BACKGROUND PAPER

Improving Transboundary Water Governance through the Application of Integrated Water Resources Management

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Introduction

One of the key challenges in seeking to improve transboundary water governance through the application of the integrated water resources management (IWRM) concept at the transboundary level is that the concept is largely unrecognised in the terminology of international water resources law and diplomacy. The terminology of international water law, and the principles and concepts which it describes, dominates intergovernmental discourse on transboundary water resources management and does much to facilitate, up to a point at least, formal inter-State cooperation in respect of shared freshwater resources. Indeed, it is difficult to think of a single normative instrument (binding international convention, agreement or protocol), and more than a few declarative instruments (international resolutions, statements of principles or codifications), which employs the IWRM concept. In this sense, the IWRM concept has its origins more in science-based planning processes, rather than in the discourse and practice of transboundary water resources law and governance. Indeed, in its seminal 2000 paper on the IWRM concept, the Technical Advisory Committee (TAC) of the Global Water Partnership (GWP) conceded that ‘IWRM has neither been unambiguously defined nor has the question of how it is to be implemented been fully addressed’ and makes it clear that the purpose of the same paper is ‘to clarify internally within GWP, and among our partners, how the GWP Technical Advisory Committee (TAC) interprets the IWRM concept and process’. However, the paper further explains that ‘[I]n so doing, TAC is building on the principles to which all governments have agreed at the Dublin and Rio Conferences and which have subsequently been elaborated in the UN Commission on Sustainable Development and other fora’. This statement makes it quite clear that GWP regards the IWRM concept as being closely related to the key principles of international water and environmental management, particularly the Dublin Principles, adopted at the 1992 International Conference on Water and the Environment, as they have contributed to the formulation of the recommendations contained in Chapter 18 on Freshwater Resources of Agenda 21.

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2 Ibid.
adopted at the 1992 UN Conference on Environment and Development (UNCED).\(^4\) Pointing out that these so-called ‘Dublin-Rio principles’ have been restated and elaborated upon at major international water conferences, such as the Expert Group Meeting on Strategic Approaches to Freshwater Management (Harare, 1998), the Ministerial Meeting on Water Resources and Sustainable Development (Paris, 1998) and the Sixth Session of the Commission on Sustainable Development (New York, 1998), the TAC concludes that ‘these principles … have found universal support amongst the international community as the guiding principles underpinning IWRM’.\(^5\) These principles state:

- **Principle I:** Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment.
- **Principle II:** Water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.
- **Principle III:** Women play a central part in the provision, management and safeguarding of water.
- **Principle IV:** Water has an economic value in all its competing uses and should be recognised as an economic good.\(^6\)

While once again reiterating that an unambiguous definition of IWRM does not exist, the TAC provides the following definition for the purposes of providing a common framework:

‘IWRM is a process which promotes the coordinated development and management of water, land and related resources in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.’\(^7\)

Of course many other, though essentially similar, definitions exist of IWRM.\(^8\)

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\(^6\) The possible implications of each of these principles are usefully elaborated upon by the TAC of GWP, *ibid.,* at 14-21. Further detail on the options for implementing these principles through national institutional and legal arrangements is provided in M. Solanes and F. Gonzales-Villareal, ‘The Dublin Principles for Water as Reflected in a Comparative Assessment of Institutional and Legal Arrangements for Integrated Water Resources Management’, (Global Water Partnership TAC Background Paper Series No. 3, 1999).

\(^7\) *Ibid.,* at 22.

\(^8\) For example, USAID advises that ‘Integrated Water Resources Management (IWRM) is a participatory planning and implementation process, based on sound science, that brings stakeholders together to determine how to meet society’s long-term needs for water and coastal resources while maintaining essential ecological services and economic benefits. IWRM helps to protect the world’s environment, foster economic growth and sustainable agricultural development, promote democratic participation in governance, and improve human health.’ See, [http://www.usaid.gov/our_work/environment/water/what_is_iwrm.html](http://www.usaid.gov/our_work/environment/water/what_is_iwrm.html)
According to Agenda 21, IWRM calls for the holistic management of freshwater as a finite and vulnerable resource, and the integration of sectoral water plans and programmes within the framework of economic and social policy. Agenda 21 lists the objectives of IWRM as:

