU) on the sharing of the Ganges was signed on October 7, 1982. It was recognised that the basic problem was one of inadequate flow of the Ganges during the dry season and agreed on the need for a long-term solution for augmenting such a flow. They also agreed on sharing the waters of the Ganges while the long-term solution was being pursued. The Joint Rivers Commission was entrusted with the responsibility of completing the pre-feasibility study and deciding upon the optimum solution within 18 months of signing the 1982 MOU132.

On November 22, 1985 a new MOU was signed, for three years, reiterating the water allocation for each country under the 1982 MOU, and setting out the terms of reference of a joint study to be undertaken by experts from the two sides on the available water resources common to both countries, in order to identify alternatives for the sharing of such water resources, including the long-term scheme/schemes for augmentation of the flows. As such, the scope of the study went beyond the scope of the previous studies, by including the identification of alternatives for sharing the common river system.

The study would be carried out by a new committee called the “Joint Committee of Experts” consisting of the secretaries concerned of the two governments and the two engineering members of the Joint Rivers Commission from each side. Bangladesh pressed for the storage reservoirs in the upper reaches of the Ganges and called for the involvement of Nepal, and also raised the issue of sharing the Teesta river. On the other hand, India pressed for using the waters of the Brahmaputra. The two countries were left with interim arrangements that would last for two more years for the Ganges, and one more year for the Teesta. Those are

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131 See supra Note 113.
132 See supra Note 113.
the only two rivers, out of the 54 shared ones, where the two countries had agreements. With the deadlock over the Ganges, no agreement on any other river was expected\textsuperscript{133}.

In August 1988, Bangladesh was devastated by floods, with almost two-thirds of the country submerged. On August 30, 1988, the Ganges flow in Bangladesh reached 72,300 cumecs. The momentum and goodwill between India and Bangladesh created by cooperation over the floods was washed away on accusations and counter-accusations on their causes.

In December 1988, Bangladesh proposed a permanent sharing of the Ganges flow at Farakka exactly in the same quantum of waters agreed upon under the 1985 MOU, together with the burden of sharing provisions in case of exceptionally low flow. This concession from Bangladesh was indeed understandable, with another dry season about to start. India kept insisting that any water sharing arrangement should be linked to a study of proposals to augment the flow of the Ganges during the dry season. With no agreement for sharing the dry season flow, India continued its diversions, and again Bangladesh began to complain about the adverse effects of India's withdrawals\textsuperscript{134}.

The Joint Rivers Commission held its thirty-first meeting in June 1990, which turned out to be the last meeting for a long time, confirming that without the resolution of the Ganges dispute, the parties would simply not be able to discuss meaningfully the sharing of any other river.

The diversions of the Ganges to the full capacity of the feeder canal continued and in March 1993, the flow of the Ganges in Bangladesh was reported to be 9,761 cusecs, the lowest since the feeder canal was commissioned in 1975. With no sharing agreement in sight, and with direct communications growing poorer, Bangladesh raised the issue again at the United Nations, by accusing India, in October 1993, of failing to live up to its pledges on the question of water sharing. India immediately condemned this move and accused Bangladesh of playing politics with important river water issues. Under those circumstances, it looked quite clear that unless some major political changes took place in both countries, the deadlock would last for a long time.

Major political changes did, indeed, take place in both India and Bangladesh in 1996. The new Foreign Minister of India, Inder Kumar Gujral, announced that India needed to be more generous with its smaller neighbours in seeking more regional cooperation, and should not always expect a quid pro quo in such dealings. This principle - which came to be known as the Gujral Doctrine - was a major factor in shaping the political and economic relations of India with its neighbours during the years that his party was in power\textsuperscript{135}.

- **Outcomes and results**

On December 12, 1996 the two countries finally signed a Treaty on sharing the Ganges. The signing of the Treaty was certainly a major breakthrough in the attempts to resolve the long-standing dispute.

The sharing arrangements under the Treaty followed the principles of equitable and reasonable utilisation. There was no longer insistence from Bangladesh on the historical flow, historical rights or natural flow. India, on the other hand, was no longer insisting that the Ganges was an overwhelmingly Indian river, and demanding a proportionate share of its waters. The recognition of the equality of right over the waters of the Ganges led almost to an equal division of such waters\textsuperscript{136}.

\textsuperscript{133} See supra Note 113.
\textsuperscript{134} See supra Note 113.
\textsuperscript{135} See supra Note 113.
\textsuperscript{136} See supra Note 113.
A few months after the Treaty was concluded, actual availability during the first lean season of the Treaty was far less than the average flow of the Ganges for the period 1949-1988. Since the flow of the Ganges continued to be below 50,000 cusecs, Bangladesh, without a guarantee clause similar to that of the 1977 Agreement, or sharing arrangements like those of the 1982 and 1985 MOUs, asked India for “immediate consultation to make adjustments on an emergency basis” as stipulated by the Treaty. India agreed to hold immediate consultation with Bangladesh, and a series of meetings were held in both Dhaka and New Delhi. However, aside from reiterating the commitment of the two countries to the Treaty, those meetings did not result in any adjustments to the share of either country, nor in any concrete actions on how to handle the situation.

As such, the issue of augmentation of the flows of the Ganges during the dry season remained unresolved, and the expansion of the scope of the joint study, and the change of the entity entrusted with the study, from the Joint Rivers Commission to the Joint Committee of Experts, did not seem to have made any difference.

An analysis of Bangladesh’s and India’s papers prepared for their presentations before the United Nations shows their different positions and interpretations under International Water Law. India’s position seemed initially to lean toward the principle of “absolute territorial sovereignty”, according to which a riparian state has an unrestricted right to regulate and use within its territory the waters of an international river basin. However, its paper presented its case on the principle of equitable apportionment, claiming that on the basis of the factors laid down in Article V of the Helsinki Rules, it was entitled to that amount, but parrying the question of the diversion itself. On the other hand, Bangladesh seemed to rely on three principles: the principle of prior appropriation, which it referred to in terms of “existing uses” and “natural flow”, equitable apportionment and the obligation not to cause appreciable harm.

The reliance of each party on the principle of “equitable and reasonable utilization”, and interpreting the principle to favour its position, is worth noting. Because India has viewed the Ganges as largely an Indian river, the invocation of the principle of equitable and reasonable utilisation seemed logical. On the other hand, for Bangladesh as a lower riparian invoking, inter alia, the obligation not to cause appreciable harm which Bangladesh linked to the notion of “existing rights” was natural and to be expected. Those positions underscore the problems associated with interpretation and application of some of the basic principles of international water law.

It is a major breakthrough that India and Bangladesh have succeeded in signing a long-term treaty on the sharing of the waters of the Ganges during the dry season, thus filling the vacuum that prevailed since the expiry of the 1985 MOU on May 31, 1988. The most important outcome of the Treaty is that it has created a conducive atmosphere for discussing and deliberating on a number of water related issues between the two countries, and possibly reaching agreements on some of those issues.

The first sign of such an atmosphere for discussing water related issues manifested itself in the meeting of the Indo-Bangladesh Joint Rivers Commission in Dhaka on July 19-20, 1997. This was the first meeting for the Commission in more than seven years and the delegation of each country was headed by the respective Minister of Water Resources. The Commission agreed to monitor and observe the implementation of the Treaty, and to

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137 See supra Note 113.
138 See supra Note 113.
undertake “joint scientific studies in accordance with terms of reference, which have been jointly finalised by the technical teams of the two countries”\textsuperscript{139}.

One question that keeps being raised by scholars interested in the Ganges is why the World Bank did not play any role in the Ganges dispute. The World Bank’s involvement in the Ganges actually started in 1958 with the financing a program of rehabilitation and improvement of the port of Calcutta. Three years later the Bank extended another loan for the Second Calcutta Port Project, with the objective of providing increased dredging capacity to deal with a rapid and unexpected siltation which gravely limited the draught of ocean-going vessels using the port.

In parallel to the above activities, it is worth recalling that in 1961 India had started to construct, with its own funds, the Farakka Barrage. The dispute that had gradually erupted between India and Pakistan apparently prompted the Bank to stop financing new projects for that port. It should also be emphasised that, contrary to some perceptions in Bangladesh, the Bank was not involved in any way in the financing of the Farakka Barrage.

Although the dispute continued during the 1960s and escalated as the work on the barrage progressed, the Bank did not get directly involved in the dispute until early 1976, when the then President of the Bank indicated that he was interested in a long-term solution of the problem and that he would do whatever he could in the matter even though India was not going to approach the Bank. On November 3, 1976 he visited Bangladesh, where he was presented with Bangladesh’s formulation for resolving the dispute. The short-term part of that formulation included an extension of the 1975 Partial Accord. On the long term, Bangladesh desired that the World Bank undertook a comprehensive study of the water resources of the Ganges Basin for the development of additional water supplies in the dry season as well as for multi-purpose benefits. The Bank President visited India after that, but no progress was reported. The Bank believed in an integrated approach to the entire Ganges Basin, as it initially had proposed for the Indus Basin\textsuperscript{140}.

In January 1977, the International Development Association (IDA), the soft-financing arm of the World Bank, agreed to finance a study on the environmental assessment of decreased Ganges flow in Bangladesh. The corresponding Report confirmed some of the claims made by Bangladesh, concluding that water-borne diseases would intensify with any decrease in fresh water in the Ganges-dependent area. It also concluded that the Sunderbans forest would be adversely affected, and severely endangered fauna would be increasingly threatened.

Despite several openings for intervention, the Bank was not able to play any role in the Ganges dispute. Although India accepted a role for the World Bank in the Indus Basin, that was not the case for the Ganges, where India insisted on a bilateral approach with no role for a third party. The funding capability of the Bank thus did not work as a powerful “stick and carrot” to let India have talks with Bangladesh\textsuperscript{141}.

4.4.3. Overall Conclusions

The Farakka Barrage has been, for about a quarter of a century, the focal issue that shaped the relationship between India and Bangladesh. As has been stated earlier, the Ganges Basin is one of the most populated and poorest basins in the world. Its challenges basin is tremendous: floods, drought and environmental degradation, including bank erosion. The challenges of the other shared water resources between India and Bangladesh are equally staggering. Those challenges can only be met through cooperation, and not just between India and Bangladesh. Nepal, China and Bhutan should be included in a wider Ganges-Brahmaputra-Meghna collaborative basin management arrangement. Such arrangement should go beyond the issue of

\textsuperscript{139} See supra Note 113.
\textsuperscript{140} See supra Note 113.
\textsuperscript{141} See supra Note 113.
quantitative sharing of the waters of those rivers to include other areas such as lean season augmentation, hydropower generation, flood control and environmental protection of those rivers. Any basin management arrangement will need to address immediately the issue of expansion and modernisation of the irrigation system and efficient use of the waters of those rivers

The 1996 Treaty is clearly a water sharing Treaty where the augmentation issue has taken a backseat. There are references to other common issues, but such references are cursory. For example, the preamble to the Treaty emphasizes the desire of the parties for sharing by mutual agreement the waters of the international rivers flowing through their territories, and making optimum utilisation of the water resources of the region. However, only one article of the Treaty deals with one of those issues, by stating that “both the Governments agree to conclude water sharing Treaties/Agreements with regard to other common rivers”. The other challenges posed by the Ganges or to the Ganges, such as floods and environmental problems, have not been addressed by the Treaty.

In July 1997, following conclusion of the Treaty and further discussion on the barrage, especially its location, India agreed to implement the Ganges Barrage project by Bangladesh. India indicated its intention to consider providing technical assistance through a Government of India Undertaking, which has the requisite expertise in this regard. India’s agreement is indicative of its belief that the era of the joint search for an augmentation solution for the Ganges lean flow has come to an end.

Bangladesh is currently carrying out studies on the design, cost and environmental and social impact of the barrage. The plan is to build it at Pangsha, 90 miles west of Dhaka. Bangladesh considers the barrage the best way for guaranteeing the success of the Treaty because the barrage would allow Bangladesh to make optimum use of the water that would be available under the Treaty, and would permit irrigation of most of its areas in the southwest, the south central and the north western regions. Moreover, a feasibility study suggests that the flows in all tributaries and other rivers in the southwest region would be augmented so that the natural environment, like fisheries, groundwater, forestry, human health and navigation can be restored through the supply of upland water flow and a reduction in salinity

4.4.4. Complementary Bibliography

- Historical background Indo-Bangladesh Memorandum of Understanding (on Farakka dam) (1982).
  http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/267ENG.pdf

  http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/151ENG.htm

- Transboundary Freshwater Dispute Database. Ganges River Controversy
  http://www.transboundarywaters.orst.edu/projects/casestudies/ganges.html

See supra Note 113.

See supra Note 113.
4- Description of relevant examples: Gandak Project on Gandaki/Gandak River

4.5. Gandak Project on Gandaki/Gandak River

- **Key issue addressed**
  
  International Policy in Shared River Basins.
  
  - Need for negotiation/departing situation: Unilateral initiative from one State.
  - International community/actors: multilateral development banks.
  - Nature of involvement of the international community: Financial (loans).
  - Scope: Specific project and location.
  - Main issues dealt with by agreement: Water resources and energy allocation, definition of project characteristics.
  - Negotiation and implementation mechanisms: Joint committee.

- **Integration**
  
  Agreement between His Majesty's Government of Nepal and the Government of India on the Gandak Irrigation & Power Project, Kathmandu, 4 December 1959[144].
  
  Exchange of letters between the Government of India and His Majesty's Government of Nepal regarding amendment to the Gandak project agreement, Kathmandu, 30 April 1964[145].

- **Implementation: Project identification (name, country, year, developer)**
  
  Gandaki/Gandak, India and Nepal, since 1959

- **Stage regarding the project life cycle.**
  
  Operation

**4.5.1. Description of the framework**

- **General description of the country institutional set up where the specific policy/normative is located**
  
  Efforts toward harnessing the large irrigation potential of the river Gandaki (see Map 5) had been made as early as 1871, although through informal channels. Formally it was initiated in 1947 with the construction of a canal in Tribeni. In 1947 the Food and Agriculture Ministry of India, wrote to the Government of Bihar to explore the possibilities of constructing a canal system from the Gandak for irrigation. In 1951 a report was prepared in this connection and submitted to the Planning Commission of India, which accepted the proposal. This proposal was later forwarded to the Government of Nepal who also endorsed it, and in December 1959, an Agreement was concluded[146].

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4- Description of relevant examples: Gandak Project on Gandaki/Gandak River

- **Detailed description of the specific policy/normative framework addressing the key priority issue**

  The rights and obligations regarding the Gandaki stems from the Agreement entered into between the Governments of India and Nepal on December 4, 1959. Along with the Agreement, a Letter was also exchanged the same day spelling out additional operational details regarding the Project and providing for the establishment of a coordination committee.

  While the Gandak Agreement mainly highlighted the common interests and benefits of both Nepal and India, it also specified that the Project was being built by and at the cost of the Government of India. The Nepalese Government authorised the Government of India to proceed with the execution of the Project and committed to acquire all such lands as the

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**Map 5. Gandaki River Basin**

Government of India may require and to permit the access to the movement within, and the residence in, the Project area of officers and field staff with labor force, draught animals, vehicles, and other elements that may be necessary for the execution of the Project, and for its operation and maintenance after its completion.\(^{148}\)

The Agreement also specified that in case of any apprehended danger or accident to any of the structures, the officers of the Government of India would execute all works that may be necessary for repairing the existing works or preventing such accidents and/or danger in the areas indicated in the plan. If any of such works had to be constructed on lands that belonged to Nepal, the Nepalese Government would authorise these works to be executed and acquire such additional lands. In all such cases the Government of India would pay reasonable compensation for the lands so acquired as well as for any damage that might arise out of the execution of these works.

The canal systems, including the service roads situated in the Nepalese territory (except the main western canal), were to be handed over to the Government of Nepal for operation and maintenance. Otherwise, all works connected with the Project in the territory of Nepal remained the property of, and were to be operated and maintained by, the Government of India.\(^{149}\)

The Gandak Agreement stipulated clearly that nothing in the Agreement was deemed to derogate from the sovereignty and territorial jurisdiction of the Nepalese Government in respect of lands it had acquired and made available to the Government of India for investigation, execution and maintenance of the Project.

It was further agreed that the ownership and management of the power house shall be transferred to Nepal on one year’s notice in writing given by Nepal to India after the full load of 10,000 kW at 60 percent load factor had been developed in Nepal from this power house. In accordance with the Agreement, the Nepalese Government continues to have the right to withdraw for irrigation or any other purpose from the river or its tributaries in Nepal such supplies of water as may be required from time to time. Nepal, on its part, agrees not to exercise this right in such manner as is likely to prejudicially affect the water requirements of the Project.\(^{150}\)

The Letter exchanged recorded the understanding that if, at any time because of natural causes, the supplies in the river are insufficient, the Nepalese Government will be entitled to continue to withdraw water sufficient for the irrigation of such area. Whenever the supply of water available for irrigation falls short of the requirements of the total area under the Project for which irrigation has to be provided the shortage shall be shared on pro rata basis between the two countries.

The Letter also provided for details regarding the payment of compensation for acquisition or requisition of lands required for the Project. The total compensation payable for the lands acquired or requisitioned would be calculated on the basis of the agreed rates fixed by an ad hoc Committee.\(^{151}\)

- Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring

Both governments agreed to set up a Coordination Committee consisting of three representatives of each government, including a minister. The Nepalese Government would be its Chairman and the Chief administrator would be its secretary. The Committee is to

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148 See supra Note 146.
149 See supra Note 146.
150 See supra Note 146.
151 See supra Note 146.
meet from time to time to consider such matters of common interest concerning the Project as referred to by either government with a view to expedite decisions for the early completion of the Project. The Government of India agreed to bear all expenditure in connection with the functioning of the Committee, such as salaries of special staff, travel allowance for members, and the like.

Any dispute or difference arising out of or in any way touching or concerning the construction, effect or meaning of the Agreement, or of any matter pertaining to the Project, or the respective rights and liabilities of the two parties, if not settled by discussion, shall be determined through arbitration. Any of the parties may, by notice in writing, inform the other party of its intention to refer to arbitration any such dispute or difference mentioned above, and within 90 days of the delivery of such notice each of the two parties shall nominate an arbitrator for jointly determining such dispute or difference and the award of the arbitrators shall be binding on the parties. In case the arbitrators are unable to agree, the parties may consult each other and appoint an umpire whose award shall be final and binding on them.  

- **Brief description of the implementation history of the norm, including enforcement and compliance aspects.**
  Developed within other items.

### 4.5.2. Description of the example

- **Project description.**

  The Gandaki River, also called the Narayani, originates in the Tibetan plateau and drains the central mountains of Nepal. Upon crossing the Nepalese border near Tribeni Bazar, it is called the Gandak in India, where after running a course of about 250 km, it joins the Ganges River near Platna in the State of Bihar. Every year the Gandaki flooded, damaging crops and property and endangering people in vast areas. Indeed, the uncontrolled Gandaki was a major source of trouble to both nations. Nepal needed capital and India needed a suitable site to construct a dam for flood control and other water use. From those needs came the Gandak Project, another multipurpose undertaking by India and Nepal, aimed at benefiting both the countries with irrigation, power and flood control.

  A barrage has been built at the Gandaki River near Bhaisalotan to regulate the flow of water for irrigation and power purposes. The barrage is constructed on the reach of the river, which forms the boundary between India and Nepal. Two canals take off from either side of the barrage. The main eastern canal lies in the Indian Territory but one of its branches called Don Branch canal reaches the Indo-Nepal border and bifurcates into two canals. Nepal Eastern Canal constitutes one of them and traverses Bara, Parsa and Rautahat districts in Nepal.

  The main eastern canal serves the irrigation needs of 920,520 hectares and 37,200 hectares of agricultural land in India and Nepal respectively. The main western canal passes through a few kilometers in Nepal before entering the Indian Territory. The canal - down to a minimum discharge of 20 cusecs - provides water to irrigate 4,700 hectares of land in Nepal and 930,000 hectares of land in India. Another canal referred to as the Nepal Western Canal takes off from the western side of the barrage and covers a command area of 16,000 hectares entirely within Nepal. A power house that utilises the head drop of the canal to generate 15,000 kW of power is built at Surajpura, located on the main western canal in the Nepalese Territory.  

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152 See supra Note 146.
153 See supra Note 146.
Implementation of the key issue.

Under the Agreement, India agreed to construct one power house with an installed capacity of 15,000 kW in the territory of Nepal on the Main Western Canal. It also agreed to construct a transmission line from the power house in Nepal to the Bihar border near Bhaaisalotan and from Sagauli to Raxaul in Bihar in order to facilitate the supply of power on any point in the Bihar Grid up to and including Raxaul. India agreed to supply power to Nepal at the power house and/or at any point in the grid up to and including Raxaul. The Government of Nepal, on the other hand, was made responsible for the construction and cost of the transmission and distribution system for supply of power within Nepal from the power house or from any point on the grid up to and including Raxaul.