1. The promotion of a dynamic, interactive, iterative and multisectoral approach to water resources management, including the identification and protection of potential sources of freshwater supply, that integrates technological, socioeconomic, environmental and human health considerations;
2. The planning of strategies for the sustainable and rational utilization, protection, conservation and management of water resources based on community needs and priorities within the framework of national economic development policy;
3. To design, implement and evaluate projects and programmes that are both economically efficient and socially appropriate within clearly defined strategies, based on an approach of full public participation, including that of women, youth, indigenous people and local communities in water management policymaking and decision-making;
4. The identification, strengthening, or development, as required, in particular in developing countries, of the appropriate institutional, legal and financial mechanisms to ensure that water policy and its implementation are catalysts for sustainable social progress and economic growth.

Therefore, taking the 2000 GWP definition of IWRM, it is immediately apparent that a number of key concepts and principles established or emerging under the practice of international water resources law are entirely consistent with, and receive support from, the fundamental tenets and objectives of IWRM. Such concepts and principles include:
- the ecosystems approach (comprising, *inter alia*, the allocation of environmental / ecological flows, the integration of protection of the freshwater and marine environments, and protection against alien and invasive species);
- the drainage basin concept (regarding the ‘drainage basin’ as the appropriate unit of drainage for transboundary management, as opposed to the ‘international watercourse’ concept employed under the 1997 UN Watercourses Convention, which is regarded as less reflective of the relevant factual hydro-economic setting and circumstances);
- the common management / community of interests approach (placing emphasis on the establishment of common management institutions in order to facilitate transboundary cooperation in the management of shared water resources);
- the doctrine of equitable utilisation (incorporating the structured balancing of competing economic, social and environmental uses / interests, the requirement of equitable participation, the objective of optimal utilisation, and mechanisms for benefit-sharing);
- the emerging discourse on the human right of access to water and sanitation (placing further emphasis on the requirements of ‘vital human needs’ and the need to protect ecological integrity in order to safeguard ecological services).

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9 Agenda 21, Chapter 18, para. 6.
The substantive concepts and principles identified above are crucially supported through the elaboration in general and customary international law of sophisticated procedural duties. Such duties are normally expressed in terms of the general duty of States to cooperate, which is firmly established in general international law and is understood more and more as incorporating a number of more specific procedural requirements in respect of

– the duty to notify potentially affected States of planned projects or measures;
– the duty to consult potentially affected States and to negotiate in good faith;
– the conduct of transboundary EIA in respect of planned projects (possibly including SEA in respect of plans or programmes);
– duties in respect of the generation of water resources data and the ongoing exchange of such information with co-riparian States;
– the duty to warn co-riparian States in emergency situations; and
– requirements in respect of inter-State dispute avoidance and resolution.

Therefore, it is useful to examine the relationship between IWRM and the key rules and principles of international water resources law. First of all, it is necessary to examine whether the key elements of the IWRM concept, as it applies to transboundary water governance, are consistent with, or even included within, the core principles and emerging concepts of international water resources law. Further, it is useful to identify the extent to which these elements of IWRM, and their almost universal acceptance by States, international organizations, civil society, donors and other stakeholders, serve to support the normative status of such rules and principles, and to supplement or elaborate upon their substantive legal content. One might reasonably assume that certain dimensions of IWRM would make a particular contribution to our understanding of rules and principles of international law which seek to ensure the environmental protection of shared international water resources. It is helpful to explore the potential role of environmental safeguards within the context of IWRM and the extent to which the environmental dimension of IWRM is already central to and supportive of the core objectives of international water resources law, largely by virtue of the advanced normative development and procedural sophistication of key supporting rules of environmental protection.\(^\text{(10)}\) In this way, the IWRM concept can enhance support for key principles of international water law generally, and key rules and principles for environmental protection in particular.