Also under the Agreement, India agreed to construct at its own cost two canals. The first, the Western Nepal Canal including its distributary system was to provide flow irrigation in the gross commanded area estimated to about 40,000 acres. The second, the Eastern Nepal Canal from the tail end of the Don Branch Canal up to the river Bagmati including the distributary system, was to provide flow irrigation in Nepal in a gross commanded area estimated to about 103,500 acres.

Nepal, on the other hand, was made responsible for the construction of channels below 20 cusecs capacity for irrigation in Nepal, for which purpose India also agreed to contribute such amount of money as India considered reasonable to meet the cost of construction. In the same context, the Nepalese Government allowed the Government of India to maintain such portion of the main Western Canal that falls in the territory of Nepal and to maintain the channels of communications for the purpose of the Project.  

The World Bank have participated years later, in financing the Restoration Capacity of Gandak Canal System, a project within the framework included in the Tenth Five Year Plan (2002-07) of Uttar Pradesh (India) Irrigation Department.

Outcomes and results.

India agreed to supply power to Nepal at the power house and/or at any point in the grid up to and including Raxaul to an aggregate maximum of 10,000 kW up to 60 percent load factor at power factor not below 0.85. The charges for supply at the power house were to be the actual cost of production, and on any point on the grid up to Raxaul it was to be the cost of production plus the cost of transmission on mutually agreed terms and conditions.

Through another Exchange of Letters signed on April 30, 1964 Nepal was permitted to operate the Don Branch canal in such a manner as to ensure the flow of adequate water in Nepal Eastern Canal for irrigation requirements. Moreover, a supplemental Agreement executed between Nepal and India in October 1971 specifies that 24.1 m³/s (850 cusecs) of water would be delivered through the Don Branch canal to the Nepal border at all times, except when under necessary repair and maintenance.

Assessment of outcomes/ results by involved stakeholders.

At the outset one should note that the Bihar Government, because of difficulties experienced with another project, the Kosi one, was unwilling to have its Project in Nepal, to avoid any hassles. But ultimately a decision to build the barrage in Nepal was taken, and as a result Nepal also gained some irrigation potential, with India getting 3,400,000 hectares. If the Project was built in India, then instead of the 3,400,000 hectares that India

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154 See supra Note 146.
155 Uttar Pradesh Irrigation Department webpage, 2006. http://irrigation.up.nic.in/plans.htm
156 See supra Note 146.
gets by having the Project in Nepal, India would have received 2,900,000 hectares, but by having this Project inside India, there would have been no benefit to Nepal at all.

The conclusion of this Agreement sparked protests from the political parties in Nepal. The construction of the barrage in the Nepalese territory was propagated as Indian encroachment on Nepal’s sovereignty and territorial integrity. Issues were raised about the Nepalese Government's lack of authority to conclude the Agreement. It was also stated that the Agreement had undermined the interests of the Nepalese people in general and that they were unfairly treated\textsuperscript{157}.

There are also some complaints, particularly from the Nepalese side. The Gandak Agreement was wholly financed by India in the Nepalese territory. The benefits to Nepal have not been commensurate with the significant social costs it had to incur due to submergence of the land behind the barrages and the rehabilitation of the displaced population, coupled with the economic costs of the natural resources involved in erecting the monumental structures, an issue that has neither been studied in depth to assess the full costs nor resolved fully to date.

It is a question of fact whether the benefits received by Nepal under the Gandak Agreement represent a reasonable and equitable share of the benefits to be derived from the project. The Agreement seems to confer substantial benefits on Nepal, but to judge their adequacy one would need the information that would allow balancing the costs and benefits of the Project for both the parties, an exercise that remains extremely difficult, if not impossible in the circumstances\textsuperscript{158}.

\textbf{4.5.3. Overall Conclusions}

At a time when the international water rights were essentially based on customary law for which the importance of rivers related mainly to consumptive use, it was laudable to have attempted to tackle issues pertaining to non-consumptive use of water.

Although several problems have occurred in the course of the implementation of the Agreement, which had to be remedied on punctual bases, and not without tension, it is safe to mention that the Gandak Agreement seems appropriate for achieving the purposes envisaged by the two countries. In particular, from Nepal’s viewpoint, it adequately safeguards its rights and interests in the water resources of this river in its territory\textsuperscript{159}.

\textsuperscript{157} See supra Note 146.
\textsuperscript{158} See supra Note 146.
\textsuperscript{159} See supra Note 146.
4.6. Kosi Project on Kosi River

- **Key issue addressed**
  International policy concerning shared river basins
  - Need for negotiation/departing situation: Review of an unclear agreement.
  - International community/actors: UN bodies, donors.
  - Nature of involvement of the international community: Financial (grants), technical assistance.
  - Scope: Specific project and location.
  - Main issues dealt with by agreement: water resources and energy allocation, definition of project characteristics.
  - Negotiation and implementation mechanisms: commission, joint committee.

- **Integration**
  Amended Agreement between the Government of India and the Government of Nepal on the Kosi Project, 19 December 1966\(^{161}\).

- **Implementation**
  Kosi Project on Kosi River, India and Nepal, operational since 1982.

- **Stage regarding the project life cycle.**
  Operation

4.6.1. **Description of the framework**

- **General description of the country institutional set up where the specific policy/normative is located**
  Although the potential for water resources development between India and Nepal is considerable, the cooperation between these two countries on the issues related to water has not been easy and forthcoming, in particular because of the extreme sensitivities and divergent interests and approaches of the political parties. Their bilateral relations have been heavily influenced by politics. The vested interests and inward-looking dynamics of the political actors in both countries, rather than technical discussions related to water, have influenced the decision-making. To appreciate the ramifications of the problems with water resources between these two countries, it is imperative to acknowledge the political underpinnings of their bilateral relations.

  India and Nepal have a long history of political relations. The political relations had been regularised, in the form of a Peace Treaty, as early as 1815, when India was still a British colony, and almost a century and a half later, on July 31, 1950, through a new Treaty of Peace and Friendship between Nepal and newly independent India. Also signed with the 1950 Treaty was a Side Letter that formed an integral part of the Treaty. While the 1950 Treaty and its Side Letter generally aimed at strengthening and developing the ties between

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[http://ocid.nacse.org/qml/research/tfd/t/toTFDDdocs/85ENG.htm](http://ocid.nacse.org/qml/research/tfd/t/toTFDDdocs/85ENG.htm)

\(^{161}\) Amended Agreement between His Majesty's Government of Nepal and the Government of India concerning the Kosi Project, signed at Katmandu on 19 December 1966.  
[http://ocid.nacse.org/qml/research/tfd/t/toTFDDdocs/136ENG.htm](http://ocid.nacse.org/qml/research/tfd/t/toTFDDdocs/136ENG.htm)
4- Description of relevant examples: Kosi Project on Kosi River

India and Nepal, it also established special relations between the two countries. It is important to note that it continues to influence the bilateral relations between these two countries in all spheres of cooperation. Water resources are no exception.

The Kosi Project became the first development Project in an international river presented as mutually benefiting both India and Nepal. The Central Water and Power Commission of the Government of India prepared a scheme for harnessing the Kosi River (see Map 6) that received the sanction of the Government of India in 1953. Thereafter, the scheme was endorsed by the Nepalese Government, following which the Kosi Agreement was negotiated and signed in 1954.\(^{162}\)

Map 6. Kosi River Basin\(^{163}\)

- Detailed description of the specific policy/normative framework addressing the key priority issue


\(^{163}\) See supra Note 162.
The international rights and obligations of India and Nepal regarding the Kosi River were first spelled out with the signing of the Kosi Agreement on April 25, 1954. During the early 1960s when the political relations between India and Nepal had deteriorated severely and criticism against the Kosi Agreement had intensified, pressure was put on the Indian Government to revise the Agreement. Indian expressed its readiness to amend the Agreement in light of the complaints lodged by Nepal. The Indian authorities were then asked to suspend the execution of work pending further discussions for the revision of the Agreement. Because each and every provision of the 1954 Agreement had been subjected to criticism, the modification was extensive. The present rights and obligations actually stem from the 1966 revised Agreement.

Land ownership became one of the most sensitive and controversial issues emanating from the 1954 Agreement. It conferred on India the ownership of all lands acquired by Nepal and subsequently transferred to India for Project purposes. The 1954 Agreement read: “The Union [India] shall be the owner of all lands acquired by the Government [of Nepal] which shall be transferred by them to the Union and of all water rights secured to it under clause 4(i). “Provided that the sovereignty rights and territorial jurisdiction of the Government in respect of such lands shall continue unimpaired by such transfer”.

The issues regarding the use of water and power by Nepal had also been problematic under the 1954 Agreement, which stated: “(i) Without prejudice to the right of the Government to withdraw for irrigation or any other purpose in Nepal such supplies of water, as may be required from time to time, the Union will have the right to regulate all the supplies in the Kosi River at the Barrage site and to generate power at the same site for the purposes of the Project”. Moreover, the Agreement stated: “The Government shall be entitled to use up to 50 percent of the hydroelectric power generated at the Barrage site Power House on payment of such tariff rates as may be fixed for the sale of power by the Union in consultation with Government”.

- **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring.**

The 1954 Agreement provided for a Coordination Committee for Kosi Project, meant to be a forum for discussion of problems of common interest in connection with the Project. Thus, it was important for the revised Agreement to ensure continuity to the activities of the committee.

- **Brief description of the implementation history of the norm, including enforcement and compliance aspects.**

Soon after its conclusion, the 1954 Agreement was sternly criticised by the opposition political parties in Nepal. Critics asserted that the Project did not benefit Nepal in any manner whatsoever, and that it granted extraterritorial rights to India for an indefinite period without providing Nepal with adequate compensation. Nepal would receive only a minute proportion of the total irrigated land and India would benefit more from the power resources developed by Nepal. Also alleged was that Nepal had to lose its fertile land without equivalent gains in exchange of it, and that the scheme was actually designed for the furtherance of India’s own interests without paying proper attention to the well being of the...
Nepalese people. Without detailing the arguments and counter-arguments, it should be noted that there was widespread Nepalese resentment about the Project\textsuperscript{168}.

4.6.2. Description of the example

- Project description

The Kosi, Nepal’s largest river, originates in Tibet. The river is called Sapta Kosi after the Tribeni confluence, from which point it starts its southwesterly journey. The basin is oval-shaped with a protruding projection in the Sapta Kosi area of Chatra. With seven main tributaries, it is the largest tributary of the Ganges. It drains an area of 92,538 km\textsuperscript{2}, of which 30,800 km\textsuperscript{2} are in Tibet, 41,333 km\textsuperscript{2} are in Nepal, and 20,405 km\textsuperscript{2} are in India. The Kosi flows through a narrow gorge for 10 km before entering the plains at Chatra. After another 25 km, it enters India near Hanumangarh, and 20 km further downstream it joins the Ganges near Khursela in the State of Bihar.

The Kosi is the wildest river with the most devastating effects in the Indian State of Bihar. For this reason, the Kosi is also referred to as the “sorrow of Bihar.” Because of the seasonal damage it caused, a scheme to attenuate the effects of the Kosi was deemed necessary.

The Kosi Project consists of the construction of a barrage, head-works and other appurtenant works with afflux and flood banks, and canals and protective works, on land lying within the territories of Nepal. The purposes of the Kosi Project were flood control, irrigation, generation of hydroelectric power and prevention of erosion of Nepal areas on the right side of the river, upstream of the barrage\textsuperscript{169}.

- Implementation of the key issue (methodology, actions taken, outputs, actors involved, roles performed)

The dynamic nature of the Project preparation necessitated that the revised Agreement take into account the new developments of the Kosi Project. The general layout of the barrage, the areas within afflux banks, flood embankments, and other protective works, canals, power house and the lines of communication were accordingly modified prior to the signing of the revised Agreement and a detailed plan was annexed thereto. It was also agreed that the land on which the Nepal Link Bund is situated would be surrendered by India to Nepal, but Nepal agreed to permit the Government of India to maintain and operate the existing waterways in this Bund.

Focusing on bilateral consultation, the Agreement further provided that any construction and other undertaking by India in connection with the Project needed to be planned and carried out in consultation with the Government of Nepal, and that works and undertakings which, pursuant to the Agreement required prior approval of the Nepalese Government, would only be implemented after securing such approval\textsuperscript{170}.

The 1966 revised Agreement delineates quite clearly the responsibilities of India and Nepal in the execution of the Kosi Project. The Government of the Indian State of Bihar is designated Chief Engineer. When it considers any survey or investigation in connection with the Kosi Project to be required, the Nepalese Government provides necessary facilities to the concerned Indian officers or persons acting under their orders to undertake such surveys and investigations.

The Chief Engineer may also undertake surveys and investigations of storage dams or detention dams on the Kosi, soil conservation measures such as check dams, afforestation,

\textsuperscript{168} See supra Note 162.
\textsuperscript{169} See supra Note 162.
\textsuperscript{170} See supra Note 162.
and so forth, required for a complete solution to the Kosi problems in the other party (Nepal). Due to this, arguments that the Agreement undermines the sovereign status of Nepal have been forwarded by some intellectuals. However weak this argument may be in treaty-law, it certainly comes out as a political stain for Nepal.

An effort to ease the possible tension in the execution of the Kosi Project was made through the provision of a Joint Indo-Nepal Kosi Project Commission, envisaged under the Treaty framework. The 1966 revised Agreement has indeed quite pragmatically succeeded in ensuring the continuity of the Coordination Committee for Kosi Project. It chose to maintain a similar body, but with a name change, Indo-Nepal Kosi Project Commission. The Commission was vested with the responsibility of facilitating cooperation and coordination between the governments with regard to any matter covered in the Agreement 171.

All infrastructure development works involve acquisition or redirecting of lands that are owned by individuals, communities or government. Compensation in obtaining such lands becomes a major issue and Kosi was no exception. The land required for the purposes of the Project was to be acquired by Nepal, and compensation was to be paid by India. Compensation, in every case, was to be tendered through the Government of Nepal to the owner of the land.

India was also to compensate Nepal for the loss of land revenue as at the time of acquisition in respect of the area acquired, and to whomsoever it may be due for the lands, houses and other immovable property acquired for the Kosi Project and leased to India. The methods of assessment of such compensation and the manner of payment were to be determined by mutual agreement 172.

The revised Agreement changed the “ownership” established in the 1954 Agreement to a “lease”. Indeed, it provides for Nepal to acquire land required for the construction of the Project and lease it to India after payment of compensation. All the lands acquired by Nepal are to be leased to India for a period of 199 years from the date of the signing of the revised Agreement at an annual nominal rate. The Agreement further confirms that the Nepalese sovereign rights and territorial jurisdiction, including the application and enforcement of the laws of Nepal on and in respect of the leased land, continues unimpaired by such lease.

Regarding the use of water and power, the revised Agreement not only changed the tone of the provision but also improved the Nepalese situation by stating: “HMG [His Majesty’s Government] shall have every right to withdraw for irrigation and for any other purpose in Nepal water from the Kosi River and from the Sunkosi River or within the Kosi Basin from any other tributary of the Kosi River as may be required from time to time. The Union shall have the right to regulate all the balance of supplies in the Kosi River at the barrage site thus available from time to time and to generate power in the Eastern Canal”. Article 4 (ii) further states “HMG shall be entitled to obtain for use in Nepal any portion up to 50 percent of the total hydroelectric power generated by any Power House situated within a 10-mile radius from the barrage site and constructed by or on behalf of the Union, as HMG shall from time to time determine and communicate to the Union. However, HMG shall communicate to the Union any increase or decrease in the required power supply exceeding 6,800 kW at least three months in advance” 173.

In addition to these changes, the revised Agreement also added that if any power to be supplied to Nepal is generated in a power house located in Indian territory, the Indian Government would construct the necessary transmission line or lines to a point at the Nepal-Indian border that shall be mutually agreed upon, and the tariff rates for electricity to be supplied to Nepal would be fixed mutually. It further provided for Nepal to receive 50

171 See supra Note 162.
172 See supra Note 162.
173 See supra Note 162.
percent of the total hydroelectric power generated by any powerhouse situated within a 10 miles radius of the barrage site. However, in spite of a provision regarding power, the Agreement failed to determine (i) the installed capacity of the powerhouse, (ii) the quantum of power available to Nepal, and (iii) the cost and benefits of the Project. Similarly, it failed to specify (i) the quantum of water that will flow along the irrigation canals, (ii) the land area that will come under the command of these canals, and (iii) the respective irrigation benefits for the countries, which resulted in added ambiguity to the Agreement.

The power and other materials used for the purpose of the Project are not provided for free. They yield royalties for Nepal. In respect to power generated and utilised in the Indian-Union, according to the 1966 Agreement, the Government of Nepal is entitled to receive royalty at rates to be settled by agreement. No royalty is to be paid on the power sold to Nepal174.

In addition, consistent with the usual practice in bilateral understandings, the Agreement provides for a special treatment of Nepalese labor. India committed to give preference to Nepalese labor, personnel and contractors to the extent available and in its opinion suitable for the construction of the Project, but reserved the right to import labor of all classes to the extent necessary. Moreover, with the Nepalese Government’s prior approval, India was allowed to establish schools, hospitals, water-supply systems, electric supply systems, drainage and other civic amenities for the duration of the construction of the Project. On completion of construction of the Project, such civic amenities would, upon request by Nepal, be transferred to Nepal. In any case, all functions of public administration would be exercised by the Nepalese Government.

Any dispute or difference arising out of or in any way concerning the construction, effect or meaning of the Agreement, if not settled by discussion, is to be determined through arbitration. By notice in writing, either of the parties may inform the other of its intention to refer to arbitration any such dispute or difference. Within 90 days of the delivery of such notice, each of the two parties is to nominate an arbitrator for jointly determining the dispute or difference and the award of the arbitrators is binding on the parties. In case the arbitrators are unable to agree, the parties may consult each other and appoint an umpire whose award is to be final and binding on them. Despite the details provided by the Agreement, the arbitration mechanism appears defective in two respects. First, there is no provision for the appointment of an arbitrator if one of the states fails to nominate a member of the arbitration panel. Second, if the two arbitrators fail to agree on the disposition of the issue in dispute, the two parties then may “consult each other and appoint an Umpire whose award shall be final and binding on them”. In other words there is no obligation to appoint an umpire. So a desire to submit an issue to arbitration by one party to the Agreement can easily be frustrated by the other175.

- Outcomes and results

Despite its so-called multipurpose ambit (flood control, hydropower generation and irrigation), the Kosi Project was conceived essentially to yield flood control benefits, and to reduce the recurrent flood devastation in the two countries. In this connection, a 1,150-meter barrage was built in Bhimnagar, 5 km upstream of Hanuman Nagar (8 km inside Nepal). Flood control works in Nepal consist of a western afflux bund about 2 km long and a 40-km embankment along the eastern bank of the river. Extensive embankments, about 220 km long, were built on either side of the river in the Indian territory to confine the river flow and protect the land beyond from flooding. The barrage and the Eastern Main Canal were completed in 1962. The construction of the Western Main Canal started in 1972 and it became operational in 1982.

174 See supra Note 162.
175 See supra Note 162.
A power house with an installed capacity of four units of 5,000 kW each is located along the canal and generates power by making use of the head drop of the canal. The Western Main Canal traverses a distance of 35 km in Nepal before entering the Indian Territory, and provides irrigation water to 11,300 hectares of agricultural land in Nepal and 356,610 hectares of agricultural land in India.

Regarding irrigation the Indian view is interesting. Under the Project, India has an irrigation potential of 9,650,000 hectares. Indian assistance to construct infrastructure in Nepal has allowed the irrigation of 93,000 hectares in Nepal. Indeed, if looked at in those simple terms, there seems to be imbalance. But if the Indians had built the Kosi Barrage a little downstream in the State of Bihar, Nepal would have had no advantage and Indian irrigation, instead of the 9,650,000 hectares would have been 9,500,000 hectares. By constructing the barrage in Nepal, India gained only 15,000 hectares of additional potential but Nepal gained 93,000 hectares.

Nepal is to receive a royalty in respect of power generated and utilised in India at rates to be fixed by agreement. But it is noteworthy that if Nepal is entitled to 50 percent of the hydroelectric power generated at any power house built within a 10-mile radius from the barrage site, it must pay for this power. Furthermore, although the land needed for the Project has been granted to India on a 199-year lease, the compensation payable for it is determined by the land revenue as at the time of acquisition.

By the Letters exchanged on December 19, 1966, supplementary to the revised Agreement, the compensation for land already acquired was fixed at five Nepalese Rupees per Nepali Bigha, and compensation for lands to be acquired in the future, especially for the Western Kosi Canal, is to be determined by applying the same principle, that is land revenue payable as at the rate of acquisition. In other words, there is no provision for increase in the value of land by inflation or otherwise throughout the long life of the lease. Similarly, whether the irrigation and other benefits derived by Nepal from the Project do in fact balance the benefits received by India, is a matter to be assessed by experts.