It is quite clear that effective application of the rules and principles of international water resources law is routinely undermined by a lack of national capacity, by a lack of technical understanding or political will, and by inadequate institutional machinery at the national, river basin and regional levels. Complex, cross-cutting principles, such as that of ‘equitable utilisation’, require sophisticated human and institutional capacity and the development of detailed technical guidance to ensure their agreed implementation. In addition, the lack of any single global instrument in force which might function to

\(^{10}\) This is the conclusion reached in the course of a detailed and systematic study of the development, elaboration and application of environmental protection requirements within international water resources law — see, O. McIntyre, *Environmental Protection of International Watercourses under International Law* (Ashgate Publishing, UK, August 2007).
encourage and pressure hesitant riparian States to participate in cooperative institutional mechanisms (such as consensus-based RBOs for joint planning) and in non-judgmental dispute settlement mechanisms (such as independent fact-finding arrangements) further hinders their application. Therefore, it is useful to examine how the broad commitment among the vast majority of States to implement IWRM might serve to overcome such problems as a lack of national capacity or political will in respect of transboundary cooperation over shared waters.

Listed first among the lessons learned in respect of the theme of ‘national commitment’ at the Technical Workshop on Transboundary Water Cooperation, held in Copenhagen on 1-2 March 2007, is that of the failure of national water management systems to take account of or correspond to arrangements for transboundary basin management. According to the key results of the workshop discussions:

‘In many basins, there is a disconnect between basin management and national water policies and procedures. There is a lack of clarity of what national commitment to TWC [Transboundary Water Cooperation] means (jurisdiction, ownership and process) …’.

The lessons learned also note that

‘Donors and civil society wants governments to address the disconnect between basin and country arrangements and to give domestic expression to international agreements into which they enter.’

Clearly, if States do not reflect formal international conventional arrangements in their domestic law and policy, they are even less likely to legislate to include principles of customary international law or obligations classified as non-binding ‘soft law’. This finding of the Copenhagen Technical Workshop corresponds with the recent observation of a leading international water lawyer, that international law ‘remains strong in principle but weak in practice’.

Therefore, it is useful to examine the application of the IWRM concept at the national level in order to identify how related reforms of water resources law and policy might assist in securing more effective transboundary water cooperation.

**IWRM Concept at National Level**

The Technical Advisory Committee of GWP makes it quite clear in its 2000 paper that there is no ‘universal blueprint’ as to how the principles underlying IWRM can be put into practice, pointing out that

‘The nature, character and intensity of water problems, human resources, institutional capacities, the relative strengths and characteristics of the public and private sectors, the cultural setting, natural conditions and many other factors differ greatly between countries and regions. Practical implementation of...”

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approaches derived from common principles must reflect such variations in local conditions and thus will necessarily take a variety of forms.\textsuperscript{13}

However, a number of bodies have endeavoured to identify the key elements of IWRM as applied under national water resources legislation. For example, the Specialist Group on Water and Wetlands, established under the auspices of the International Union for the Conservation of Nature (IUCN) Commission on Environmental Law, has concluded that, in order to achieve effective IWRM, a State should ideally adopt a discrete legislative instrument dedicated to water resource management, which must address a wide range of complex issues, including:\textsuperscript{14}

- vesting ultimate control of all water resources in the State and clear allocation of responsibility for water resources management in appropriate State agencies (with an ‘apex’ agency taking primary responsibility for water resources and water quality management, possibly possessing the power to make regulations);
- strategic planning based on appropriate public and stakeholder consultation to, \textit{inter alia}, assess the requirements of ‘ecosystems’ and ‘basic needs’ reserves (taking account of the added challenge of climate change), and to identify opportunities for optimal water resources management at river basin level;
- clear identification of the ecological, social and economic objectives and parameters for water resources management;
- clear identification of a wide range of rights to use water resources (including those enjoyed by water utilities, agriculture, industry, fisheries, vulnerable communities, recreation, culture and heritage, and of course the environment / ecosystems, and a scheme establishing a priority of rights;
- introduction of a comprehensive licensing / permitting scheme for water users;
- an integrated approach to the management of water resources, which recognizes the integrity of the hydrological cycle and facilitates coordination with corresponding legislative requirements on biodiversity, land-use planning, land management, environmental / pollution controls, \textit{etc.} (including, where appropriate, integrated water and natural resources management by means of catchment management authorities);
- decentralization / delegation of water resources management to the lowest appropriate level – regional or catchment level, in order to ensure adequate public and stakeholder participation in water resources management decision-making (including sufficient gender, minorities representation, \textit{etc.});
- vesting full powers (and adequate capacity) for administrative, civil and criminal enforcement of water resources legislation, involving sufficiently dissuasive and effective penalties, in State agencies at the lowest appropriate level and in the public and civil society;
- establishment of adequate dispute settlement mechanisms.

\textsuperscript{13} \textit{Supra}, n. 1.

\textsuperscript{14} See, for example, IUCN Commission on Environmental Law Specialist Group on Water and Wetlands, \textit{Principles for Model Water Legislation} (2007).
Similarly, an earlier paper prepared by the Technical Advisory Committee of GWP, and based on a detailed survey of a wide range of jurisdictions, assesses the links between the Dublin Principles and national water law systems. In relation to GWP 2000 Principle I, which states that water is a finite and vulnerable resource:

‘The review shows that there are water policies and legislation concerned with integrated water management; water quality protection; flow and landscape considerations; ecological requirements; rational and guided water use; integration among soil waters and other natural resources; protection of water supplies; water planning; recognition of the river basin; groundwater protection; mandatory assessment of water policies, plans, programmes and projects; and mandatory assessment of water related subsidies’.

It is interesting to note that almost every single one of these issues is also addressed, to a greater or lesser extent, at the inter-State level under international water resources law. Further, in relation to Principle II, which provides that water development and management should be based on a participatory approach, this paper notes that ‘some legislations acknowledge the globability (sic) of water issues and acknowledge transnational interests through references to international treaties and obligations’. Finally, in relation to Principle IV, which recommends that States treat water as an economic good, the GWP paper notes that

‘At present most legislations recognise, and protect the property aspects of rights to use water, which is the manner in which law reacts to the economic concept of scarcity. At the same time, water law systems acknowledge the social and environmental dimensions of water through norms intended to protect third parties, the environment, and the resource base.’

Therefore, it is quite apparent that a number of the key essential elements have been identified, which should be incorporated into national water resources law regimes in order for the IWRM concept to be implemented effectively, and that the transboundary aspects of most if not all of these elements are also addressed under under conventional and customary international water law.

At a more detailed level, the 2007 Technical Workshop on Transboundary Water Cooperation (TWC) identified a number of lessons learned and suitable recommendations on approaches to improve the challenge of ‘national commitment’ to transboundary water cooperation, which implicitly highlight the role of common national approaches to IWRM. These findings might be summarized as follows:

- the incorporation and local adoption of international / basin agreements in order to address the disconnect between basin management and national water legislation, policies and procedures;
- a move towards harmonizing national development plans and poverty reduction strategies with national water plans and, ultimately, with basin development plans;
- a long-term political and financial commitment to river basin organizations (RBOs) or other transboundary water cooperation processes, including the identification of staged goals;
- a move towards the concept of ‘benefit sharing’ in transboundary water cooperation;
- a staged approach (involving, for example, information sharing and improving national / RBO capacity) as trust-building measures, which might involve routine exchanges of staff between riparian State bodies and RBOs;
- identification of unique (political, hydrological, ecological and economic) challenges of each basin and design of basin agreements and other transboundary water cooperation processes accordingly.\textsuperscript{15}

In addition, in relation to the requirements for stakeholder participation in transboundary water cooperation, the technical Workshop advocated:
- a clear participatory process involving, \textit{inter alia}, a live inventory of stakeholders and their interests, appropriate procedures to ensure or encourage engagement of all stakeholders (which may include the establishment of special civil society fora within riparian States / RBOs);
- the adoption of legislative mechanisms ensuring access to information and participation in decision-making processes for all river basin users / stakeholders and ensuring transparency of decision-making.