- Assessment of outcomes/results by involved stakeholders

Most Nepalese are convinced that they have not been dealt with fairly by the treaties between India and Nepal. These Nepalese believe further that India is draining Nepal’s watershed for its own benefit. Many Nepalese maintain that Nepal’s kindness and generosity in sharing its water with India in the existing agreements has been taken advantage of by India because the people of Nepal have received far fewer benefits than the people of India from the projects carried out under these treaties.

In response to the Nepalese contentions, the Indian stance has been to defend, as a lower riparian country, its equitable use of these international rivers shared with Nepal according to international law and practice. India has contended that it has the right to use the water in accordance with its needs, with the term “need” embracing its unlimited socioeconomic requirements dependent on the waters of the rivers flowing from Nepal into India.

The Indo-Nepal efforts to cooperate in the management of water resources have, thus, continuously revolved around this dichotomy of perception, and have involved continual controversy and tension, resulting in a slow development of water resources projects that may have proven to be beneficial to both India and Nepal.

The influence of politics is curiously disproportionate in the relations between these two countries. The Nepalese have long viewed India as a hegemonic power. They feel they got an unfair deal in the Kosi and the Gandak Projects, and are determined not to be taken

176 See supra Note 162.
177 See supra Note 162.
178 See supra Note 162.
advantage of again. All political parties in Nepal accuse one another of selling the country down the river to India. That is, perhaps, why the new Nepalese constitution requires that any agreement for sharing the country’s natural resources is approved by a two-thirds majority of parliament.  

It appears useful to examine cautiously the benefits and losses (merits and demerits) the parties have received under the Agreement. On the basis of the content-analysis of the Kosi Agreement, it seems quite safe to conclude that if there were significant benefits for both countries, there was also very important loss for Nepal, such as the submergence of fertile land. The Agreement for the Kosi Project dealt with the fact that Nepal permitted India to build works on the Kosi River in Nepalese territory, which resulted in inundating the cultivated land and rendering it otherwise unproductive and uninhabitable. No doubt, the grant of this permission was clearly a valid exercise of Nepal’s sovereignty over its territory and cannot be challenged on the grounds of its legality. Nevertheless, one may examine the terms and conditions of the Agreement from the viewpoint of their effects on Nepal’s position in international law.

The matter may be considered from two aspects. First, whether Nepal received adequate compensation for the benefits it conferred on India by allowing it to build the works on and flood Nepalese territory. One important concept that has developed in the interpretation of equitable sharing is the issue of “downstream benefits”. In summary, the concept confirms that when one country takes actions to manage water resources in its territory that confer significant benefits to a downstream country, the latter must pay reasonable compensation for those benefits. This notion of “downstream benefits” was introduced by Canada as an integral part of the negotiations of the Columbia River agreement.

Second, to what extent was Nepal’s freedom to act in the development of the Kosi River compromised by the terms of the Agreement. Keeping aside the issues of cost and benefits that remain for economists or engineers to decide, in the Kosi Agreement there is little evidence that the benefits that would accrue to India from the Project were carefully calculated and accounted for. For example, Nepal is to receive a royalty in respect of power generated and utilised in India at rates to be fixed by agreement. But if Nepal is entitled to 50 percent of the hydroelectric power generated at any power house built within a 10-mile radius from the barrage site, it must pay for this power. Furthermore, although the land needed for the Project has been granted to India on a 199-year lease, the compensation payable for it is determined by the land revenue as at the time of acquisition. There is no provision for increase in the value of land by inflation or otherwise throughout the long life of the lease.

India supported technical and financially the development of the Kosi Project, without any involvement of international organisations at that time. In 1968 a pre-feasibility study of the Sunkosi dam project for irrigation in Terai was completed under the technical and financial assistance of the United Nations Development Program/Food and Agriculture Organization. This study identified Kurule as the appropriate site for a storage dam, the Sunkosi, linked with a tunnel to deliver the river water into the Terai. A master plan of the Kosi basin prepared under Japanese assistance in 1985 endorsed the same location for the project. The Sunkosi is also one of the dams envisaged to avert the disaster that may occur if the Kosi river shifts back to its old course about 120 km away in the east when the detention basin between the two embankments on the north of the barrage at Hanuman Nagar is filled up. After that, the embankments would be ineffective in controlling the lateral shifting of the river.

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179 See supra Note 162.
180 See supra Note 162.
4.6.3. Overall Conclusions

According to Salman and Uprety\textsuperscript{182}, it may be concluded that Nepal entered into the Kosi Agreement, as far as is known, under a lot of internal pressure attributable to the prevailing political instability, as well as external political pressure from India. Indeed, as the first agreement of its kind, mistakes were unavoidable. But the uproar generated by the conclusion of this Agreement taught Nepal to be more careful in the future on issues concerning water and the related negotiations. The Agreement helped India understand that negotiations with its neighbour needed to focus more on a consensus-building approach, particularly taking into account the uneven understanding of national interests and the dynamics among the different political actors in Nepal. This careful approach can be noticed in the Gandak Agreement that India and Nepal entered into in the same decade.

\textsuperscript{182} See supra Note 162.
4.7. Mahakali River

1. **Key issue addressed (second and third level associated issues if appropriate)**
   
   International policy concerning shared river basins
   
   - Need for negotiation/departing situation: Review of an old agreement, desire for a common approach to developing joint resources.
   - International community/actors: UN bodies, donors, multilateral development banks.
   - Nature of involvement of the international community: Financial (grants, loans).
   - Scope: River reach development.
   - Main issues dealt with by agreement: Water resources and energy allocation, definition of project characteristics.
   - Negotiation and implementation mechanisms: Commission.

- **Integration**


  Memorandum of Understanding on Tanakpur Barrage Project, 6 December 1991.

  Treaty between His Majesty’s Government of Nepal and the Government of India concerning the Integrated Development of the Mahakali River including Sarada Barrage, Tanakpur Barrage and Pancheshwar Project, 12 February 1996.\(^{183}\)

- **Implementation**

  Pancheshwar Multipurpose Project, Mahakali River, India and Nepal

  **Stage regarding the project life cycle.**

  Implementation

4.7.1. **Description of the framework**

- **General description of the country institutional set up where the specific policy/normative is located**

  The efforts toward exploitation of the Mahakali River waters began before India's independence from Britain. The British Government in India formalised with its Nepalese counterpart in 1920, the negotiations of the Sarada Treaty in the form of an Exchange of Letters. The Treaty provided for the construction of a barrage on the Mahakali River (which is known as the Sarada River in India) at Banbassa bordering the present Mahendra Nagar in Nepal. The Treaty also provided for the construction of a power station at Khatima in connection with the Sarada Canal Project in the State of Uttar Pradesh in India.

  Despite the conclusion of the Sarada Treaty, Nepal was not entirely satisfied with the quantum of water it had obtained under this Treaty, and tried continuously to obtain an increase over the guaranteed flow of 400 cubic feet per second (cusecs). Its efforts constantly failed and because of shortage of water, it was hindered in developing one upstream project. Amidst this tug of war between the two countries on the quantum of water allocated to Nepal, the regime established by the Sarada Treaty continued to exist for 76 years, from 1920 to 1996, when it was replaced by the Mahakali Treaty.\(^{184}\)

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\(^{183}\) Treaty between Nepal and India concerning integrated development of the Mahakali River including Sarada Barrage, Tanakpur Barrage and Pancheshwar Project (1996)

http://ociid.nacse.org/qml/research/tfdd/toTFFDdocs/192ENG.pdf


• **Detailed description of the specific policy/normative framework addressing the key priority issue**

Under the Sarada Treaty, the Government of Nepal agreed to exchange 4,000 acres of its territory for construction purposes with an equal amount of land from the British Indian Government. Nepal also obtained the right to use a minimum of 400 cusecs and a maximum of 1,000 cusecs of water from the Sarada Canal for irrigation purposes. This land exchange placed the location of the left abutment of the weir and the left bank works within Indian territory. The headwork (the containing bank) of the Sarada Canal is situated a few miles below the point where the river emerges from the hills and forms part of the boundary between India and Nepal. The British Indian Government built the Banbassa Barrage across the Sarada River.\(^{185}\)

• **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring**

The Nepal government investment in irrigation development - especially in the large-scale irrigation systems in the Tarai increased tremendously from 1970 onwards. This was due to the increase in the borrowing of international capital in the form of loans and grants for the country’s overall economic development. This is clearly reflected in the surge of irrigation development targets in the subsequent five-year development plans, from the Fourth Plan (1970-75) onwards.

Until the middle of 1980s, irrigation development by the government focused largely on the construction of physical infrastructure of canals and structures, and very little attention was given to the effective management of the completed systems. Attention began to be paid to the improved management of government-operated irrigation systems from 1985 onwards. This is reflected in the implementation of a number of management-oriented projects in 1985-89: the United States Agency for International Development (USAID)-funded Irrigation Management Project (IMP) in 1985, the Irrigation Line of Credit (ILC) in 1988 financed by the World Bank, the Irrigation Sector Project (ISP) in 1988 financed by the Asian Development Bank (ADB), and the Irrigation Sector Support Project (ISSP) in 1989 under the co-financing of the United Nations Development Program (UNDP), the World Bank and ADB. All these projects specifically emphasised the participatory approach to irrigation development and management of irrigation facilities.\(^{186}\)

• **Brief description of the implementation history of the norm, including enforcement and compliance aspects**

Developed within other items.

4.7.2. **Description of the example**

2. **Project description.**

The Mahakali River (see Map 7) begins where two rivers, the Kali River originating in the Taklakot area in the east, and the Kuthi-Yankti River originating in the Zanskar range of the Himalayas, meet at Kawa Malla in the Darchula District in Nepal. The merging of the Kali and Kuthi-Yankti Rivers is known as the Mahakali River. The Mahakali River flows southwest, where it makes numerous oxbow lakes and is joined by many tributaries, the

\(^{185}\) See supra Note 184.

largest of which are the Chamlia River and the Chavandigad River. The Mahakali River drains an area of 188 km² in Nepal.

The Mahakali River serves as a western boundary for long distances between Nepal and India along the border of the Indian State of Uttar Pradesh. It is called the Sarada River in India, and after it is joined by the Ghaghra River in the State of Uttar Pradesh, it is called the Ghaghra River. The Ghaghra River continues to flow eastward, and joins the Ganges River immediately after crossing the State of Uttar Pradesh in the State of Bihar.

The Mahakali Treaty includes the construction of a 315-meter high dam (Pancheshwar Dam) with a capacity for generating 3,480 MW of electricity in each country's own territory. The Pancheshwar Multipurpose Project (PMP) is to be constructed on a stretch of the Mahakali River that forms the boundary between the two countries. The Treaty specifies that both India and Nepal have equal entitlement to utilise the waters of the Mahakali River without prejudice to their respective existing consumptive uses\[187\].

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187 See supra Note 184.
188 See supra Note 184.
4- Description of relevant examples: Mahakali River

- Implementation of the key issue

In the spirit of furthering cooperation within the Mahakali River area, the Governments of India and Nepal entered into a Memorandum of Understanding (MOU), commonly referred to as the Tanakpur Agreement, on December 6, 1991. The Agreement provided for the construction of the left afflux bund (the retaining wall) on Nepalese territory for which the Nepalese provided 2.9 hectares of land. Unlike the Sarada Treaty, the Tanakpur Agreement did not provide for an even exchange of land from India. The Agreement, instead, provided for the installation of a head regulator (main part of the reservoir regulating the water flow) at the Tanakpur Barrage with a capacity of 1,000 cusecs, and required India to construct a canal so that 150 cusecs of water could be delivered to Nepal. India was further required to provide Nepal with 10 megawatts of electricity.\footnote{See supra Note 184.}

The Tanakpur Agreement also stated that when there was an increase in the water supply at the Pancheshwar Reservoir, the supply of water to Nepal would also be increased. The provision of water and electricity by India to Nepal was seen as the quid pro quo to Nepal for providing India with 2.9 hectares of its land needed to construct the afflux bund.

It is important to point out that the Mahakali Treaty emphasises an integrated approach to the development of water resources and, more importantly, attempts to validate past activities taken to develop water resources on the Mahakali River.\footnote{See supra Note 184.}

Because of the contemporary political climate, the need to validate past activities carried out under the Tanakpur Agreement and the need to improve the Mahakali water sharing arrangements became pressing. It is important to understand that the Mahakali water sharing arrangements were governed primarily by the Sarada Treaty, which was entered into when the political status of India and the needs of the two countries were different. Indeed, while India was under British rule at the time, the population of Nepal was small in size with a relatively low demand for water, and as such, water sharing did not get the same priority that it does today.

Considering the embedded views of both sides on the Tanakpur controversy, it took five years of negotiations after the Tanakpur agreement was concluded before the foreign ministers of India and Nepal were able on January 29, 1996, to initial a Treaty between the two countries for the integrated development of water resources on the Mahakali River. Two weeks later, on February 12, 1996, the Mahakali Treaty was signed by the Prime Ministers of India and Nepal.\footnote{See supra Note 184.}

An interesting feature of the Mahakali Treaty is the establishment of a joint Indo-Nepalese commission, called the Mahakali River Commission. This Commission is guided by the principles of equality, mutual benefit and no harm to either of the countries. The joint nature, both from an organisational as well as financial standpoint, is well reflected because the Commission will be composed of an equal number of representatives from both countries and its expenses also are to be borne equally by both India and Nepal.

The Commission has been given a relatively broad mandate. Among other things, the Commission has been directed to: (i) seek information on and, if necessary, inspect all structures included in the Mahakali Treaty and make recommendations for necessary steps to implement its provisions; (ii) make recommendations for the conservation and utilisation of the Mahakali River as envisioned by and provided for in the Treaty; (iii) provide expert evaluation of projects and make recommendations thereon; (iv) coordinate and monitor plans of action arising out of the implementation of the Treaty; and (v) examine any

\footnote{189 See supra Note 184.}
\footnote{190 See supra Note 184.}
\footnote{191 See supra Note 184.
4- Description of relevant examples: Mahakali River

differences arising between the two countries concerning the Treaty’s interpretation and application\textsuperscript{192}.

The Mahakali Treaty absorbed the regime established by the Sarada Treaty, validated the controversial Tanakpur Agreement, and endorsed the idea of a new multipurpose project, the details of which, at the time of its conclusion, still needed to be worked out.

The Mahakali Treaty specifies that both India and Nepal have equal entitlement to utilise the waters of the Mahakali River without prejudice to their respective existing consumptive uses. This Treaty further specifies that both countries agree to implement the PMP in accordance with the Detailed Project Report (DPR) being jointly prepared by the countries. The Mahakali Treaty also added, in this context, that India would supply 350 cusecs of water for the irrigation of Dodhara-Chandani area in Nepal\textsuperscript{193}.

Maintaining the flow and level of water in the Mahakali River is one of the general principles established by the Treaty. India and Nepal each agreed not to use, obstruct, or divert the waters of the Mahakali River, so as to adversely affect the natural flow and level of the river. While the notion of adverse effect is not defined in the Treaty, and thus leaves room for controversy, this requirement does not preclude the use of the waters of the Mahakali River by the local communities living along both sides of the River as long as such use does not exceed five percent of the average annual flow at Pancheshwar. Furthermore, the Mahakali Treaty does not preclude either country from planning, surveying, developing and using any of the tributaries originating from the Mahakali River, as long as such activities take place in each country’s own territory and do not adversely affect the flow of the Mahakali River\textsuperscript{194}.

The Mahakali Treaty entered into force on June 5, 1997. It will remain valid for a period of 75 years. The provisions of the Treaty must be reviewed by both countries at 10-year intervals or earlier if requested by either country and amendments thereto will be made, if necessary.

The first part of the Mahakali Treaty deals with the Sarada Barrage. Accordingly, Nepal shall have the right to a supply of 1,000 cusecs of water from the Sarada Barrage in the wet season, that is from May 15 to October 15, and 150 cusecs in the dry season, that is from October 16 to May 14. Moreover, India is required to maintain a flow of not less than 350 cusecs downstream of the Sarada Barrage in the Mahakali River to maintain and preserve the river ecosystem\textsuperscript{195}.

The second part of the Mahakali Treaty deals with the Tanakpur Barrage. According to the decisions taken in the Joint Commission dated December 4-5, 1991, and the Joint Communiqué on October 21, 1992, India and Nepal agreed to carry out the construction of the eastern afflux bund of the Tanakpur Barrage at Jimuwa and tying it up to the high ground in the Nepalese territory at an elevation level of 250 meters. For this purpose, Nepal agreed to let India use a portion of its territory at the Jimuwa Village and a certain portion of the “no-man’s land” on either side of the border. The Mahakali Treaty explicitly states that this land continue to remain under the sovereignty and control of Nepal.

In lieu of construction of the eastern afflux bund of the Tanakpur Barrage at Jimuwa, Nepal obtained the right to a supply of 1,000 cusecs of water during the wet season and 300 cusecs of water during the dry season. For this purpose, as well as for the purpose of supplying water from the Sarada Barrage, India agreed to construct the head regulator(s) near the left undersluice of the Tanakpur Barrage and to build waterways with appropriate water capacity all the way to the Indo-Nepalese border. Such head regulator(s) and waterways are to be operated jointly by India and Nepal.

\textsuperscript{192} See supra Note 184.
\textsuperscript{193} See supra Note 184.
\textsuperscript{194} See supra Note 184.
\textsuperscript{195} See supra Note 184.
Regarding electricity, Nepal is entitled to an annual supply of 70 million kilowatt-hours on a continuous basis free of cost, from the effective date of the Mahakali Treaty. For this purpose, India agreed to construct a 132 kV transmission line all the way to the Indo-Nepalese border from the Tanakpur Power Station. The Letter further clarified that the annual supply of 20 million kilowatt-hours of electricity, free of cost, to Nepal from the Tanakpur Power Station, as provided for in the Mahakali Treaty, shall be reconciled with the energy procured or to be procured by Nepal from India under the existing power exchange arrangements.

The Mahakali Treaty also described the arrangements that would be made at the Tanakpur Barrage at the time of development of any storage project(s) including the PMP upstream of the Tanakpur Barrage. Accordingly, additional head regulators and necessary waterways up to the Indo-Nepalese border would be constructed to supply additional water to Nepal. Moreover, Nepal would have additional energy equal to half of the incremental energy generated from the Tanakpur Power Station on a continuous basis from the date of augmentation of the flow of the Mahakali River. Under the Treaty, Nepal was obligated to bear half of the additional operational costs and, if required, half of the additional capital costs at the Tanakpur Power Station for the generation of this incremental energy.

Although the newly conceived PMP is a very important part of the Mahakali Treaty, it remains a controversial aspect of the Treaty. The Tanakpur Barrage has, at the time of its completion, an installed capacity of 120,000 kilowatt generating 448.4 millions kilowatt-hour of energy annually on 90 percent dependable year flow. In this context, it is also useful to note that India and Nepal on June 5, 1997, signed an agreement to promote private sector participation in the hydropower projects.

The Mahakali Treaty establishes four main principles for the design and implementation of the PMP. The first principle is that the PMP will be designed to produce the maximum total net benefit for both countries in the forms of power generation, irrigation use and flood control. The second principle regarding the construction of the PMP is that both countries are working together in an integrated manner to develop and share their water resources. Indeed, the PMP will be implemented as a joint effort including the erection of power stations of equal capacity on each side of the Mahakali River. The two power stations will be operated together, and the total energy generated will be shared equally between India and Nepal. The third principle is that both countries will share the cost of the project. As specified in the Treaty, India and Nepal will share the cost of the PMP in proportion to the benefits accruing to each, and will jointly endeavor to mobilise the financing required to implement the PMP. The fourth principle is that a portion of Nepal’s share of energy will be sold to India. The quantum of such energy and its price shall be mutually agreed upon between the parties.

Nevertheless, both India and Nepal continue to reserve their rights to deal directly with each other on all matters, notwithstanding the competence of the Mahakali River Commission. In addition, both the parties can form, if they wish, specific joint entities for the development, execution and operation of new projects including the PMP in the Mahakali River for their mutual benefit.

The dispute resolution mechanism envisaged by the Mahakali Treaty is relatively elaborated and advanced. In case the Mahakali River Commission fails to come up with a recommendation after examining any disparities between the countries within three months, or if either party disagrees with the Commission's recommendation, then a dispute shall be deemed to have arisen and shall then be submitted for arbitration. In so doing, either country is required to give three months’ prior notice to the other country.