Obviously, the implementation of IWRM approaches can help enormously in facilitating the measures listed above as necessary to improve transboundary water cooperation, as any formulation of IWRM would include among its principal components:
- managing water resources at the basin or watershed level;
- optimizing supply;
- managing demand;
- providing equitable access to water resources;
- establishing improved and integrated policy, regulatory, and institutional frameworks;
- utilizing an intersectoral approach to decision-making.\textsuperscript{16}

\textbf{IWRM Concept at Transboundary Level}

In a recent article, Tarlock elaborates on the key objective of international water resources law, stating that
‘It seeks to provide all nations which share a common watercourse a permanent, fair, and dependable share of a common supply and thus prevent rival, unresolved claims from festering over time. The problem is the gap between principle and practice.’\textsuperscript{17}

However, he also readily concedes that international water law ‘alone cannot alleviate the fears, real incompatible demands, inequitable distributions and supply uncertainties that create the risk of water insecurity and the disruptive and unnecessary consequences that could follow.’\textsuperscript{18} Similarly, the GWP TAC notes that

\textsuperscript{15} \textit{Supra}, n. 11, at 4-6.
\textsuperscript{16} See USAID Guidance, \textit{supra}, n. 8.
\textsuperscript{17} \textit{Supra}, n. 12, at 717.
\textsuperscript{18} \textit{Ibid.}, at 716.
‘Although there are substantive principles in international water law such as equitable utilization and prohibition of significant harm, there are formal constraints on their application because countries are not obliged to resort to any third party unless they agree on a specific conflict resolution procedure.’

The TAC notes a number of initiatives and agreements at the global and regional levels designed to facilitate collaboration but provides an entirely realistic assessment of the situation, stating that

‘Common to most of these agreements is the large gap between rhetoric and action, not only at the political level in terms of willingness to cooperate, but also at the practical level of establishing the proper data and information base and the analytical; tools needed for meaningful collaboration.’

At the same time, Tarlock notes approvingly the fact that international water resources law has developed to the extent that it now fully embraces considerations of environmental protection:

‘Fairness has now been expanded to include protection of environmental interests which have very little footing within the traditional calculus of entitlements’ [and]

‘The International Law association has replaced the Helsinki Rules with the Berlin Rules which reflect the recent recognition of environmental interests, and the need for cooperative basin management, but the equitable apportionment standards remain the same.’

However, he ultimately questions the robustness and justiciability of the rules of international water law and strongly suggests that IWRM processes have an important supplementary and supporting role to play in this regard. :

‘The crucial question remains whether international water [law] is sufficiently robust to address the new security fears. The question is important because ultimately the reduction of fear among riparian states will require the cooperative planning and management process described in the next section’ [entitled ‘Toward Integrated Water Management’].

Indeed, in light of these constraints he puts forward one view of international water law, stating that it ‘is best seen as a set of framework principles that invite nations to reach a negotiated solution that puts in place an institution for future cooperation.’ Therefore, the linkages between the effective functioning of international water law and the IWRM concept, and the potential role of the latter in securing the objectives of the former, are becoming clearer.

In his recent paper, Tarlock identifies two possible roles that international water law can play in promoting water security:

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19 Supra, n. 1, at 43.
20 Ibid.
21 Ibid., at 718-719.
22 Ibid., at 722.
'First, the law must fairly define the rights of respective states to set the outer limits of the use of the resource. Second, to respond to many challenges posed by global climate change, increasing water consumption and population growth, adaptive management institutions must be developed to sustain interstate cooperation.'

Clearly, the IWRM concept can help in practical terms to identify the legal limits involved in the former role, by helping to elaborate and determine the standards of conduct expected of riparian States in respect of their co-riparians. For example, as IWRM can now be considered the ‘world standard for water management’, it might prove very significant for the purposes of identifying the due diligence standards required of States in order to satisfy the duty to prevent transboundary harm, now firmly established under customary international law and included in almost every international agreement in respect of shared water resources. More specifically, key elements of IWRM have an obvious role in clarifying the parameters of the general duty to cooperate and, in particular, the detailed requirements of riparian States under related duties, such as the duty to notify neighbouring States of planned measures or the duty to engage in the ongoing exchange of relevant information.

However, it is in respect of the latter role, the development of ‘adaptive management institutions … to sustain interstate cooperation’, that the commitment to apply IWRM can be of immense significance. Tarlock suggests as much by immediately proceeding to explain that

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23 Supra, n. 12, at 716-717.

24 Tarlock bases this observation on the fact that IWRM now constitutes a basic condition for European water resources development and funding and on the broad acceptance and endorsement of the concept by the international community, ibid., at 725.


‘After that it depends on political will to manage a resource over the long run, trust among all classes of users, and the marshaling of the necessary financial resources to support cooperation.’