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196 See supra Note 184.
197 See supra Note 184.
198 See supra Note 184.
A tribunal composed of three arbitrators conducts all arbitration. One arbitrator is to be nominated by Nepal, one by India, and neither country is allowed to nominate its own national representative. The third arbitrator is to be appointed jointly by the two arbitrators, who shall preside over the tribunal. In the event that the two countries are unable to agree upon the third arbitrator within 90 days after receipt of a proposal, either country may request the Secretary-General of the Permanent Court of Arbitration at The Hague to appoint an arbitrator. The Treaty states that the decision of a majority of the arbitrators shall be considered to be the decision of the tribunal. Both countries are obligated to accept the decision as final, definitive and binding.

• **Outcomes and results**

The Treaty deals with three projects related to water resources: the Sarada Barrage, the Tanakpur Barrage, and the Pancheshwar Multipurpose Project (PMP). Of these, it should be noted, the works at the Sarada Barrage and the Tanakpur Barrage were completed in 1920 and 1992 respectively.

In addition, the Letters exchanged between the Prime Ministers of Nepal and India regarding the Mahakali Treaty also establishes principles to be applied and arrangements to be made in finalising the Detailed Project Report (DPR), completing negotiations, and implementing the PMP. Accordingly, the Letter mandates that the DPR must be finalised by both countries within six months from the effective date of the Mahakali Treaty, and provides that the exchange of necessary data and reports must be expeditious. The Letter clarifies further that, during the preparation of the DPR and the accompanying assessment of the benefits to each country as a result of the construction of the PMP, an assessment of irrigation benefits would also be conducted. The Letter directed that the assessment of irrigation benefits for both countries should focus on incremental and additional benefits due to augmentation of river flow, and on the value of works saved and damage avoided due to increased flood control resulting from construction of the PMP.

• **Assessment of outcomes/results by involved stakeholders**

The Mahakali Treaty is a first in many ways, primarily in laying down the principle that as a boundary river on large stretches, the Mahakali River will be developed in an integrated way to maximise the total net benefit from such development. Both parties will, in theory, be entitled to equal benefits, and will thus share the costs in proportion to the share of benefits they actually receive. These principles, self-evident though they may be, were not observed in earlier agreements between India and Nepal, including the two existing projects on the Mahakali River itself, the Sarada and Tanakpur Barrages.

The Mahakali Treaty, however, has also engendered a wide spectrum of debate within various segments of India’s and Nepal’s populations concerning the enchantments and disenchantments over the conclusion of the Treaty, the numerous hidden political agendas, environmental concerns, and strategic choices with respect to the location of the dam and the actual components of water sharing contained in the Treaty.

Talks between Nepal and India on the DPR have not been conclusive and the DPR has not been completed within the six months mandated by the Treaty. The technical teams working on the DPR asked for two more years. This did not come as a surprise to many. Most concerns raised earlier by the two sides have resurfaced, including the conditions attached to the ratification by the Nepalese parliament. For instance, the provision regarding the equal sharing of water in the Mahakali Treaty is applicable only to that water not already in

199 See supra Note 184.
200 See supra Note 184.
201 See supra Note 184.
use by India. This was established by the “prior use” clause in the Mahakali Treaty. India has recently been asking under the “prior use” clause not only for water for the Sarada Barrage but also for water from the lower Sarada Canal. This will mean that India will have to be assured of 449 cusecs of water. It is only after India receives its quota of “prior use” of Mahakali waters that the remaining flow will be divided equally between the two countries202.

With regard to the Pancheshwar Multipurpose Project, there is currently a great deal of concern over the growing wave of public indifference toward it. This is especially troublesome because of differences mentioned between Nepal and India over the interpretation of certain provisions of the Mahakali Treaty that relate to how the waters of the Mahakali River should be shared. Notwithstanding these differences, the Mahakali Treaty remains a milestone because it is more than a project. The Treaty has informed the world of a conducive environment in the region for development of water resources. Projects as big as Pancheshwar take time to materialise. What is necessary for the success of the PMP and other projects of equal magnitude is durable consensus and consistency in the working of the parties.

It should be noted that the two governments approved the opening of a Joint Projects Office for Pancheshwar Investigations (JPO-PI) in Kathmandu on November 1, 1999. This office will facilitate the carrying out of additional investigations and studies required for preparing the Joint DPR203.

4.7.3. Overall Conclusions

Despite its shortcomings, the Mahakali Treaty has made attempts to reconcile the conflicting interests between the two countries as much as possible. When compared with the previous agreements relating to the Mahakali River - the Sarada Treaty and the Tanakpur Agreement - the Mahakali Treaty has made significant progress in broadening the scope of water resource development as well as defining the rights and obligations of the two countries. Possibilities for improvement exist. The Mahakali Treaty envisions extensive bilateral cooperation. Regular reviews may take place. The Joint Commission may also provide a continuing point of contact and appropriate exchange of information that may help the two governments along in their decision-making. If the finalisation of the DPR never materialises, the Mahakali Treaty would still continue to exist, but would be reduced in scope and limited only to regulating the Sarada and Tanakpur Barrages. In conclusion, the signing of the Mahakali Treaty has indeed provided India and Nepal with an opportunity for meaningful cooperation to benefit the millions of people in the two countries whose livelihood depends on the waters of the Mahakali River204.

4.7.4. Complementary bibliography

- Informal Sector Service Center, The Main Event of the Year. The Mahakali Treaty between Nepal and India.
  http://www.hri.ca/partners/insec/Yb1996/Annex_2.shtml

202 See supra Note 184.
203 See supra Note 184.
204 See supra Note 184.
4.8. Mekong Hydropower Development Strategy

- **Key issue addressed (second and third level associated issues if appropriate)**

  International Policy in Shared River Basins.
  - Need for negotiation/departing situation: Desire for a common approach to developing joint resources.
  - International community/actors: UN bodies, donors, multilateral development banks.
  - Nature of involvement of the international community: Financial (grants), technical and managerial assistance.
  - International framework referred to: International principles, outcomes of international conferences.
  - Scope: River basin development.
  - Main issues dealt with by agreement: Development of programmes or projects.
  - Negotiation and implementation mechanisms: Basin organisation, joint committee.

- **Integration**
  Establishment of Mekong Committee, 1957\(^{205}\).
  Agreement on the Cooperation for Sustainable Development of the Mekong River Basin, 5 April 1995\(^{206}\).

- **Implementation**
  Mekong Hydropower Development Strategy

**Stage regarding the project life cycle**

Strategic planning

4.8.1. Description of the framework

- **General description of the country institutional set up where the specific policy/normative is located**

Since the early 1950s, the United Nations’ Economic Commission for Asia and the Far East (ECAFE) at Bangkok was fascinated by the great potential of the Mekong and initiated the concept of using the Mekong’s potential for economic development of the basin countries. These countries, with the exception of Thailand, were among the poorest in the world and suffered for decades from the ravages of continuing wars. The idea of using the Mekong's vast resources to bring prosperity and peace to the region greatly appealed to the international community.

The strong interest and support of the international community for the Mekong effort was motivated by many factors. The challenge of developing the vast resources of a great river was irresistible. The extreme poverty of the people and their continued suffering by the ravages of wars generated great sympathy. Many donors emphasized that the cost of developing the Mekong would be a tiny fraction of the huge expenditure on the continuing

\(^{205}\) Statute of the Committee for Co-ordination of Investigations of Lower Mekong Basin established by the Governments of Cambodia, Laos, Thailand and the other Republics of Vietnam in response to the decision taken by the United Nations Economic Commission for Asia and the Far East. Phnom-Penh (Cambodia), on 31 October 1957.

[http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/382ENG.htm](http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/382ENG.htm)

\(^{206}\) Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, 5 April 1995

[http://www.mrcmekong.org/agreement_95/agreement_95.htm](http://www.mrcmekong.org/agreement_95/agreement_95.htm)
war that was destroying the region's economy and its people. The belief that the Mekong could bring peace in the region was shared by most donors. Moreover, the Mekong provided opportunities to every donor country to support one or more aspects of its development according to the size of its financing\textsuperscript{207}.

- **Detailed description of the specific policy/normative framework addressing the key priority issue**

A formal basis for international cooperation was established in 1957, when the Mekong Committee, comprising ministerial level representatives from Cambodia, the Lao PDR, Thailand and South Vietnam, was established. The Committee did not include China and North Vietnam. South Vietnam represented Vietnam.

The Committee’s declaration of principles cited “coordinated development of the basin’s resources on the basis of reasonable and equitable sharing between the riparian states” as its main objective. The main function of the Committee was to “promote, coordinate, supervise and control the planning and investigating of water resources development projects in the lower Mekong Basin”\textsuperscript{208}.

The four lower riparian countries on the Mekong agreed, among other issues:

To cooperate in all fields of sustainable development, utilisation, management and conservation of the water and related resources of the Mekong River Basin including, but not limited to irrigation, hydro-power, navigation, flood control, fisheries, timber floating, recreation and tourism, in a manner to optimise the multiple-use and mutual benefits of all riparians and to minimise the harmful effects that might result from natural occurrences and man-made activities.

To promote, support, cooperate and coordinate in the development of the full potential of sustainable benefits to all riparian States and the prevention of wasteful use of Mekong River Basin waters, with emphasis and preference on joint and/or basin-wide development projects and basin programs through the formulation of a basin development plan, that would be used to identify, categorise and prioritise the projects and programs to seek assistance for and to implement at the basin level.

To protect the environment, natural resources, aquatic life and conditions, and ecological balance of the Mekong River Basin from pollution or other harmful effects resulting from any development plans and uses of water and related resources in the Basin.

To cooperate on the basis of sovereign equality and territorial integrity in the utilisation and protection of the water resources of the Mekong River Basin.

To utilise the waters of the Mekong River system in a reasonable and equitable manner in their respective territories, pursuant to all relevant factors and circumstances, the Rules for Water Utilisation and Inter-Basin Diversion provided for the Agreement.

- **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring**


\textsuperscript{208} See supra Note 207.
The Mekong Committee was supported by a Secretariat headed by an Executive Agent who was appointed by the United Nations (UN) in consultation with the four riparian countries. An Advisory Board of international experts was also established to support the Executive Agent.

The administrative cost of the Committee and Secretariat was financed by the United Nations Development Program (UNDP). The cost of planning, investigations and studies was financed by such donor countries as Australia, Canada, France, Germany, Japan, the Netherlands, New Zealand, the United Kingdom and the United States. The Asian Development Bank (ADB) also supported the effort but the World Bank was not an active participant.

- Brief description of the implementation history of the norm, including enforcement and compliance aspects

The United States financed the feasibility of the Pa Mong dam, Japan studied the Sambor dam, the Netherlands examined the drainage problems in the Vietnam delta, flood control studies were taken up by France and the potential of tributary rivers was investigated by others. The effort on investigations and planning was immense. The Mekong Secretariat coordinated the activities and formulated the overall plan.

After more than a decade of intensive studies, the Mekong Secretariat prepared an Indicative Plan for development of the lower Mekong Basin. In April 1969, the UN Secretary General visited the World Bank and requested its President to review the Indicative Plan and lead the effort to mobilise donor support for its implementation. The Bank established a Mekong Division in its Special Projects Department, made Vice President Mohammad Shoaib responsible to direct the Bank’s Mekong effort, and posted a representative in Bangkok to liaise with the Mekong Secretariat.

The report on the Indicative Plan was finalised in 1970. The report estimated the hydropower potential of the lower basin at 37,000 MW, of which 51 percent was in the Lao PDR, 33 percent in Cambodia and the balance in the other two countries. The Indicative Plan proposed a cascade of seven major dams on the main river with a total storage capacity of 136 billion m$^3$ and installed power of 23,300 MW. PaMong (4800 MW), Stung Treng (7200 MW) and Sambor (3400 MW) were the largest. In addition, many dam sites were identified on the tributary rivers. Of these, Nam Theun 1 and Nam Theun 2 in the Lao PDR were most attractive for power generation. The Plan also covered other multipurpose aspects such as irrigation, flood control, navigation and fisheries, but its power aspects were dominant.

The World Bank’s analysis of the feasibility and appropriateness of the Plan in the light of the economic and political situations of the basin countries, their demands for power, and their implementation and absorptive capacities indicated that the Plan was ambitious, unrealistic, and inconsistent with the needs and priorities of the countries. Pa Mong and Sambor projects, which were studied in greater details, required considerable more work before they could be considered. Other projects were at best at the pre-feasibility or reconnaissance stages. The demand for power in the basin countries was too small compared with the potential of the proposed projects. Thailand, the main customer for power, was unwilling to rely on sources outside its country.

The Bank also noted that the governments of the basin countries had little involvement in shaping the Plan. The Mekong could bring the countries together at some stage, but more than a decade of effort on the Indicative Plan had not stimulated cooperation between them.

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209 See supra Note 207.
210 See supra Note 207.
211 See supra Note 207.
The Mekong Committee members appeared too overwhelmed by the galaxy of foreign experts to play a major role in project selection and decision making. The Bank discreetly discussed its findings with the basin countries and donors and was encouraged to note that they shared its concerns. However, they were reluctant to comment openly and asked the Bank to report its findings frankly.

The Bank was concerned that its findings might be viewed as negative and disruptive. However, after considerable internal discussion and debate, it concluded that it had an obligation to assist the basin countries, the Mekong Committee and the participating donors in focusing their efforts on an action plan which was consistent with the political and economic realities of the basin countries and the needs of their people. Accordingly, it presented a paper commending the Mekong Committee for preparing the Indicative Plan which helped to increase the awareness of the basin countries and the international community of the great potential of Mekong for economic development of the region.212

The paper recognised the usefulness of the Plan as a guide for riparian cooperation to harness the Mekong’s potential in future. It agreed that at this stage, the Plan was only indicative as suggested by its title. But the paper stressed the importance of addressing the urgent needs of the countries and their people and made a series of recommendations, such as (a) prepare and implement small-scale agricultural projects in areas where the people could use their benefits; (b) prepare and implement pilot irrigation projects, particularly in the Lao PDR and Cambodia, and test their viability before undertaking large projects; (c) explore small hydropower projects on tributary rivers, like the Nam Ngum project in the Lao PDR, for meeting local power demand and possible export of power to neighbouring countries.

The Bank’s recommendations were endorsed by the Mekong Committee and donor countries. A fund for financing a pilot projects program was established and the Asian Development Bank (ADB) and the World Bank agreed to act as executive agencies of the Mekong Committee to implement the program. Subsequently, the donor countries financed installation of additional power units at the Nam Ngum project in the Lao PDR for local use and export of power to Thailand.213

The World Bank’s role in the Mekong was different from its usual role in other basins. There were no riparian disputes over sharing of the Mekong’s water or power resources. The river was virtually unexploited and its resources were too vast to cause disputes. Riparian cooperation for sharing its resources, therefore, was not an issue. The Bank’s concern was that the Indicative Plan was not only unrealistic but could create unnecessary disputes over sharing its theoretical benefits. The Bank, therefore, tried to address two objectives, to direct the focus and efforts of the Mekong Committee to a plan of action which was consistent with the needs of the people, and to prevent unnecessary disputes over sharing the hypothetical benefits of the Indicative Plan. Given these circumstances, the Bank did not limit itself merely to commenting on the Plan. It played a proactive role in proposing an alternative action plan and seeking its acceptance.214

Subsequent events justified the Bank’s role. The interest of the United States, a major contributor to the Mekong effort, faded after the Vietnam War. The invasion of Cambodia by Vietnam engulfed the region in continuing wars. Donor countries and international agencies diverted their assistance to normal operations in the basin countries. The Mekong Committee and Secretariat focused increasingly on tributary rivers.

In 1978, the Lao PDR, Thailand and Vietnam set up an Interim Mekong Committee to revise the Indicative Plan in the light of the changing economic, social and political conditions in the region. The Interim Committee prepared a revised Indicative Plan and

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212 See supra Note 181.
213 See supra Note 181.
214 See supra Note 181.
4- Description of relevant examples: Mekong Hydropower Development Strategy

presented it in a report entitled “Perspectives for Mekong Development”. The report recognised that the Revised Plan was still indicative and should be modified to reflect the changing circumstances of the basin countries.\(^{215}\)

4.8.2. Description of the example

- **Project description**
  
The Mekong River (see Map 8) is 4,200 km long and carries an average annual flow of 475,000 million m\(^3\). Rising in Tibet and flowing for about 2,000 km through high mountain ranges and valleys, it enters the lower Mekong Basin at the border of the Lao PDR. The river then forms the border of the Lao PDR and Thailand and flows through Cambodia and Vietnam before discharging into the South China Sea. The lower Mekong Basin covers 609,000 km\(^2\) (about 77 percent of the Mekong’s total catchment) and includes almost all of the Lao PDR and Cambodia and large parts of Thailand and Vietnam. The Mekong's potential for hydropower, irrigation, flood control, navigation and fisheries development is immense.\(^{216}\)

- **Implementation of the key issue**
  
The World Bank succeeded in persuading the Mekong Committee, the United Nations and the donor countries to postpone action on the huge projects of the Indicative Plan until the basin countries needed them. Now Thailand is an emerging developed country. Vietnam is achieving growth rates of 9 to 10 percent and the debate is whether they ought to be 12 percent or more. The Lao PDR and Cambodia have made remarkable progress within a short time after they began their transition process.

Those four lower riparian countries met in Kuala Lumpur in December 1992 to consider a legal and institutional framework for cooperation. A working group set up in 1993 with the assistance of the UNDP prepared that framework and the four basin countries signed on April 5, 1995 the “Agreement on the Cooperation for Sustainable Development of the Mekong River Basin” and established the Mekong River Commission (MRC). China and Myanmar are also riparians, and they have been extended invitations to join the Agreement.

The Agreement came about at the initiative of the four signatories, and has therefore a greater likelihood of success than the earlier 1957 agreement which was perceived as mainly donor-driven. The Bank has no significant involvement in the Mekong development program at present.\(^{217}\)

The MRC is a river basin organisation that provides the institutional framework to promote regional cooperation in order to implement the 1995 Agreement. The MRC serves its member states by supporting decisions and promoting action on sustainable development and poverty alleviation as a contribution to the UN Millennium Development Goals.

Since the 1995 Agreement, the Mekong River Commission (MRC) has launched a process to ensure “reasonable and equitable use” of the Mekong River System, through a participatory process with National Mekong Committees in each country to develop procedures for water utilisation. The MRC is supporting a joint basinwide planning process with the four countries, called the Basin Development Plan, which is the basis of its Integrated Water Resources Development Programme. The MRC is also involved in fisheries management, promotion of safe navigation, irrigated agriculture, watershed management, environment monitoring, flood management and exploring hydropower options.

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\(^{215}\) See supra Note 181.

\(^{216}\) See supra Note 181.

\(^{217}\) See supra Note 181.
The MRC is funded by contributions from the four member countries and from aid donors. Formal consultation with the donor community is carried out through an annual Donor Consultative Group meeting.\footnote{MRC. 2003. State of Basin Report. Executive Summary. Mekong River Commission, Phnom Penh} \footnote{The Mekong River Commission webpage. http://www.mrcmekong.org/}

\begin{map}{8. Mekong River basin}{218}{Map 8. Mekong River basin}{218}
The MRC’s Mekong Programme is a Regional Cooperation Programme for the Sustainable Development of Water and Related Resources in the Mekong Basin. Its goal is to achieve more effective use of water and related resources to alleviate poverty while protecting the environment. Using the concept of Integrated Water Resources Management (IWRM), the MRC believes a well-balanced, peaceful, equitable and sustainable development process can be facilitated for the mutual benefit of all Mekong riparian countries by

(a) applying the principles of Integrated Water Resources Management the MRC's goal is to encourage balanced and coordinated developments and investments in the areas of irrigation and drought management, navigation, hydropower, flood management, fisheries, watershed management, environment and tourism;

(b) developing the economic potential of the Mekong River system for food, domestic uses, power generation, transport and tourism is a key to fighting poverty and increasing people's welfare in the region. Through cooperation and planning, MRC is working to discover the best path for the region's long-term development

The four pillars of that programme and of the MRC’s Strategic Plan 2006-2010 are (a) maintaining and strengthening MRC’s knowledge base to ensure continued excellence; (b) strengthening the cooperation framework between member countries; (c) protecting the environment and ecological balance in the basin; (d) facilitating coordinated development and investment supported by the international donor community, development banks and the private sector.

Whenever any difference or dispute may arise between two or more parties to this Agreement regarding any matters covered by this Agreement and/or actions taken by the implementing organisation through its various bodies, particularly as to the interpretations of the Agreement and the legal rights of the parties, the Commission shall first make every effort to resolve the issue. In the event the Commission is unable to resolve the difference or dispute within a timely manner, the issue shall be referred to the Governments to take cognisance of the matter for resolution by negotiation through diplomatic channels within a timely manner, and may communicate their decision to the Council for further proceedings as may be necessary to carry out such decision. Should the Governments find it necessary or beneficial to facilitate the resolution of the matter, they may, by mutual agreement, request the assistance of mediation through an entity or party mutually agreed upon, and thereafter to proceed according to the principles of international law.

The Mekong River Commission Secretariat, which is based in Vientiane, Lao PDR, provides administrative and technical support to the four National Mekong Committees in each country.

MRC has established relationships with over thirty co-operating countries and international institutions. The donor community provides technical and financial support to the MRC programmes and projects. In pursuance of the 1995 MRC Agreement, a Donor Consultative Group (DCG) was set up to coordinate development assistance to MRC in an effective and collective manner. Close co-ordination with the Asian Development Bank (ADB), the World Bank, the Governments of Japan, France, Sweden, Switzerland, and the United Kingdom has been sought in the field of hydropower development. Specifically it has been pursued in relation to the planning of the hydropower programme, GMS interconnection, transmission and power trade, master plans for subbasins, run-of-river options, and environmental, socio-economic and project financing studies.

In March 2000, MRC and ADB signed a Partnership Agreement defining the roles and tasks of each party with regard to activities of common interest. The MRC has also established relations with other institutions, including Civil Society Organisations. Further
improvements are needed through better stakeholder participation approach. Greater efforts are also required to achieve effective co-ordination by avoiding overlapping and duplication of efforts, with a view to maximising development assistance for the benefit of the people living in the Mekong Basin.\textsuperscript{223}

- **Outcomes and results**

Hydropower is an important resource of the Mekong Basin. It has the potential to satisfy growing national and regional energy needs. For some countries in the region, it is one of the main exploitable natural resources. As such, hydropower represents at present, and potentially even more so in the future, a major source of export earnings. It has the potential to contribute to economic development in a sustainable way when planned and implemented properly. A regional approach to power supply, allowing hydropower to be developed when it competes effectively with other supply sources, taking costs, environmental and socio-economic aspects fully into consideration can imply significant cost savings\textsuperscript{224}.

Estimates of the hydropower potential of the Lower Mekong Basin (LMB) vary, depending on the applied feasibility criteria. MRC estimates put the hydropower potential of the Basin at some 30,000 Mw. Of this, 13,000 Mw are on the mainstream, 13,000 Mw in Lao tributaries, 2,200 Mw in Cambodian tributaries, and 2,000 Mw in Vietnam tributaries. To date, 11 schemes have been completed in the LMB, all tributary projects, totalling some 1,600 Mw, or 5% of the potential.

Mainstream projects in Yunnan Province of China represent a potential of some 23,000 Mw, of which somewhat less than 3,000 Mw have been developed to-date. In contrast to the situation in Yunnan, there are no mainstream projects included in the expansion plans in the LMB countries, for several reasons: (a) the political situation in the region has not been favourable for the development of multinational schemes; (b) the magnitude and cost of the projects are large in relation to the economies and power demand of the riparian countries; (c) the environmental impacts, particularly related to resettlement and fisheries, have been perceived to be too formidable\textsuperscript{225}.

However, some features have emerged in recent years to provide a more encouraging background for development of the hydropower resources of the Basin:

a) The MRC 1995 Agreement has provided a new framework of cooperation in the LMB.

b) Estimates from an inventory by MRC in 1970-80s, reviewed in 1998, and based on studies at various levels of detail.

c) Increasing demand for power in Thailand and Vietnam, together with recognition of the costs and environmental issues associated with thermal plants, led in the 1990s to a renewed interest in hydropower as a source of energy. This has resulted in agreements between Thailand and Laos and between Vietnam and Laos for purchase and supply of hydropower for several schemes;

d) Private developers and large state owned utilities with financial and managerial spare capacity are looking for investment opportunities, provided environmental issues can be minimised and financial challenges related to hydropower can be overcome.

\textsuperscript{223} See supra Note 192.
\textsuperscript{224} Mekong Hydropower Development Strategy. [http://www.mrcmekong.org/programmes/hydropower.htm](http://www.mrcmekong.org/programmes/hydropower.htm)
\textsuperscript{225} See supra Note 197.
e) The rate of development is sensitive to demand growth and to global fuel and regional electricity prices. Schemes that are marginally feasible today may become attractive if the price of energy alternatives escalate in the future.²²⁶

A notable characteristic of the power supply and demand situation in the region is the pattern of resource availability and demand for power in the countries around the Basin. The largest market for power is Thailand, but the country has very limited remaining hydropower resources that are considered exploitable from an environmental point of view. In Vietnam there is a situation of surplus capacity in the north and deficit in the south. Laos is the country with the largest hydropower potential but with the smallest domestic markets. These examples of imbalances between demand and supply indicate a significant potential for power trade in the region.

Only a minor share of the hydropower potential in the Mekong Basin has been developed so far. The situation differs, however, from country to country. While Thailand has developed most of its potential on the tributaries, Laos has developed only a few of its many possible projects. Cambodia is yet to construct its first hydropower project within the Basin. Vietnam has prepared plans for full development of the hydropower potential in its part of the Basin, and the first of a series of plants has recently been commissioned. China has an ambitious development plan for mainstream projects, and two large run-of-river projects have already been completed.²²⁷

The signing of the 1995 Agreement, which established the MRC in its present form, marked a turning point. Since then, the mandate of the Commission is to co-operate and promote sustainable development, utilisation, management and conservation of the water and related resources of the Mekong River Basin in an integrated approach, for the economic and social well-being of the people in the riparian countries.

In 1998 the governing body of the organisation, the MRC Council, approved five principles that outline the role of the organisation with respect to the development of hydropower in accordance with this change in mandate. These principles focus on information exchange, close co-operation with relevant international institutions, co-ordination and monitoring of basin-wide activities, and studies and methodology development with respect to cumulative environmental impacts and socioeconomic aspects, as well as mechanisms for public participation and private sector involvement. Due to these strategic changes and reorientation, the involvement of MRC in the hydropower development sector needed to be redefined. These five principles have now become the foundation for formulating the MRC Hydropower Development Strategy.²²⁸

This Strategy is based on extensive discussions and information collected from sources inside as well as outside of MRC. Consultations and exchange of views have taken place throughout the process of strategy formulation. This process involved representatives of agencies and individuals in the four MRC member countries, including the National Mekong Committees and the relevant line agencies, as well as a wide range of civil society organisations and international agencies and organisations, such as the Asian Institute of Technology, ADB, WCD, the Global Water Partnership (GWP), the World Wild Fund for Nature, Oxfam America, TERRA Foundation, and others.

The formulation of a hydropower strategy for MRC needs to be seen in the context of the situation in the Mekong River Basin. It had to take the following key issues into consideration and attempt to find solutions that are appropriate for the specific situation in the Basin and in the MRC member countries: (a) the general controversy over large dams which, among other factors, led to the creation of WCD; (b) cross-boundary environmental and social impacts of hydropower development, including downstream, cumulative effects

²²⁶ See supra Note 197.  
²²⁷ See supra Note 197.  
²²⁸ See supra Note 197.
of inter-basin diversions and seasonal storage projects; (c) conflicts with other water uses, including the disturbance of hydropower plants to fish habitats and migration; (d) resettlement issues related in particular to large reservoirs; (e) deficiencies in the scientific quality of Environmental Impact Assessments (EIAs), and the negligence of EIA preparation and participation procedures; (f) the cost-competitiveness of combined cycle alternatives where relatively inexpensive natural gas is available; (g) the geographical separation of markets in the region and the location of export-oriented schemes; (h) various barriers to power trade, including the lack of bulk power transmission systems in the region, that hamper the supply of electricity from the sources with lowest cost; (i) different procedures and practices in the riparian countries concerning how environmental impacts and issues are dealt with, and with respect to project evaluations; (j) new challenges in hydropower financing with less available public funding and hesitation by the private sector; (k) inefficient procedures with respect to private participation in hydropower development.

In accordance with its mandate as well as with current development thinking on natural resources management, MRC’s involvement in hydropower will be guided by the following policy principles that provide broad guidelines for MRC’s decision-making and operations:

a) The hydropower potential in the Mekong Basin is a natural resource to be considered for development, alongside other water and water related resources, in order to meet increasing needs for energy and for the purpose of economic development;

b) Acknowledging a multi-sectoral approach to water resource management as a basis for activities in the Mekong Basin, hydropower should be developed with due regard to other uses and users of water;

c) Hydropower should be developed and operated in a way that fully recognises the need to safeguard ecosystems and the economic and social interests (beyond energy) of the populations affected;

d) Participation by stakeholders throughout the planning and implementation process is necessary to ensure that the interests of the populations affected are taken fully into account, and to obtain sustainable solutions;

e) Hydropower should be developed in the context of true least-cost expansion of power, where the full range of options and their associated costs, direct and indirect, are taken into account and assessed on a level basis. Demand side management, loss-reduction measures and alternative supply options should be allowed to play their role in easing the pressure on natural and other resources needed for power development;

f) The trade-off between hydropower development and other uses of water and water-related resources, and between development and conservation, should be carried out within a framework that recognises the value of natural and man-made resources. It should promote consistency and transparency for comparing all costs and all benefits as well as their distribution, while acknowledging the limitations with respect to measuring and placing values on many natural resources; and

g) Deregulation and private sector participation in hydropower development in the riparian countries should be encouraged and seen as a gradual process towards decentralisation, accountability and improved economic performance. It should also be seen as a means of improving the possibility of financing hydropower projects.

MRC will apply these policy elements to guide its own involvement in hydropower and is committed to promoting them in the riparian member countries.
The MRC Work Programme for 2005 foresaw that under the hydropower component, cooperation structures with hydropower segments in the riparian countries would be established and advice on the planning, development and operation of hydropower plants in the LMB would be provided in close consultation with the riparian governments and the Basin Development Plan (BDP). Costs and benefits of existing hydropower plans and dams would be analysed to support identification of options for best hydropower development in LMB. Studies would be carried out on the potential for improved efficiency, reduced power demand and savings in investments in the power sector in the riparian countries through Demand Side Management (DSM) and other viable options. It was envisaged that a study would be conducted on practices and obstacles for private and public participation in hydropower development, proposing efficient and fair principles for that participation. Hydropower projects in the LMB would be identified for the BDP planning process. The Hydropower Development Strategy should lead to a wider Hydropower Programme.

**Assessment of outcomes/results by involved stakeholders**

International and national NGO communities and local interest groups have been heavily engaged in hydropower projects in the region, most prominently in Thailand. Up to the present time, most environmental concerns have been related to specific projects. Less focus has been on hydropower in a regional perspective. One aspect of regional relevance is the repeated claim that the new hydropower projects are not financially viable and that thermal power represents a more flexible and economically attractive alternative. In particular, this has been used as an argument against projects in Laos that plan to sell most of their output to Thailand.

The opposition against specific projects and project plans is dominated by concerns for the impacts on biodiversity, and impacts on local communities and their fishing and agricultural activities. The biodiversity concerns are linked to disturbances of habitats of valuable and partly unstudied fish populations and to the destruction of rain forest in reservoir areas. It is claimed that the hydropower projects, with planned inundation and road building, have been used as an excuse for logging activities for which concessions would otherwise not have been given. In some cases this logging has started before the proper decision has been taken to implement the project.

Socio-economic impacts have been related to resettlement of people from the reservoir area, and local communities’ loss of valuable river garden plots and fishing opportunities. The compensation for the loss of property and production opportunities seems in many cases to have been inadequate. A particular concern of the international Civil Society Organisations has been the resettlement of minority ethnic groups. Such hill tribe groups are often found in remote and mountainous regions, which are rich in hydropower potential.

A repeated argument from environmental quarters has been the deficiencies in the scientific and professional quality of the Environmental Impact Assessments (EIAs) and the negligence of EIA preparation and participation procedures. In particular the assessment of changes in fish composition and production resulting from the proposed hydropower scheme has been criticised.

It is also claimed that the assessments have often lead to overly optimistic predictions of new economic opportunities and consequently inadequate compensation to local people. Criticism has been raised that the EIAs in many cases have been prepared very late in the project development sequence. Consequently, the studies have had limited influence on project design and operational principles. In almost all cases the Civil Society Organisations claim that the EIAs and the mitigation and resettlement plans have been prepared without

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231 See supra Note 223.
the proper participation of the affected parties and without proper recognition of their priorities and needs.

Ignoring opposition or trying to convince opponents about the “evident benefits” of hydropower development has proved not to be successful. The only way hydropower can be part of future economic development is by ensuring that it is balanced with the other economic, social and environmental considerations and priorities in the region. It is therefore high time that a well conceived hydropower strategy is integrated into any development plans for the Mekong river basin and that the MRC places itself as a neutral mediator in this respect.

4.8.3. Overall Conclusions

Current development of the hydropower potential in the Mekong Basin is primarily based on national hydropower policies in the riparian countries. No least-cost expansion plan has been prepared for the Basin-wide hydropower potential, only for certain sub-basins. An expansion plan for the Basin as a whole would be meaningful only if an authority or mechanism existed which ensured that decisions regarding implementation were made according to the plan. Such decision making processes are not in place at present.

However, a power pool which covered the region and was developed over time in the context of deregulated power sectors would provide a mechanism where system development governed by the market could be expected to approximate least-cost expansion. Such a development would also require a bulk transmission system connecting all the important areas of generation with all major load centres in the region.

Since MRC has no authority to make decisions on the behalf of the member countries, the effectiveness of a screening and ranking process performed by the MRC, resulting in a list of prioritised projects in the Basin, is uncertain. MRC may present recommendations to the member countries as to which projects should be advanced to feasibility study level and possible implementation, and in what sequence. In doing so, MRC should base its recommendations on least-cost, basin-wide considerations.

For the member countries, however, national policies and considerations are their primary concern and will govern their priorities (assuming that they are in accordance with the countries’ obligations under the 1995 MRC Agreement). Moreover, the introduction of the private sector into hydropower development in recent years has shown that it is not easy to stage the implementation of hydropower projects within a least-cost development context of even a single country.

4.8.4. Complementary Bibliography

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  [http://ocid.nacse.org/cgi-bin/qml](http://ocid.nacse.org/cgi-bin/qml)


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4.9. Gabcikovo-Nagymaros

- **Key issue addressed**

  International policy concerning shared river basins
  - Need for negotiation/departing situation: Desire for a common approach to developing joint resources.
  - International community/actors: International Court of Justice, governments other than the involved states.
  - Nature of involvement of the international community: Neutral mediator / facilitator.
  - International framework referred to: International principles.
  - Scope: River reach development.
  - Main issues dealt with by agreement: Development of projects, definition of project characteristics.
  - Negotiation and implementation mechanisms: Joint Contractual Plan.

- **Integration**

  Treaty between the Hungarian People's Republic and the Czechoslovak People's Republic concerning the construction and operation of the Gabcikovo-Nagymaros System of Locks, 16 September 1977

- **Implementation**

  Gabcikovo-Nagymaros, Danube River, Hungary and Slovakia, since 1977

- **Stage regarding the project life cycle**

  Implementation

4.9.1. Description of the framework

- **General description of the country institutional set up where the specific policy/normative is located**

  Negotiations between the governments of Czechoslovakia and Hungary to build the Gabcikovo-Nagymaros Dam date back to 1951. The original intent of the project was to alter the shallow reach of the Danube between Bratislava, Czechoslovakia and Gyor, Hungary and to connect the two countries to the Danube-Main-Rhine trans-European waterway. The project was strongly supported by the Soviet Union whose ships transported large quantities of goods through this part of Eastern Europe. Via this waterway, direct access to the Black Sea from Budapest and to the North Sea from Bratislava would be possible. Joint planning on the waterway began in the 1950s. An important component of the long-term plan was to assess the environmental and regional impacts of a dam project.

  While the original intent of the project was to construct a navigable waterway, the priority of the project was refocused in the 1970s toward energy production. This reorientation was driven by two factors. First, with the oil shocks of the 70s, petrol prices were increasing. Thus, it was in the best interest of Czechoslovakia and Hungary to produce more energy. Second, the only way the Hungarian water management bureaucracy was able to gain necessary support and resources within Hungary was to emphasise energy production.

  Hungary always held less enthusiasm for the project than Czechoslovakia because of the Czech’s desire to unilaterally control the Danube. In light of the oil crisis and recentralisation of Soviet power after the Czechoslovak revolution of 1968, the Hungarian People’s Republic and the Czechoslovak People’s Republic signed the “Treaty Concerning the Construction and Operation of the Gabcikovo System of Locks” on 16 September 1977. This signing cut short further environmental and regional impact studies which were slated
for completion at the end of 1978. An agreement signed prior to the 1977 Treaty set the years 1986 to 1990 for starting operations of the Gabcikovo-Nagymaros system.232

The project plan included four objectives:

First, it would manage water flow for flood protection. By building a canal within Slovakia (previously Czechoslovakia), the peak flow of the old Danube channel could be controlled as could hydraulic pressure on existing levees. Around Nagymaros on the Hungarian side, embankments were to be reinforced to protect land banks from erosion.

Second, it would create a navigational inland waterway within Slovakia which met the Danube Commission recommendations of a channel 180 meters wide by 3.5 meters deep. This depth would accommodate barge traffic permitting the Slovak government to increase shipping revenues at the Bratislava port.

Third, it would produce electricity by constructing two hydroelectric power stations. On the Slovak side, the Gabcikovo power plant would have an installed capacity of 720 Mw and an annual production of about 3.0 billion Kwh. In Hungary, the Nagymaros Dam would have an installed capacity of 158 Mw. Annual production was forecasted at 1.0 billion Kwh.

Fourth, it would conserve the ecosystem of the inland delta of the Danube by slowing the river current and preventing erosion. Directing water to river-side forests and side-arms of the Danube would prevent desiccation of these areas.

- Detailed description of the specific policy/normative framework addressing the key priority issue

The 1977 Treaty entered into force on 30 June 1978. According to its Preamble, the system was designed to attain “the broad utilisation of the natural resources of the Bratislava-Budapest section of the Danube River for the development of water resources, energy, transport, agriculture and other sectors of the national economy of the Contracting Parties”. The joint investment was thus essentially aimed at the production of hydroelectricity, the improvement of navigation on the relevant section of the Danube and the protection of the areas along the banks against flooding.233

Provisions regarding protection of the environment included that (1) the water of the Danube was not to be impaired as a result of the construction and operation of the dams and locks; (2) compliance with the obligation for the protection of the environment was to be ensured and (3) the old bed of the Danube was to be maintained234.

At the same time, the 1977 Treaty stipulated that state borders would be respected according to the present navigation line of the old Danube river bed.

The Treaty describes the principal works to be constructed in pursuance of the Project. It provided for the building of two series of locks, one at Gabcikovo (in Czechoslovak territory) and the other at Nagymaros (in Hungarian territory), to constitute “a single and indivisible operational system of works”. The Treaty further provided that the technical specifications concerning the system would be included in the “Joint Contractual Plan” which was to be drawn up in accordance with the Agreement signed by the two Governments for this purpose on 6 May 1976. It also provided for the construction, financing and management of the works on a joint basis in which the Parties participated in equal measure. A variant, known as Variant C is considered for its final stage. Variant C

234 See supra Note 231.
4- Description of relevant examples: Gabcikovo-Nagymaros

included the construction at Cunovo of an overflow dam and a levee linking that dam to the south bank of the bypass canal. Provision was made for ancillary works\textsuperscript{235}.

- Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring

The Project had taken the form of an integrated joint project with the two contracting parties on an equal footing in respect of the financing, construction and operation of the works. Its single and indivisible nature was to have been realised through the Joint Contractual Plan, which complemented the Treaty. In particular, Hungary would have had control of the sluices at Dunakiliti and the works at Nagymaros, whereas Czechoslovakia would have had control of the works at Gabcikovo.

The Joint Contractual Plan set forth, on a large number of points, both the objectives of the system and the characteristics of the works. It also contained “Preliminary Operating and Maintenance Rules”, Article 23 of which specified that “the final operating rules should be approved within a year of the setting into operation of the system”.

The schedule of work had for its part been fixed in an Agreement on mutual assistance signed by the two parties on 16 September 1977, at the same time as the Treaty itself. The Agreement made some adjustments to the allocation of the works between the parties as laid down by the Treaty\textsuperscript{236}.

- Brief description of the implementation history of the norm, including enforcement and compliance aspects

Work on the Project started in 1978. On Hungary’s initiative, the two parties first agreed, by two Protocols signed on 10 October 1983, to slow the work down and to postpone putting into operation the power plants and then, by a Protocol signed on 6 February 1989, to accelerate the Project.

As a result of intense criticism that the Project had generated in Hungary, the Hungarian Government decided on 13 May 1989 to suspend the works at Nagymaros pending the completion of various studies, which the competent authorities were to finish before 31 July 1989. On 21 July 1989, the Hungarian Government extended the suspension of the works at Nagymaros until 31 October 1989 and, in addition, suspended the works at Dunakiliti until the same date. Lastly, on 27 October 1989, Hungary decided to abandon the works at Nagymaros and to maintain the status quo at Dunakiliti. During this period, negotiations took place between the parties\textsuperscript{237}.