Dupuy notes that, ‘co-operation is the general means by which States will implement the substantive rights and duties regarding the use of transboundary natural resources’. Similarly, Birnie and Boyle describe the obligation to co-operate in mitigating transboundary environmental risk as ‘now widely acknowledged’ and, more particularly, they refer to the ‘requirement of prior consultation based on adequate information’ as ‘a natural counterpart to the concept of equitable utilization of a shared resource’. In support of this conclusion one needs only to consider the numerous non-binding recommendations and declarations of States which refer to the obligation to co-operate and define some of its means of implementation. For example, Principle 24 of the Stockholm Declaration on the Environment articulated the obligation and this formulation has been restated by the U.N. General Assembly in several resolutions, including the 1972 Resolution on Co-operation Between States in the Field of Environment and the 1973 Resolution on Co-operation in the Field of the Environment Concerning Natural Resources Shared by Two or More States. A later General Assembly Resolution on Co-operation in the Field of the Environment Concerning Natural Resources Shared by Two or More States further developed the obligation and was inspired by the 1978 UNEP Principles of Conduct on Shared Natural Resources. Principle 13 of the 1978 UNEP Principles requires that effects on the environment, as well as on the resources of other States, are among the matters which must be taken into account in policies on the use of shared resources. The obligation to co-operate has been restated in several OECD Recommendations, including the 1974 Recommendation on Transfrontier Pollution. The obligation also receives support from the declarations of various regional groups and organizations, including for example, the 1989 Declaration of Brasilia, adopted by the Sixth Ministerial Meeting on the Environment in Latin America and the Caribbean. 1992 Rio Declaration contains a strong endorsement of

27 Ibid., at 717.
28 Supra, n. 25, at 70.
34 UNEP/IG/12/2 (1978).
36 Reprinted in 28 ILM (1989) 1311. Article 2 of which provides:
the closely related requirement to notify and consult in Principle 19\textsuperscript{37} and Birnie and Boyle conclude that this provision reflects and codifies the relevant precedents from treaty and State practice and case law and further point out that:

‘… even if notification and consultation in cases of transboundary risk may not yet be independent customary rules, non-compliance with them is likely to be strong evidence of a failure to act diligently in protecting other states from harm under Rio Principle 2’.\textsuperscript{38}

A very considerable number of treaties dealing specifically with shared freshwater resources allude to the obligation to co-operate, including the 1963 Berne Convention on the International Commission for the Protection of the Rhine,\textsuperscript{39} the 1964 Agreement concerning the Use of Waters in Frontier Waters concluded between Poland and the USSR,\textsuperscript{40} the 1971 Act of Santiago concerning Hydrologic Basins concluded between Argentina and Chile,\textsuperscript{41} and the 1978 Great Lakes Water Quality Agreement between Canada and the United States.\textsuperscript{42} Part III, comprising Articles 11-19, of the 1997 UN Convention on the Law of the Non-navigational Uses of International Watercourses relates to ‘Planned Measures’ and contains detailed procedural rules requiring watercourse States to notify, consult and negotiate in relation to planned measures which may have adverse effects on other watercourse States.\textsuperscript{43} Also, treaty provisions creating express duties to notify and consult are particularly prevalent in conventions concerning the development, protection, and use of international watercourses. Examples include, Article 6 of the 1960 Indus Waters Treaty concluded between India and Pakistan,\textsuperscript{44} Article 9 of the 1974 Agreement concerning Co-operation in Water Economy Questions in Frontier Rivers concluded between the German Democratic Republic and Czechoslovakia,\textsuperscript{45} and Article 9 of the 1978 Agreement on Great Lakes Water Quality.\textsuperscript{46}

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‘States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith’.

\textsuperscript{38} Supra, n. 25, at 127.


\textsuperscript{40} 552 UNTS 175.

\textsuperscript{41} UN Doc. A/CN.4/274. (Articles 3-8).

\textsuperscript{42} 30 UST 1383, TIAS No. 9258. (Articles 7-10).