Absent an agreed resolution of the problem, Czechoslovakia decided in 1991 to proceed unilaterally with a provisional solution referred to as “Variant C”. It argued that this was justified by the 1977 Treaty, which in effect gave it rights over 80% of the shared water for the purposes of operating a barrage on its side. As “Variant C” proceeded in late 1991 and early 1992, Hungary took the view that it had no option but to terminate the 1977 Treaty, which apparently provided the sole basis upon which Czechoslovakia claimed to be able to proceed to its unilateral and provisional solution. In October 1992 Czechoslovakia dammed the Danube and diverted over 80 percent of the waters of the Danube into a bypass canal on Slovak territory\textsuperscript{238}.

\textsuperscript{235} See supra Note 232.
\textsuperscript{236} See supra Note 232.
\textsuperscript{237} See supra Note 232.
\textsuperscript{238} Sands, P., 1998. Watercourses, Environment and the International Court of Justice: The Gabcikovo-Nagymaros Case, in International Watercourses. Enhancing Cooperation and Managing Conflict,
4- Description of relevant examples: Gabcikovo-Nagymaros

4.9.2. Description of the example

- **Project description**

  The sector of the Danube River with which this case is concerned is a stretch of approximately 200 kilometres, between Bratislava in Slovakia and Budapest in Hungary (see Map 9). Below Bratislava, the river gradient decreases markedly, creating an alluvial plain of gravel and sand sediment. The boundary between the two States is constituted, in the major part of that region, by the main channel of the river. Cunovo and, further downstream, Gabcikovo, are situated in this sector of the river on Slovak territory, Cunovo on the right bank and Gabcikovo on the left. Further downstream, after the confluence of the various branches, the river enters Hungarian territory. Nagymaros lies in a narrow valley at a bend in the Danube just before it turns south, enclosing the large river island of Szentendre before reaching Budapest.

  The Gabcikovo system consists of a head reservoir measuring 60 square kilometers, a dam and system of locks at the reservoir. From this reservoir, a 17 km by-pass canal within Slovak territory was planned to divert water to a power plant at Gabcikovo. The head reservoir at Dunakiliti straddled Hungarian and Slovak territory. Approximately 90 to 97 percent of the Danube’s flow would be diverted to Gabcikovo. The remaining flow would be diverted 8 km back to the old Danube riverbed. Nagymaros, the second power station,

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Map 9. Affected area by Gabcikovo-Nagymaros project

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239 See supra Note 233
240 See supra Note 232.
was to be built approximately 100 km downstream of Gabcikovo. The Nagymaros Project was also to include a dam and reservoir and lock system. The site of the power station was located entirely within Hungary. Variant C comprises a single barrage on the Slovakian side, but requiring the diversion of 80% of the shared water on its territory.

- **Implementation of the key issue**

In November 1992 the European Community began a series of conciliatory moves to broker a cooperation agreement between the Slovak and Hungarian governments. A joint committee consisting of Slovak and Hungarian experts, as well as European Commission representatives, was set up to ensure consultations on the water distribution system. In view of the Slovakian determination to continue construction of the dam, the European Commission believes a compromise over the amount of water diverted to the Slovakian turbines is needed so that the brunt of the environmental damage can be avoided by ensuring sufficient water levels in the old river bed\(^{241}\).

In April 1993, largely under the pressure of the Commission of the European Communities, the two countries agreed to refer the matter to the International Court of Justice (ICJ). The ICJ was requested to decide: (1) “whether the Republic of Hungary was entitled to suspend and subsequently abandon, in 1989, the works on the Nagymaros Project and on the part of the Gabcikovo Project for which the Treaty attributed responsibility to the Republic of Hungary”; (2) “whether the Czech and Slovak Federal Republic was entitled to proceed, in November 1991, to the ‘provisional solution’ and to put into operation from October 1992 this system”, and to determine “what are the legal effects of the notification, on 19 May 1992, of the termination of the Treaty by the Republic of Hungary”.

On 25 September 1997 the ICJ gave judgement in the case concerning the Gabcikovo-Nagymaros Project. It found first that Hungary was not entitled in 1989 to suspend or terminate - on environmental grounds - work on the joint project. Second, it ruled that Czechoslovakia (and subsequently Slovakia) was not entitled to operate from October 1992 a unilateral solution diverting the Danube without the agreement of Hungary (although it ruled that construction prior to operation was not unlawful). Third, the ICJ went on to say that Hungary was not entitled in May 1992 to terminate the 1977 Treaty, which remained in force to this day. As to the future, the ICJ indicated the basis for co-operation and agreement which it hoped the Parties might pursue, suggesting that the preservation of the status quo - one barrage not two, jointly operated, no peak power - would be an appropriate solution, in effect rewriting the 1977 Treaty\(^{242}\).

On the other hand, the ICJ is of the opinion that the Parties are under a legal obligation, during the negotiations to be held by virtue of Article 5 of the Special Agreement, to consider, within the context of the 1977 Treaty, in what way the multiple objectives of the Treaty can best be served, keeping in mind that all of them should be fulfilled. It is clear that the Project's impact upon, and its implications for, the environment are of necessity a key issue. In order to evaluate the environmental risks, current standards must be taken into consideration to maintain the quality of the water of the Danube and to protect nature. New norms and standards have to be taken into consideration. This means that the Parties together should look afresh at the effects on the environment of the operation of the Gabcikovo power plant. In particular they must find a satisfactory solution for the volume of water to be released into the old bed of the Danube and into the side-arms on both sides of the river\(^{243}\).

The ICJ points out that the 1977 Treaty is not only a joint investment project for the production of energy, but it was designed to serve other objectives as well: the improvement

\(^{241}\) See supra Note 231.

\(^{242}\) See supra Note 237.

\(^{243}\) See supra Note 232.
of the navigability of the Danube, flood control and regulation of ice-discharge, and the protection of the natural environment. In order to achieve these objectives the parties accepted obligations of conduct, obligations of performance, and obligations of result. The 1977 Treaty not only contains a joint investment programme, it also establishes a regime. According to the Treaty, the main structures of the System of Locks are the joint property of the Parties; their operation will take the form of a co-ordinated single unit; and the benefits of the project shall be equally shared. The dam at Cunovo has taken over the role which was originally destined for the works at Dunakiliti, and therefore should have a similar status.

The ICJ also concludes that Variant C, which it considers operates in a manner incompatible with the Treaty, should be made to conform to it. It observes that re-establishment of the joint regime will also reflect in an optimal way the concept of common utilisation of shared water resources for the achievement of the several objectives mentioned in the Treaty.

In the Judgment, the ICJ has concluded that both Parties committed internationally wrongful acts, and it has noted that those acts gave rise to the damage sustained by the Parties; consequently, Hungary and Slovakia are both under an obligation to pay compensation and are both entitled to obtain compensation. The Court observes, however, that given the fact that there have been intersecting wrongs by both Parties, the issue of compensation could satisfactorily be resolved in the framework of an overall settlement.

• Outcomes and results

The Parties will have to seek agreement on the modalities of the execution of the Judgment. In this regard it is of cardinal importance that the ICJ has found that the 1977 Treaty is still in force and consequently governs the relationship between the Parties. That relationship is also determined by the rules of other relevant conventions to which the two States are party, by the rules of general international law and, in this particular case, by the rules of State responsibility; but it is governed, above all, by the applicable rules of the 1977 Treaty as a lex specialis. The principle of good faith obliges the Parties to apply it in a reasonable way and in such a manner that its purpose can be realised.

The ICJ ruling seemed to fragment the complex conflict cluster and therefore promote a conflict settlement. However, some essential characteristics had already changed before the ruling was pronounced: Hungary was preparing for accession to the North Atlantic Treaty Organisation (NATO) and the European Union (EU), central civil pressure groups had disintegrated, and the conservative governing coalition had been replaced by an alliance of socialists and liberals.

Each different group used the ICJ ruling to legitimise and strengthen their respective positions. In this manner, the ruling blocked the discourse between the various groups. Conflict management has not progressed since 1997. In fact, the ICJ ruling opened the door to the entire spectrum of political options in Hungary, at the same time, however, cementing mutually incompatible positions.

Neither of the two big Hungarian political parties see itself as capable of regulating the conflict. The conservative Fidesz party strictly rejects building a dam and wants to commit Slovakia to releasing more water into the old Danube riverbed. However, Fidesz does not offer a political roadmap on how to reach this solution. The socialist MSZP party has a strong faction of advocates for constructing the dam among their own ranks. However, since the commitment to build a dam would mean political suicide, the official line of the MSZP is to reject dam construction.

It is the explosiveness of this topic that has led to the current situation in which there is very little debate. The socialists are playing for time and whisper behind closed doors that in the long run a dam will be built. The framework for EC action in the field of water policy, however, may strengthen the opponents of the dam. It calls for enhancing “the status of
aquatic ecosystems” and a “good ecological status” for bodies of water and aims at renaturalising water systems244.

On the other hand, a Slovak foreign policy report approved by the cabinet reads that Slovakia hopes to make some progress in 2006 in the long-running dispute on the Gabčíkovo-Nagymaros hydroelectric power-station system and push forward negotiations on implementing the ICJ verdict. The negotiations will be held at the level of bilateral legal, technical, and economic working groups, and as well as at the level of government delegations. The main aim of the negotiations is to reach an agreement that will be in line with the verdict and fulfill the main objectives of the contract on the construction of the Gabčíkovo-Nagymaros Waterworks signed between Hungary and Czechoslovakia in 1977245.

- Assessment of outcomes/ results by involved stakeholders

On 26 September 1997 the Slovak environmental NGOs – regarding the judgement made by the ICJ - expressed that “in reality, there are no winners in this case, but the losers are the local inhabitants and the unique nature of the Danube inland delta” and they added that the construction of the Variant C destroyed more than 40 km² of Slovak floodplain forests and the present operation is causing continual degradation to the branch system ecosystems. The unilateral operation of Gabčíkovo was illegal, not only according to international law, but also according to Slovakian laws and regulation”. They welcome the recommendations of the Court concerning how to incorporate the norms of the international environmental law and look afresh at the effects of the operation of the Gabčíkovo power plant on the environment. They are prepared to participate in any process that will secure an independent analysis246.

On the other hand - by considering that the sentence of the Court makes possible to make joint efforts as to diminishing environmental damages - on 27 September 1997 the Danube Dam Group requested in Budapest from the parliamentary ad hoc committee dealing with the aspects of the execution of The Hague judgment, to take into consideration in the negotiations that the last big potential aquifer of Central Europe can be found in the region affected by the Gabčíkovo dam; that the building of the Gabčíkovo-Nagymaros system and the operation of the Gabčíkovo power plant seriously harmed the unmatchably valuable ecosystems of Szigetköz-Csallóköz, and that in the period of the debates between the two states, in which EU experts were also present, it became evident that the-orientation of the Danube and the drastic drop in the amount of water in the border-river are the main causes of the damages247.

4.9.3. Overall Conclusions

The Court has gone some considerable way towards developing the law in relation to watercourses and the need to protect the environment. On international watercourses it has
confirmed the cardinal principles of equitable and reasonable use, underscoring the importance of obtaining agreement between riparian states having an interest in the non-navigational use of an international watercourse. And it has brought international environmental law of age, confirming its place in the mainstream rules of public international law, even if in so doing it has exercised a high degree of discretion in indicating applicable principles and standards.  

248 See supra Note 237.
4.10. Aral Sea Basin

- **Key issue addressed**
  
  **International Policy in Shared River Basins**
  
  - Need for negotiation/departing situation: Desire for a common approach to developing joint resources.
  - International community/actors: UN bodies, donors, multilateral development banks.
  - Nature of involvement of the international community: Financial (grants, fund), technical assistance.
  - International framework referred to: International principles.
  - Scope: River basin development.
  - Main issues dealt with by agreement: Water resources allocation, development of programmes or projects.
  - Negotiation and implementation mechanisms: Basin organisations, joint commissions, high level councils, joint committees.

- **Integration**
  

- **Implementation**
  

- **Stage regarding the project life cycle.**
  
  Implementation.

### 4.10.1. Description of the framework

- **General description of the country institutional set up where the specific policy/normative is located.**

  Once the world's fourth-largest inland body of water, the Aral Sea has shriveled to half its former area and a third of its volume. This situation was a consequence of the decision in the 1960s to make the Soviet Union a country self-sufficient in cotton, and to provide employment for a rapidly growing population. The Aral Sea was nearly biologically dead, formerly productive land was dead or dying, the water management system and associated investments and transfers provided by the central planning system was gone, and the potential for conflict was very high.

  During the former Soviet Union era, inter-Republican water resources were managed centrally under the aegis of the Ministry of Water Management. Water use schemes were developed for the Syr Darya and the Amu Darya river basins based on annual water withdrawals limits. They were calculated on the basis of crop requirements and little attention was paid to water quality. Due to the seasonal variations, the Republics would also enter into a series of bilateral and trilateral agreements to correct water allocations made on the schemes.

  With the demise of the former Soviet Union in 1991, five newly emerging Central Asian Republics - Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan - all being riparian to the Amu Darya and the Syr Darya rivers, recognised the urgency for action. The newly established states had to manage two international watercourses in the context of their mutual relationship in accordance with principles and rules of international law as these relationships were no more of a domestic nature. Moreover, the central...
planning and management system had to be replaced by a regional cooperative system. In addition, the five countries regarded by the central Soviet planners, before 1992, as a single agricultural region for economic purposes, have since developed different views with respect to water uses.

Committed to avoiding conflict over water issues, the five Central Asian States put in place interim arrangements and institutions for water sharing. They were aware of the necessity for elaborating an appropriate institutional and regulatory framework for dealing with water scarcity issues. This framework would formalise the need for the five countries to act together and cooperate to face the catastrophe. All five countries have been going through dramatic economic changes. Water uses should be seen within the frame of these economic changes. For example, states have different needs; the upstream states in particular claim water for hydropower uses and the downstream states rely on water mainly for agricultural use.

- **Detailed description of the specific policy/normative framework addressing the key priority issue**

All five countries claimed an equitable share of the waters, acknowledging at the same time that this could only be achieved through international negotiations. As a result, the five Central Asian countries jointly declared on September 12, 1991 that mutual water resources management would be a basis for equity and joint benefits. They subsequently concluded the “Agreement on Cooperation in the Management, Utilisation and Protection of Water Resources in Interstate Sources” on February 18, 1992.

They thereby acknowledged their commitment to cooperative management of waters in the Aral Sea Basin. Under this agreement, the five states agreed that they have common interests in the use and protection of shared water resources and equal rights and responsibilities in this respect. The water resources of the region are defined as “common and integral”. They codified past practices in promising to provide strict observance of the agreed order in terms of water allocation practices under the Soviet period. They also committed themselves to refraining from conducting activities that would result in a deviation from the agreed water shares, causing water pollution or any deviation likely to detrimentally affect the interests of the five states. They also agreed to carry out joint activities for the solution of the Aral Sea crisis and to determine yearly sanitary releases based on water availability for the Aral Sea.

- **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring**

The five countries established the Interstate Commission for Water Coordination (ICWC), which constitutes the institutional framework for managing waters, including water allocation issues and the approval of schedules for the operation of reservoirs. It makes unanimous decisions binding on all water users. It should also be mentioned that two river basin agencies, the water management associations (BVOs), had been established in 1986 for each of the two rivers. They are vested with executive functions with respect to the

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250 See supra Note 221.
4- Description of relevant examples: Aral Sea Basin

operation of hydraulic structures and installations on the rivers. Both the ICWC and the BVOs are responsible for ensuring compliance with water withdrawal limits and guaranteeing the annual volume of water to be supplied to the Aral Sea and its deltas.

Between 1993 and 1995, as steps for reinforcing cooperation among the five states in addition to the ICWC, four intergovernmental institutions were created. These institutions are: (i) The Interstate Council on the Aral Sea Basin (ICAS) intended to set policy, provide intersectoral coordination and review the projects and activities conducted in the Basin, (ii) the Executive Committee of ICAS (EC-ICAS) intended to implement the Aral Sea Program, (iii) the International Fund for the Aral Sea (IFAS) whose purpose was to collect contributions from the five states and donors, and (iv) the Sustainable Development Commission (SDC) to ensure that economic, social and environmental factors are given equal weight in planning decisions. The establishment of these new institutions contributed to strengthen the willingness, and more importantly, to set the framework for the five countries to jointly decide on water management issues.

This institutional structure has since gone through modification, aiming at rationalising the allocation of responsibilities and streamlining the decision-making process, notably for ensuring effective donor grants management. The new International Fund for the Aral Sea (IFAS) is a successor to the former ICAS as well as to the former structure of IFAS. The new IFAS which was established in 1997, has a Board composed of the Deputy Prime Ministers of the five states concerned with agriculture, water and environment, who decide on the policies, programs, and institutional proposals recommended by the Executive Committee (EC). Moreover, IFAS collects contributions and finances program activities.

- Brief description of the implementation history of the norm, including enforcement and compliance aspects
  Developed within other items.

4.10.2. Description of the example

- Project description.
  The Aral Sea drainage basin (see Map 10) covers about 1.8 million km² within seven countries: five republics of the Former Soviet Union, Afghanistan and Iran, although only about 0.5 million km² of this area actively produces or consumes water which could enter the Aral Sea. It is to be noted that contribution of Iran to the flows in the basin is entirely in streams which end in the Kara Kum desert, and cannot actually reach the Aral Sea.

  The Aral Sea is a closed drainage area, with a marked variety of relief forms. Its western and central parts are covered by plains; the eastern part is occupied by large mountain ranges, which collect moisture in the cold and humid period in the form of snow and ice and release it as river flow in the dry summer period.

  The rivers of the basin flow from the mountains onto the plains and are mainly exhausted and disappear in the sands in the deserts, except for the two largest rivers, the Amu Darya and the Syr Darya, which cross the deserts and flow into the Aral Sea. The Amu Darya rises from Tajikistan and Afghanistan and flows through Uzbekistan and Turkmenistan to the Aral Sea. The Syr Darya rises in the Kyrgyz Republic and flows through Tajikistan, Uzbekistan and Kazakhstan to the Aral Sea.

- Implementation of the key issue.
  At the request of these countries, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the World Bank, the European Union
and other international aid agencies provided support in assisting them in elaborating their ideas for long term solutions. This action culminated in the adoption of a comprehensive Aral Sea Basin Programme (ASBP) in January 1994. In June 1994, a donors’ meeting was held in Paris, and support for some components of the first phase of the Program (ASP-1) was pledged by various multi- and bi-lateral donors.

The ASBP attempts to deal in a comprehensive fashion with the full range of problems which constitute the Aral Sea crisis. It is transboundary and multi-sectoral, including activities to develop sustainable water and related land resources management strategies, improve information base needed for all planning and management activities, mitigate the impacts of environmental degradation, improve conditions in the upper watersheds and areas adjacent to the Sea, and strengthen the implementation capacities of the competent regional institutions.

The ASBP has four long-term objectives: (i) to stabilise the environment of the Aral Sea Basin, (ii) to rehabilitate the Disaster Zone around the Sea, (iii) to improve the management of the international waters of the basin, and (iv) to build the capacity of regional institutions to plan and manage these programs. It also intends to assist the riparian states in cooperating and adopting sustainable regional policies for addressing the crisis, as well as to provide a framework for establishing national macroeconomic and sectoral policies to achieve sustainable development of land, water, and other natural resources.

Map 10. Aral Sea Basin

The question of the possibility for Afghanistan becoming a party to the agreements should also be dealt with. Afghanistan is an upstream riparian of the Amu Darya river and may decide to develop water resources for its own use. At present, about 12.5% of the ASBP’s water resources originate in the country, yet only a fraction of it is used for irrigation. It contributes between 3-5 km³ water per year to the Amu Darya. Thus, the involvement of Afghanistan is important for ensuring effective long-term management of the waters of the Aral Sea Basin.

It was recognised at the outset that achieving the objectives mentioned before would be an enormous undertaking and would have to be approached in phases. The first phase of the programme was planned to be completed in three to four years, to emphasise getting assistance to the people of the Disaster Zone, and building up the knowledge base and the institutions required to deal with longer term issues. In the next stage of the programme, attention is to be put on a few strategic regional water management problems, while intensifying complementary efforts at the national level to meet the needs of the people of the Disaster Zone and to promote sustainable resource use in the middle and upper basin. The codification of interstate water sharing practices, the quality of water crossing international frontiers and the improvement of data and information exchange were identified as elements of the core regional program, as well as the clarification of the roles and responsibilities of the various regional institutions. The last stage will expand and continue the program already undertaken through the year 2025.

The Central Asian states have different interests in the use of water, be they oriented towards irrigation needs or hydro-power developments. In this context, although the five states have committed themselves to respecting the agreed order under the Soviet era, there is still room for uncertainties and diverging practices which may be the source of conflicts: (a) the criteria for water sharing are not expressly stated; (b) water resources conservation and planning are not really envisaged; (c) the problem of reservoirs and the economic and social needs at stake in the region are potential sources of conflicts, and (d) water is still used rather inefficiently. It also became more and more apparent that the quantifiable minimal flow of water to the Aral Sea will have to be formulated. Finally, in the event of a conflict, there is no real adequate dispute settlement mechanism.

This situation was identified by the European Union as a possible area where the donor community could play a role in providing technical and financial assistance. The European Union (EU) assists the states of the Former Soviet Union (FSU) through Technical Assistance to the Commonwealth of Independent States (TACIS). This EU TACIS Programme comprises a component on Water Resources Management and Agricultural Production (WARMAP) in the Central Asian Republics. The general objectives of the WARMAP Project are: (i) to provide the administrative and technical framework within which policies, strategies, and development programmes for utilisation, allocation, and management of the water resources of the Aral Sea Basin can be developed; and (ii) to assist at the regional level with the establishment of the institutional structure required to prepare and implement the policies and strategies on water allocation and management. Among the specific objectives is the providing of the legal basis for international and national water resources utilisation, giving due recognition to the environmental needs of the Aral Sea Basin. It was agreed by the five states that the TACIS Program would support the drafting process of water sharing agreements.

Outcomes and results.

Three draft agreements have been produced by the TACIS Program, respectively entitled as, “Development of Cooperation and Improvement of Protection, Management and
4. Description of relevant examples: Aral Sea Basin

Development of the Water Resources”, “Use of Water in Present Conditions” and “Joint Planning of the Use, Development and Protection of the Transboundary Water Resources”. All three draft agreements deal with regulatory and institutional issues. Although not very precise, they nevertheless provide for quantifiable minimum release of water to the Aral Sea and the deltas; set a framework for information sharing on planning activities between states; and prescribe international law principles as reflected in the United Nations Convention on the Law of Non-Navigational Uses of International Watercourses.

The ICWC is in charge of allocating annual limits of water to be used by the parties. Two attachments are supposed to supplement these agreements. The first one will deal with the Amu Darya Basin and the second with the Syr Darya Basin. They shall contain water allocation criteria and operational regulations for each of the river basins.

It was decided that the issue of the quality of the transboundary waters would be negotiated in a separate agreement. There is a crucial need for action to be initiated in this area as there is no water quality management scheme at the moment. Attention has to be paid to key pollutants such as salts, as well as to monitoring and control.254

- Assessment of outcomes/results by involved stakeholders.

At the end of the 1980's, the Aral Sea crisis attracted international attention. This is particularly true for the design and implementation of an adequate international institutional and regulatory framework. The Central Asian Republics have recognised the necessity to strengthen the existing institutional and regulatory framework and to adapt it to their new demands, and the donor community has provided assistance for achieving this aim. However, for legal instruments to achieve their aim, they must be consistent with, and supportive of each other. The proliferation of international legal instruments without a clear relationship among each other could put at risk the sustainability required for an effective water management system.

At the institutional level, there is a need for clarifying the relationship among the various regional organs (IFAS, ICWC and SDC). This would strengthen both the decision-making and implementation processes. It would also be important to refine the institutional set-up so that it reflects the need for integrated management, in particular, for managing together water quantity and quality problems.

Even if there is willingness to negotiate cooperative arrangements and put in place an institutional framework, this is just a starting point in a process aiming at a long-term and sustainable water management system. While activities are undergoing, work remains to be done for achieving this goal, in particular the necessity to establish a comprehensive legal framework for managing the international waters of the Aral Sea Basin in an integrated manner.255

4.10.3. Overall Conclusions

Financial assistance can support the conduct of scientific and technical activities which are of importance for the design of a legal regime, by contributing to identifying and remedying problems. Financial and technical assistance may open a path for negotiating international agreements; it can also promote setting-up of mechanisms to monitor the regime put in place and to allow for its adaptation to new needs.

The five Central Asian countries were committed to acting together to face the catastrophe. A wide array of donors, be they bilateral or multilateral, offered their support. However, for

254 See supra Note 247.
255 See supra Note 247.
financial and technical activities to reach their objectives, a key aspect is coordination among donors.\textsuperscript{256}

4.10.4. Complementary Bibliography

Agreement between the Republic of Kazakhstan, the Kyrgyz Republic, the Government of Kyrgyzstan, Turkmenistan and the Republic of Uzbekistan on Joint, and Complex Use Water and Energy Resources of the Naryn Syr Darya cascade reservoirs in 1998
http://www.cawater-info.net/library/eng/agreement.pdf

Agreement between the Government of the Republic of Kazakhstan, the Government of the Kyrgyz Republic and the Republic of Uzbekistan on cooperation in interstate sources’ water resources use and protection common management (1992)
http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/195ENG.htm

Agreement between the Government of the Republic of Kazakhstan, the Government of the Kyrgyz Republic and the Government of the Republic of Uzbekistan on the Use Water and Energy Resources of the Syr Darya Basin
http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/194ENG.htm


http://enrin.grida.no/aral/aralarea/english/water/map1.htm

\textsuperscript{256} See supra Note 247.
4- Description of relevant examples: Corpus Itaipu Agreement

4.11. Corpus Itaipu Agreement, Paraná River

3. Key issue addressed.

- International policy concerning shared river basins
  - Need for negotiation/departing situation: Desire for a joint agreement for developing related projects.
  - International community/actors: UN bodies, donors and multilateral development banks (through GEF).
  - Nature of involvement of the international community: Financial (grants), technical assistance.
  - International framework referred to: International principles.
  - Scope: Specific projects and locations, river reach development.
  - Main issues dealt with by agreement: Definition of projects characteristics.
  - Negotiation and implementation mechanisms: River organisation, joint commission.

- Integration
  Treaty of the La Plata Basin, signed by Argentina, Bolivia, Brazil, Paraguay and Uruguay, 23 April 1969.

- Implementation
  Corpus Christi Dam (formerly Corpus Dam), Argentina and Paraguay, Parana River Argentinean-Paraguayan Joint Commission (Comisión Mixta Argentino-Paraguaya del Río Paraná).
  Itaipú Dam, Brazil and Paraguay, Itaipu Binational (Itaipú Binacional).

- Stage regarding the project life cycle.
  Corpus Christi Dam: project planning
  Itaipu Dam: operation

4.11.1. Description of the framework

- General description of the country institutional set up where the specific policy/normative is located
  At the standpoint of the La Plata Basin structure, about forty years ago, each of the five countries of the basin (Argentina, Bolivia, Brazil, Paraguay and Uruguay) had contrasting approaches to regional development, emerging from each country’s different historical, geographical, social, and political background. Nonetheless, this did not exclude the existence of common goals. At that time the main issues were the utilisation of water slopes for hydroelectric power generation, subsidiary attention to navigation, and little concern for water quality and other topics257.

  The first meeting of the Foreign Affairs Ministers of those five countries was held in Buenos Aires in February 1967. As a result of that meeting, the Ministers issued a declaration, saying “that it is a decision of our governments to carry out the joint and integral study of the La Plata Basin, with a view to the realisation of a program of multinational, bilateral and national works, useful for the progress of the region”. As a first step they created the Intergovernmental Coordinating Committee of the Countries of the La Plata Basin (CIC).

with the aim of drawing up a statute for its definitive constitution. Further, the declaration ruled that, to achieve the objective of the integral development of the basin, that study should take into account - in relation to water resources - in the main the following subjects, among others: facilities and assistance to navigation; hydroelectric studies with a view to energy integration of the basin, and floods or inundations and erosion control.

During the second meeting of Ministers, held in Santa Cruz de la Sierra in May 1968, the Statute of CIC was approved and it was entrusted to draw up a treaty in order to enforce the institutionalisation of the basin.

- **Detailed description of the specific policy/normative framework addressing the key priority issue**

On 23 April 1969, during their first extraordinary meeting held in Brasilia, the Ministers of the La Plata Basin countries signed the Treaty of the La Plata Basin which, in its Article I, only paragraph, says:

“The Contracting Parties agree to unite efforts with the objective of promoting the harmonious development and the physical integration of La Plata Basin and of its area with direct and considered influence.

Single paragraph: With that purpose, they will promote within the ambit of the basin, the identification of areas of common interest and the promotion of research, programs and works, as well as the formulation of operative agreements or juridical instruments they consider necessary and that tend to, among other issues:

(a) give facilitation and assistance as regards navigation;
(b) promote reasonable utilisation of water resources, especially by means of the regulation of watercourses and their multiple and equitable development”.

- **Brief description of the organisational set up adopted/available for implementation, enforcement and monitoring**

The La Plata Basin Treaty is broadly comprehensive as regards its competence on plans, projects, works, and programs in the catchment’s area. Nevertheless, it is not proposed as an exclusive option for riparian states, but as a framework agreement that could add special benefits to its global scheme. Accordingly, Article VI states that “The provisions of this Treaty shall not prevent the Contracting Parties from concluding specific or partial bilateral or multilateral agreements designed to achieve the general objectives of the development of the Basin”.

Thus, in 1971, Argentina and Paraguay established the Paraná River Argentinean-Paraguayan Joint Commission (Comisión Mixta Argentino-Paraguaya del Río Paraná) (COMIP) for the administration of the stretch shared by both countries and of the development of Corpus Christi multiple-purpose project and, in 1973, Brazil and Paraguay subscribed the treaty where Itaipú Binational (Itaipú Binacional) was created with the purpose of constructing Itaipú development.

- **Brief description of the implementation history of the norm, including enforcement and compliance aspects.**


In the meetings of CIC during 1970, Argentina and Brazil expressed their different interpretations of the Basin Treaty. Argentina wished to draw a set of general rules applicable to the basin water resources. Brazil requested the acceptance of its own technical judgment as enough guarantee for other riparians in relation to existing and planned hydroelectric power plants. It maintained that a country possessing the sources of a drainage basin could not willingly limit itself on the uses of the waters and the only acceptable restraints could be those arising from technical reasons and its principles of legal responsibilities.

It needs to be noticed that this position is incorporated in Article V of the Basin Treaty, which states that “Any joint activities undertaken by the Contracting Parties shall be carried out without prejudice to such projects and undertakings as they may decide to execute within their respective territories, in accordance with respect for international law and fair practice among neighbouring friendly nations”\(^\text{260}\).

There were understandable arguments for these claims. Long reaches of the Paraná River basin, situated in Brazilian, Argentinean and Paraguayan territories, have relevant conditions for hydroelectricity, such as appropriate slope, important flow, basaltic structure, and embanked stretches. Since 1960 Brazil had launched the construction of numerous dams in the basin, in a restless building effort which is still current and will extend into the future. Paraguay and Argentina, lower riparians, had planned to construct two important dams in their shared stretch at the same period in the 1970s.

4.11.2. Description of the example

- **Project description**

  The Paraná River is the most important river in the La Plata Basin, with a mean annual flow of about 8,000 m\(^3\)/s and 12,000 m\(^3\)/s at Itaipu and Corpus Christi sites, respectively (see Map 11). The Upper Paraná River lies wholly within Brazil and, further downstream, the river forms the frontier between Brazil and Paraguay and - after the confluence with the Iguazú River - between Argentina and Paraguay. After joining the Paraguay River, the Paraná River remains within Argentinean territory until its debouchment into the La Plata River.

  The waterways of the La Plata River drainage system provide an important transportation artery linking the five Basin countries. The Paraguay and Paraná Rivers - natural transport corridor running north-south from the heart of South America to the Atlantic Ocean, by the La Plata River - were navigated from the sixteenth century onwards\(^\text{261}\).

  Itaipú is a binational multiple-purpose project on the Paraná River, shared by Brazil and Paraguay, currently producing hydro-electricity, while downstream from Itaipú, on the international reach of the Paraná River - border between Argentina and Paraguay - a multiple-purpose project – currently known as Corpus Christi - is proposed to be constructed.

- **Implementation of the key issue.**

  Since Uruguay is not a riparian state of the Paraná River and Paraguay adopted a waiting role, Argentina held its isolated position versus Brazil as regards the Paraná River and

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\(\text{260}\) See supra Note 257.


http://www.oas.org/dsd/plata/pdf/conceptpaperGEF.pdf
pressed the incorporation of general international law rules applicable to the uses of international water resources as suitable rules for the La Plata Basin.\textsuperscript{263}

The Foreign Affairs Ministers, in a conciliatory success, established the following basic principles for water management applicable to the La Plata Basin riparian states in the “Asunción Declaration on the Uses of International Rivers”, approved in June 1971:

(a) In contiguous rivers, as riparians share their sovereignty, every use of the watercourse should be preceded by bilateral agreement of riparian states.

(b) In successive international rivers, where riparians do not share their sovereignty, each state is able to use the watercourse according to its needs provided the uses thereof do not cause appreciable harm to another basin state.


\textsuperscript{263} See supra Note 257.
(c) Riparian states agree to exchange hydrological and meteorological data and cartographic results from field measurements.

(d) There is an emphasis on the improvement of river navigability and a warning that future works should not hamper navigation.

(e) States are required to take into consideration the living resources of basin waters in works planning.

Whereas the Asunción principles are constrained, they were enough to bring objective standards into being and from that circumstance many other agreements became possible for water undertakings in the basin. Though not a treaty, the Asunción Declaration expressly set on behalf of riparian states the rule of not causing “appreciable harm” in the utilisation of international water resources. This, however, was not the only rule that downstream riparians, mainly Argentina, wished to incorporate as mandatory principles for basin undertakings. It maintained that the principle of equitable and reasonable use of freshwater resources and the rule of previous consultation were also applicable as general international law rules regulating the use of international basins. The other riparians, especially Brazil, were prepared to allow only those restrictions incorporated by a treaty for each particular use.

These different positions became an issue at the Stockholm Conference of the United Nations on the Environment, held in 1972, and the general principles on international shared resources were incorporated as United Nations General Assembly Resolutions 2995 (XXVII) and 2996 (XXVII) of that year, and were followed up by Resolutions 3129 (XXVIII) and 3281 (XXIX), whose Article 3 recognised the rule of previous consultation.

On 19 October 1979 the Governments of Argentina, Brazil and Paraguay signed at President Stroessner City (today Ciudad del Este), Paraguay, the Tripartite Agreement on Corpus and Itaipú, with the purpose of establishing rules in order to harmonise the Brazilian-Paraguayan development of Itaipú with the Argentinean-Paraguayan of Corpus, both on the Paraná River. This agreement was the result of a negotiation process, during the period 1977-79, on firm technical grounds, prepared by the delegations of the three countries involved.

The following paragraphs summarise the main points of the Tripartite Agreement signed by the Governments of Argentina, Brazil and Paraguay:

a) The maximum normal operational level of the water, except for exceptional natural circumstances, of the reservoir created by the dam which Argentina and Paraguay intend to construct at the zone of Corpus shall be at the height of 105 meters above sea level, at the point of the reservoir.

b) Itaipú may be operated with the flexibility required for its optimum utilisation, up to the maximum of its potential, but maintaining downriver flows which do not exceed, in regard to its operation and except under exceptional natural circumstances, the following limits related to navigation, in the fluvial border zone of the three countries:
   - Hourly level variation: 50 cm.
   - Daily level variation: 2 m.

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264 See supra Note 257.
265 See supra Note 257.
266 Argentina-Brazil-Paraguay: Agreement on Parana River Projects, Done at President Stroessner City, Paraguay, October 19, 1979. [http://www.internationalwaterlaw.org/RegionalDocs/Parana1.htm](http://www.internationalwaterlaw.org/RegionalDocs/Parana1.htm)
• Normal surface velocity: 2 m/s.

Under unfavourable hydrological conditions, the hourly and daily level variations may increase by up to 20%.

c) The total potential referred to above shall be, when permitted by compliance with the aforementioned navigational limits, that which results from the operation at Itaipú of the 18 installed turbogeneration units, with a nominal potential of 700 Mw each, of a maximum water outflow of approximately 12,600 m$^3$/s.

d) At Itaipú and at the project planned at the zone of Corpus, cooperation shall be guaranteed during their construction and during the filling of the reservoirs, the chronology of which shall be announced with sufficient anticipation.

e) The Itaipú Binational Commission and the entity responsible for the project planned at the zone of Corpus shall establish adequate procedures of operational coordination for the attainment of reciprocal benefits, including the exchange of hydrological information relevant to the three countries which is of a foreseeable nature.

In accordance with the spirit and letter of the international agreements in force among the parties, and with the Resolutions on navigation which were approved under the Treaty on the River Plate (La Plata) Basin, the three Governments shall adopt the measures necessary so that in the river segments under their jurisdiction the best conditions of navigability shall be maintained.

Likewise, they affirm that the eventual changes which may be caused in the present conditions of the river by the flows below the referred to projects shall reasonably maintain the seasonal nature of its rises and falls. Aware of the eventual beneficial effects of this modification of the river, they further agree that such eventual major harmful effects as may be caused to the Paraná River, in the waters below Itaipú and by the project planned for construction in the zone of Corpus, must be foreseen, insofar as possible, and that their gravity and classification shall not be determined unilaterally by the states in whose jurisdiction they presumably originate, nor by the states which allege the occurrence of the referred to eventual major harmful effects.

This agreement is based on the constant interrelation of the specifications established in clauses (a), (b) and (c), above; therefore, the eventual modification of any of them shall be preceded by negotiations among the three parties.

In accordance with the commitments undertaken in the system of the Treaty on the River Plate Basin, and in view of the existing respective legislation in this regard, the three Governments, insofar as it is pertinent to each, shall undertake efforts, in the context of the application of this Note, to preserve the environment, the fauna and flora, as well as the quality of the waters of the Paraná River, avoiding its contamination and assuring, at the least, the present conditions of health in the areas of influence of both projects. In this respect, they shall likewise promote the creation of new national parks and the improvement of existing parks.

On the other hand, the signatories of the Agreement analysed various aspects related to the effects on downriver waters of the filling of Itaipú reservoir, and realising that said filling is a single event, the duration and consequences of which are reasonably foreseeable, they exchanged considerations and established certain aspects to be taken into account as regards estimated time required for the filling of the reservoir between the heights of 140 and 200; date for accomplishment; minimum flow to be maintained downstream; procedure to be applied for assuring that minimum flow.

COMIP and Itaipu Binational are in charge of implementation, enforcement and monitoring of the Tripartite Agreement.
• **Outcomes and results**

Itaipu reservoir was filled following the agreed procedure and conditions, after a sound preparation period with the active participation of technical representatives of the three countries.

The Paraná River Argentinean-Paraguayan Joint Commission and Itaipu Binational have kept a continuous daily interchange of hydrological information for monitoring the compliance of the agreed limits.

Itaipu power-plant started the operation of its first turbogenerating unit in May 1984 and completed the installation of its 18 units on 9 April 1991\(^{267}\).

• **Assessment of outcomes/ results by involved stakeholders (government, developer, civil society)**

The result of a public plebiscite carried out in the riverine Province of Misiones (Argentina) opposing the construction of Corpus Christi has precluded its development so far. The location foresaw for Corpus Christi dam project has been moved upstream, although keeping the agreed maximum height. That change implies a reduction of the reservoir flooded area and its respective environmental impact. By taking that reduction into account, the possibility of convening a new plebiscite is being discussed.

4.11.3. **Overall Conclusions**

The signature of Tripartite Agreement has the significant historical value of putting an end to the controversies concerned with the Paraná River energy utilisation and thus facilitating the fostering of La Plata Basin water resources development. There was not any international organisation directly involved in the process that led to that signature. However, that fact facilitated the posterior active participation of the international community. For example, the Global Environment Facility (GEF) is financing several projects in the La Plata Basin. Among them GEF is supporting a project, whose general objective is “to strengthen the efforts of the governments of Argentina, Bolivia, Brazil, Paraguay, and Uruguay to implement their shared vision for the environmentally and socially sustainable economic development of La Plata Basin, specifically in the areas of the protection and integrated management of its water resources and adaptation to climatic change and variability”. The United Nations Environment Programme (UNEP) is the Implementing Agency and CIC is the Executing Agency together the Organisation of American States (OAS)\(^{268}\).

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\(^{267}\) Itaipú Binacional webpage.  

\(^{268}\) See supra Note 261.
5. SUMMARY OF EXAMPLES, GENERAL CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of examples

The main focus of the issue under consideration “International policy concerning shared river basins” is dealing with conflicting situations associated with dam projects in international waters where good faith negotiations among member states prove sometimes difficult to materialise.

However, the information available shows that, in most cases, agreements have been reached between the countries within a basin or region, sharing a river stretch, or involved in a certain project. Those agreements generally aim at working together for their mutual benefit.

Several types of agreements have been analysed. For example, at basin level, the five Central Asian countries of the Aral Sea Basin (Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan) jointly declared that mutual water resources management would be a basis for equity and joint benefits. They subsequently concluded the "Agreement on Cooperation in the Management, Utilisation and Protection of Water Resources in Interstate Sources" on February 18, 1992.