\textsuperscript{43} 1997 United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, (New York, 21 May 1997), (1997) 36 ILM 700. The Convention is not yet in force as it has not yet achieved the 35 ratifications required. However, because it is the product of over twenty years of deliberation by the International Law Commission and has been adopted by resolution by the UN general Assembly, it is likely to be considered highly persuasive in identifying and interpreting relevant rules of general and customary international law.

\textsuperscript{44} 419 U.N.T.S. 125


\textsuperscript{46} 30 U.S.T. 1383; T.I.A.S. No. 9257.
In addition, for many years now, all international bodies attempting to codify the main customary rules applying to the environmental protection of shared freshwater resources have insisted on the central significance of the general duty to co-operate. Article 11 of the International Law Association’s (ILA) 2004 Berlin Rules on Water Resources Law provides that ‘Basin States shall cooperate in good faith in the management of waters of an international drainage basin for the mutual benefit of the participating States’. The commentary to Article 11 goes so far as to assert that ‘[T]he duty of cooperation is the most basic principle underlying international water law’ and that it

‘ultimately arises because without cooperation between basin States, it is literally impossible for States to fulfil their obligation to share transboundary water resources, to achieve sustainable development, to protect ecological integrity, and to fulfil the many other legal obligations expressed in these Rules.’"47

Significantly, the Berlin Rules also contain a Chapter XI on ‘International Cooperation and Administration’ setting out detailed rules on, *inter alia*, exchange of information, notification of programmes, plans, projects or activities, and consultations.

Even before the development of modern international environmental law, the commencement of which is normally taken to have been facilitated by and to be contemporaneous with the 1972 Stockholm process, the Arbitral Tribunal in the *Lac Lanoux* case clearly recognised in 1957 the duty of States to cooperate in the use of the waters of an international watercourse. The Tribunal stated that

‘… States are today perfectly conscious of the importance of the conflicting interests brought into play by the industrial use of international rivers, and of the necessity to reconcile them by mutual concessions. The only way to arrive at such compromises of interests is to conclude agreements on an increasingly comprehensive basis. *International practice reflects the conviction that States ought to strive to conclude such agreements; there would thus appear to be an obligation to accept in good faith all communications and contacts which could, by a broad confrontation of interests and by reciprocal good will, provide States with the best conditions for concluding agreements.*' 48

The Tribunal clearly linked the obligation to cooperate in good faith with the effective conclusion of international agreements as a means of ensuring the prevention of transboundary harm. More recently, in the *Case Concerning the Gabčíkovo-Nagymaros*...
the ICJ judgment reflects the procedural obligation to cooperate to minimise the risk of environmental harm and, indeed, requires the State parties to agree to cooperate in the joint management of the project.

Therefore, though the duty to cooperate is well established in general international water resources law, outside of a number of similarly broad related duties, such as the duty to notify, the duty to exchange relevant information or the duty to warn of emergency situations, our legal understanding of the duty to cooperate provides little detail in respect of the standard normative requirements of such cooperation or of the optimal institutional mechanisms required to ensure or enhance its effectiveness. The ongoing elaboration of a common approach to implementation of IWRM goes a long way towards providing such detail. Take, for example, the detailed ‘recommendations on approaches to improve national commitment’ elaborated by the Technical Workshop on Transboundary Cooperation held in Copenhagen in 2007, which attempt to address a wide range of practical issues in a non-legal and thus, non-prescriptive, manner.

The issue of effective transboundary cooperation over shared water resources is very closely bound up with that of the establishment of institutional machinery to facilitate such cooperation. Though the principle of equitable utilisation is widely regarded by commentators as the primary rule of customary international law governing the use, allocation and environmental protection of the waters of international watercourses, the complexity of the process of balancing diverse interests and weighing up relevant factors, coupled with the uncertainty in application of the principle due to a lack of judicial elaboration, means that widespread agreement as to what the principle might actually mean in practice is somewhat less forthcoming. It is therefore suggested that the use of common management systems, with developed institutional structures, including, in particular, permanent International River Commissions, can provide frameworks within which agreed formulae of the principle of equitable utilisation might be adopted, and subsequently applied within particular basin regimes. Common management approaches, whereby the drainage basin is regarded as an integrated whole and managed as an economic unit, with the waters either vested in the community or divided among co-basin States by agreement, accompanied by the establishment of international machinery to formulate and implement common policies for the management and development of the basin, have been advocated, and even adopted, for some time. However, the advent of