Also at basin level, in 1995 the Lower Mekong riparian countries (Cambodia, Lao PDR, Thailand and Vietnam) signed an agreement which established the Mekong River Commission (MRC), whose mandate is to co-operate and promote sustainable development, utilisation, management and conservation of the water and related resources of the Mekong River Basin in an integrated approach, for the economic and social well-being of the people in the riparian countries. China and Myanmar are also riparian, and they have been extended invitations to join the Agreement.

In 1998, recognising that cooperative development holds the greatest prospects of bringing mutual benefits to the region, all Nile Basin countries, except Eritrea, joined in a dialogue to create a regional partnership to facilitate the common pursuit of sustainable development and management of Nile resources. In an historic step, they jointly established an inclusive transitional mechanism for cooperation until a permanent cooperative framework is established. The transitional mechanism was officially launched in February 1999 and in May 1999 the overall process was officially named the Nile Basin Initiative (NBI).

Also at basin level, but with a very particular approach for sharing the basin water resources, on September 19, 1960, the Indus Waters Treaty was signed by India and Pakistan. For the purpose

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270 Example 10. Aral Sea Basin.


of some specific articles, a Representative of the World Bank also became a signatory. The Indus Treaty is a complex instrument whose basic approach was to increase the amount of water available to the two parties and to apportion the water resources of the Indus equitably between them. Briefly put, the waters of the three Eastern Rivers of the basin were allocated to India while Pakistan received the flow of the Western Rivers\textsuperscript{275 276}.

At regional level, the signing of the Protocol on Shared Watercourse Systems in 1995, by the majority of member states of the Southern African Development Community (SADC) (Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe), and the setting-up of the SADC Water Sector Coordination Unit in 1996, are clear manifestations of SADC’s recognition of the need for regional integrated water resources development and management in the shared watercourses of the region. The main thrust of the Protocol is to ensure equitable sharing of water and efficient conservation of the scarce resource. A Revised Protocol was signed in August 2000\textsuperscript{277}. Within the framework of the former Protocol, on 28 May 1987 the Governments of Botswana, Mozambique, Tanzania, Zambia and Zimbabwe signed at Harare the Agreement on the action plan for the environmentally sound management of the Common Zambezi River system, known as the Zambezi Action Plan, or ZACPLAN\textsuperscript{278}.

Related to a specific project, it can be mentioned that the international rights and obligations of India and Nepal regarding the Kosi River and its respective Kosi Project were first spelled out with the signing of the Kosi Agreement on April 25, 1954\textsuperscript{279}. During the early 1960s, there was an intense criticism against the Agreement by Nepal and pressure was put on the Indian Government to revise it. The agreement was extensively amended in 1966\textsuperscript{280 281 282}.

The rights and obligations regarding the Gandaki Project on the Gandaki/Gandak River stems from the Agreement entered into between the Governments of India and Nepal on December 4, 1959\textsuperscript{283}. While the Gandak Agreement mainly highlighted the common interests and benefits of both Nepal and India, it also specified that the Project would be built by and at the cost of the Government of India\textsuperscript{284 285}.

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\textsuperscript{276} http://www-wds.worldbank.org/servlet/WDS_IBank_Servlet?pcont=details&eid=000094946_03031804015731

\textsuperscript{277} SADC Revised protocol on shared watercourses, 2000.

\textsuperscript{278} Example 2. Zambezi SADC (Southern African Development Community).


\textsuperscript{280} Amended Agreement between His Majesty’s Government of Nepal and the Government of India concerning the Kosi Project, signed at Katmandu on 19 December 1966.

\textsuperscript{281} http://ocid.nacse.org/qml/research/tffd/toTFDDdocs/85ENG.htm


\textsuperscript{283} Agreement between His Majesty's Government of Nepal and the Government of India on the Gandak Irrigation & Power Project, Kathmandu, 4 December 1959.

\textsuperscript{284} http://www.nepaldemocracy.org/documents/treaties_agreements/indo-nepal_agreement_gandak.htm

Also related to a specific project, in 1977 Hungary and the Czechoslovakia signed a treaty “concerning the construction and operation of the Gabcikovo-Nagymaros System of Locks”, as a “joint investment”.

On the other hand, on 19 October 1979, the Governments of Argentina, Brazil and Paraguay signed the Tripartite Agreement on Corpus and Itaipú, with the purpose of establishing rules in order to harmonize the Brazilian-Paraguayan development of Itaipú with the Argentinean-Paraguayan of Corpus, both on the Paraná River.

Specifically related to a river and a project, the Mahakali Treaty, signed by India and Nepal on February 12, 1996, is a first in many ways in laying down the principle that as a boundary river on large stretches, the Mahakali River will be developed in an integrated way to maximise the total net benefit from such development.

Also related to a project, but dealing with sharing of waters, in 1996 India and Bangladesh signed the “Treaty Between the Government of the Republic of India and the Government of the People's Republic of Bangladesh on Sharing of the Ganga/Ganges Waters at Farakka”.

It is important to remark that the legal and institutional framework established by the agreements sometimes refers to international legislation or international agreed regulatory practices.

For example, the “Agreement on the action plan for the environmentally sound management of the Common Zambezi River system” has in mind the recommendations of the United Nations Conference on the Human Environment, the Mar del Plata Action Plan on Water Development and Administration, and the Resolution 1/1 of the first session of the African Ministerial Conference on the Environment.

Also the SADC “Revised Protocol on Shared Watercourses” bears in mind the progress with the development and codification of international water law initiated by the Helsinki Rules and that the United Nations subsequently adopted the United Nations Convention on the Law of the

http://www.american.edu/TED/hungary.htm
http://www.internationalwaterlaw.org/RegionalDocs/Parana1.htm
http://ocid.nace.org/qml/research/tfd/tFD/docs/172ENG.htm
http://www.fao.org/docrep/W7414B/w7414b0i.htm
Non-Navigational Uses of International Watercourses, and recognises the relevant provisions of Agenda 21 of the United Nations Conference on Environment and Development\textsuperscript{296}.

It is outstanding to say that, besides the proposal of Pakistan of taking the Indus basin issue to the International Court of Justice or the UN Security Council - proposal categorically rejected by India - there is only one detected case in which countries had to submit their differences for consideration of the International Court of Justice, the already mentioned Gabcikovo-Nagymaros Project, because of conflicts during its construction period. In April 1993, largely under the pressure of the Commission of the European Communities, the two countries agreed to refer the matter to the International Court of Justice, which gave judgement in the case on September 25, 1997\textsuperscript{297}.

Summarising, the agreements signed by the countries offer the legal and institutional framework on which the countries have based their decisions related to the construction and operation of dams as well as other water management measures\textsuperscript{298}.

The processes that have led to the previously mentioned agreements have been carried out directly by the respective countries or – in some cases – with the participation of international organisations, which have played a facilitating role in order to avoid potential or real conflicts and to help the processes in order to progress to a compromise solution in the best of member states interest.

The international organisations generally involved were United Nations agencies or programmes and international or regional financial institutions. Donor countries have sometimes also had important influence. The facilitating role of the international organisations and donor countries has been generally performed through technical advice and assistance, or financial support\textsuperscript{299}.

The greatest involvement of international organisations and donor countries corresponds to the Mekong basin. Since the early 1950s, the United Nations' Economic Commission for Asia and the Far East (ECAFE) was fascinated by the great potential of the Mekong and initiated the concept of using this potential for economic development of the basin countries. The United Nations (UN), in consultation with the four riparian countries, supported the Mekong Committee - established in 1957 - and its administrative cost was financed by the United Nations Development Program (UNDP). The cost of planning, investigations and studies was financed by such donor countries as Australia, Canada, France, Germany, Japan, the Netherlands, New Zealand, the United Kingdom and the United States. The Asian Development Bank (ADB) also supported the effort\textsuperscript{300}.

The World Bank was requested to review an Indicative Plan prepared by the Mekong Secretariat. The Bank's recommendations were endorsed by the Mekong Committee and donor countries. A fund for financing a pilot projects program was established and the Asian Development Bank (ADB) and the World Bank agreed to act as executive agencies to implement the programme. Subsequently, the donor countries financed installation of additional power units at the Nam Ngum project in the Lao PDR for local use and export of power to Thailand\textsuperscript{301}.

The current Mekong River Commission (MRC), formed on 5 April 1995, has established relationships with over thirty co-operating countries and international institutions. The donor community provides technical and financial support to the MRC programmes and projects. A Donor Consultative Group (DCG) was set up to coordinate development assistance in an effective and collective manner. Close co-ordination with the Asian Development Bank (ADB),

\textsuperscript{296} See supra Note 277.
\textsuperscript{297} See supra Note 286.
\textsuperscript{298} Consultant’s observation.
\textsuperscript{299} See supra Note 298.
\textsuperscript{300} See supra Note 271.
\textsuperscript{301} See supra Note 271.
the World Bank, the Governments of Japan, France, Sweden, Switzerland, and the United Kingdom has been sought in the field of hydropower development302.

The Indus Treaty is a relevant example of successful settlement of a major international river basin conflict. Also it was the first dispute regarding water use in which an international organisation – the World Bank - played a very active and successful mediating role in resolution, even being one of the signatories of the Treaty, for the purpose of some specific articles, as it was seen before. Given the conflict on the Indus waters that had begun long before the independence of India and Pakistan, the World Bank offered its good offices for discussion of the dispute and negotiation of a settlement, and proposed that a solution to the problem be looked for based purely on technical and engineering grounds303.

From the proposals and counter-proposals of the countries, it became apparent that political sovereignty and the joint development and use of water resources of a river basin as a single unit were not compatible at all. The Bank proposed to divide the water resources of the basin between the two countries on the basis of political boundaries. The Bank envisaged no cooperative development. The justification for this approach was that after transfer works were completed, each country would be independent in the operation of its supplies and avoid the complexities that would arise if the supplies from particular rivers were shared by the two countries.

Pakistan contended that a system of link canals would not be adequate to meet all uses without including storage reservoirs in the replacement works. Recognising the impossibility of resolving the dispute without additional financing for the huge cost of replacement works, the Bank decided to mobilise funds from bilateral donors. The establishment of the Indus Basin Development Fund and the role played by the World Bank are particularly noteworthy illustrations of the potential role of international financing organisations that are able to mobilise expertise and sizable international financial resources for development304.

Regarding the Farakka Barrage, Bangladesh opposed insisting that the lean flow of the Ganges constituted its normal and basic requirements for irrigation, domestic, municipal and other uses, and any decrease in the flow would negatively affect those uses and would worsen the problem of salinity. Bangladesh raised this issue at a number of regional and international summits, including the 31st session of the UN General Assembly in 1976, which urged the two countries to negotiate a settlement to the dispute305.

Another example is related to the Aral Sea Basin countries. At the request of these countries, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the World Bank, the European Union and other international aid agencies provided support in assisting them in elaborating their ideas for long term solutions. This action culminated in the adoption of a comprehensive Aral Sea Basin Program (ASBP). The European Union also assists those states through Technical Assistance to the Commonwealth of Independent States (TACIS). This EU TACIS Program comprises a component on Water Resources Management and Agricultural Production (WARMAP)306.

For the case of the Gabcikovo-Nagymaros System of Locks, in November 1992 the European Community began a series of conciliatory moves to broker a cooperation agreement between the Slovak and Hungarian governments. A joint committee consisting of Slovak and Hungarian experts, as well as European Commission representatives, was set up to ensure consultations on the water distribution system307.

302 The Mekong River Commission webpage. 
http://www.mrcmekong.org/
303 See supra Note 275.
304 See supra Note 275.
305 See supra Note 293.
306 See supra Note 269.
307 See supra Note 286.
5- Summary of examples, general conclusions and recommendations

As regards the Nile Basin, under the auspices of the Technical Cooperation Committee for the Promotion of the Development and Environmental Protection of the Nile Basin (TECCONILE), with the support of the Canadian International Development Agency (CIDA), a series of 10 Nile 2002 Conferences were launched in 1993 to provide an informal mechanism for dialogue among the Nile Basin countries and with the international community. As a result, TECCONILE prepared a Nile River Basin action plan in 1995.308

In 1997, the Council of Ministers of Water Affairs of the Nile Basin States (Nile-COM) asked the World Bank to lead and coordinate donor support for their activities. Thus, the World Bank, the UNDP, and CIDA became cooperating partners to facilitate dialogue and cooperation among the Basin countries and establish a mechanism through which the countries could work together for their mutual benefit and for the sustainable use of the river and its resources.

Given the nascent nature of the cooperative Nile institutions, the magnitude of financial resources involved, the imperative for early implementation of projects, and following extensive consultation with potential donors, a World Bank-managed, multi-donor trust fund - the Nile Basin Trust Fund (NBTF) - was established as the preferred initial funding mechanism. Donors that contribute through the NBTF include: Canada, Denmark, Netherlands, Norway, Sweden and the United Kingdom.309

On the other hand, preparation of the investment projects of one of the NBI’s Subsidiary Action Programmes, the Eastern Nile (ENSAP), is funded through grants from the World Bank, the African Development Bank, and the Governments of Canada, France, Norway, the Netherlands, Austria and Japan. The Eastern Nile Technical Regional Office (ENTRO) manages and coordinates the preparation of ENSAP projects. It has its own operational budget, financed by the Member Governments and through various aid programs. The World Bank, DFID and the Government of Finland are the main donors to core budget and comprise ENTRO’s Consultative Committee.310

And in March 2001, the Southern African Development Community (SADC) obtained funding from the Nordic countries through their development cooperation agencies, the Swedish International Development Cooperation Agency (Sida), the Danish International Development Agency (DANIDA), and the Norwegian Agency for Development Co-operation (NORAD) to implement the project “Development of an Integrated Water Resources Management Strategy for the Zambezi River Basin”.311

The signature of the Corpus-Itaipu Tripartite Agreement had the significant historical value of putting an end to the controversies concerned with the Paraná River energy utilisation and thus facilitating the fostering of La Plata Basin water resources development. There was not any international organisation directly involved in the process that led to that signature. However, that fact facilitated the posterior active participation of the international community.312

308 See supra Note 273.
http://www.nilebasin.org/entro/index.htm
311 ZACPRO 6 Phase II Project (ZACPRO 6.2)
http://www.zacpro.org/
http://www.oas.org/dsd/plata/pdf/conceptpaperGEF.pdf
5.2. General conclusions and recommendations

While freshwater's propensity to strain relations among countries frequently makes headlines, the other side of the coin - water as an agent of cooperation - rarely gets sufficient attention. Nevertheless, research has shown much more historical evidence of water playing the role of a catalyst for cooperation, rather than a trigger of conflict\textsuperscript{313}.

The analysis of the institutional framework shows that, in spite of not having so far an international binding agreement, there is an important set of sound documents – such as the Helsinki Rules, recently updated; the UN Convention on the Law of the Non-Navigational Uses of International Watercourses, and a significant group of multilateral, regional and bilateral cooperation arrangements - which can serve as a sound basis for the development of future agreements on international shared river basins\textsuperscript{314}.

Several cases in different regions of the world have being analysed, showing how the involved countries have dealt with potential conflicts related to the construction and operation of dams or other water management measures. Other cases refer to the purpose of joint development of the resources of a basin or region. The agreements signed by the countries in that regard, offer the legal and institutional framework on which they have based their decisions\textsuperscript{315}.

In international shared river basins the discussions on dam projects on the shared rivers cannot be limited to the projects themselves and their diverse characteristics and impacts. They generally comprise a wider spectrum of issues related to the political relationships between the countries involved. It is necessary to analyse the issue within the broader context of water resources management in a selected river basin, being in some cases as important to deal with that context for the development of a certain project as with the project itself\textsuperscript{316}.

Innovative solutions are needed to solve apparently intractable problems. Often, negotiations over shared rivers have developed into disputes over allocating what may appear as an insufficient resource. A more equitable and sustainable resolution may be possible by shifting from a primary focus on the allocation of the water resource, to a focus on the benefits that derive from the use of the water, encompassing consideration of wider development objectives and the options available to meet them. This shift provides an opportunity to look more constructively at alternative programmes for meeting development objectives. It is possible to expand the horizon of negotiations further to include other issues. In the wider negotiation arena, the principles of sharing benefits can include an array of other resources, including cooperation in other sectors, or financial payments\textsuperscript{317}.

The inclusion of all countries of a certain basin or river reach in a joint dialogue or cooperative activities opens up new opportunities for realising win-win solutions. It also holds the promise for potential greater regional integration, both economic and political, with benefits far exceeding those derived from the basin or river itself\textsuperscript{318}.


\textsuperscript{314} See supra Note 298.

\textsuperscript{315} See supra Note 298.

\textsuperscript{316} See supra Note 298.


\textsuperscript{318} Adapted from: The World Bank Group webpage, 2006. The Nile Basin \url{http://www.worldbank.org/afr/nilebasin/overview.htm}
Adequate institutional arrangements and regulatory frameworks are a precondition for sustainable management of transboundary waters. The creation of shared watercourse bodies have become helpful tools for the implementation of the agreements and of the programmes and projects resulting from them, as well as for the discussion of bilateral or multilateral issues. To be fully effective and provide optimal benefit to member states, all these bodies should be utilised to identify and address all potential areas of misunderstanding and conflict in a frank and open manner.

The different examples clearly show the key role that the international community in general, and funding agencies, in particular, can play in the development of shared water resources, especially when dams were involved. Providing technical and financial assistance, acting as facilitators or mediators in discussions between the countries and establishing and managing especially funds have been some of the approaches for creating a favourable atmosphere for agreements as well as for constructing solid bases for their implementation.

Financial assistance can support the conduct of scientific and technical activities and for the design of legal regimes, by contributing to identifying and remedying problems. Financial and technical assistance may open a path for negotiating international agreements as well as setting-up of mechanisms to monitor the regimes put in place and to allow for their adaptation to new needs.

Collaborative basin management arrangements should go beyond the issue of quantitative sharing of the waters of rivers to include other areas such regulation, hydropower generation, flood control and environmental protection. Although the international water rights have been essentially based on customary law for which the importance of rivers related mainly to consumptive use, it is very important to tackle issues pertaining to non-consumptive use of water.

An integrated approach is needed to favour short and long-term planning. New management approaches should be based on regional cooperation principles, focusing on river basins, with an emphasis on social equity, economic efficiency and environmental integrity.

The cases analysed show an almost exclusive participation of public organizations. Donors and national governments have recognised in some cases that the desired “win-win” development objectives could only be achieved if the views and concerns of the civil society are addressed. Stakeholder participation should therefore become a priority at all stages in project development, including capacity to consult effectively and equitably with local communities in project-affected areas. At the same time it was recognised that there was a need for civil society to organise at a basin level in order to establish more strategic and long-term inputs into the respective initiatives.

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321 See supra Note 298.
325 See supra Note 298.
326 See supra Note 298.
The 2002 World Summit on Sustainable Development recognised that there are two tracks towards sustainable development. Track I refers to formal contacts, including negotiations, between political units. Track II refers to initiatives by informal, non-political groups for fostering contacts between countries or other political units. Academic intellectuals, NGOs and other similar groups could be precursors to formal contacts at a political level, between riparians in a transboundary basin. The two tracks are complementary and their potential synergy is great. Tract I reflects the past experience. Tract I plus Tract II may contribute to a constructive future.

328 Purpose and Scope of the 2006 World Water Week in Stockholm
http://www.worldwaterweek.org/worldwaterweek/purposeandscope.asp
329 See supra Note 298.
APPENDIX. DATABASE OF DOCUMENTS

International Policy in Shared River Basins

General Documents


Oregon State University, Transboundary Freshwater Dispute Database. [http://www.transboundarywaters.orst.edu/](http://www.transboundarywaters.orst.edu/)


http://www.dams.org/report/
### DATABASE OF REFERENCES

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http://www.internationalwaterlaw.org/RegionalDocs/Parana1.html |
| **Corpus Itaipu Agreement** | SADC Revised protocol on shared watercourses, 2000.  
| ii) Outcomes of international conferences.  
**Zambezi SADC** | SADC Revised protocol on shared watercourses, 2000.  
http://www.mrcmekong.org/agreement_95/agreement_95.htm |
| **Mekong Hydropower Development Strategy** | Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin.  
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| iii) UN international convention, not in effect yet.  
**Zambezi SADC** | SADC Revised protocol on shared watercourses, 2000.  
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<td>Statute of the Committee for Co-ordination of Investigations of Lower Mekong Basin established by the Governments of Cambodia, Laos, Thailand and the other Republics of Vietnam in response to the decision taken by the United Nations Economic Commission for Asia and the Far East, Phnom-Penh (Cambodia), on 31 October 1957. <a href="http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/382ENG.htm">http://ocid.nacse.org/qml/research/tfdd/toTFDDdocs/382ENG.htm</a></td>
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