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52 For example, Recommendation 51 of the Action Plan for the Human Environment adopted at the 1972 Stockholm Conference called for the ‘creation of river basin commissions or other appropriate machinery for co-operation between interested States for water resources common to more than one jurisdiction’ and set down a number of basic principles by which such commissions should be guided. Report of the United
IWRM has provided a very considerable additional impetus. The introduction to Chapter 18 of Agenda 21 provides that

‘The widespread scarcity, gradual destruction and aggravated pollution of freshwater resources in many world regions, along with the progressive encroachment of incompatible activities, demand integrated water resources planning and development.’

Chapter 18 goes on to state further that

‘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 harmonisation of those strategies and action programmes.’

Therefore, the role of joint management institutions in the implementation of IWRM are quite clear. Indeed, the GWP TAC, in its seminal 2000 paper on IWRM, hints at aspects of this role by stating categorically that

‘Often, a useful step towards the joint management of shared waters is the setting up of a joint committee or commission with the objective of sorting out and agreeing on facts about the present status and use of the shared water resources.’

As regards the legal basis and potential significance of common management approaches, in the Gabčíkovo-Nagymaros case, the International Court of Justice cited with approval the following passage from the River Oder case:

‘[T]his community of interest in a navigable river becomes the basis of a common legal right, the essential features of which are the perfect equality of all riparian States in the use of the whole course of the river and the exclusion of any preferential privilege of any one riparian State in relation to the others.’

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55 Ibid., at 169, para. 18.10.

56 Estimates suggest that ‘well over one hundred international river commissions have been established by states’, see S. McCaffrey, The Law of International Watercourses (OUP, Oxford, 2001), at 159.

57 Supra, n. 1, at 44.


McCaffrey highlights this statement of the Court to illustrate that ‘the concept of community of interest can function not only as a theoretical basis of the law of international watercourses but also as a principle that informs concrete obligations of riparian states, such as that of equitable utilization’. Nevertheless, though numerous commentators have advocated the principle of a community of interests in international watercourses and use of the associated common management approach, few would contend that such an approach has evolved, or is likely soon to evolve, into a requirement of general or customary international law.

Though doubting that the requirement of common management has entered the body of customary international law, Fitzmaurice and Elias point out that

‘The management of international watercourses by northern European states, however, clearly follows the theory of common management … joint management bodies – frontier river commissions – which regulate all uses of international watercourses in the region.’

Indeed, the 1992 United Nations Economic Commission for Europe (UNECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes, which, at the end of 2000, had 26 signatories and 32 parties, uniquely requires parties to ‘enter into bilateral or multilateral agreements or other arrangements’ which ‘shall provide for the establishment of joint bodies’ having a wide range of environmental tasks. On the other hand, the 1997 UN Convention on the Law of the Non-Navigational Uses of International Watercourses actively encourages watercourse States to enter into common management arrangements. Most significantly, the principle of ‘equitable participation’, which is set out under Article 5(2) and is closely linked to implementation of the rule of equitable utilisation, suggests the nature and scope of the role potentially to be played by joint mechanisms. The ILC commentary to the 1994 Draft Articles, which preceded the Convention, explains that Article 5(2) involves ‘not only the right to utilize an international watercourse, but also the duty to cooperate actively with other watercourse States in the protection and development of the watercourse’ and Tanzi and Arcari argue that the provision ‘not only requires co-ordination but also more significant

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60 Supra, n. 56, at 152.
63 (1992) 31 ILM 1312.
64 Article 9(1) and (2).
65 Supra, n. 43.
66 Article 5(2) provides that ‘Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention’.
forms of co-operation. Also, in the context of the general obligation imposed upon watercourse States by Article 8 of the Convention to cooperate ‘in order to attain optimal utilization and adequate protection of an international watercourse’, Article 8(2) expressly proposes the use of joint mechanisms and commissions. It is to be assumed that such arrangements would also generally be regarded as effective in facilitating the regular exchange of data and information required under Article 9.

It is apparent that regular exchange of such information, facilitated by common management institutions, could have a significant role to play in determining an equitable regime for the utilisation of an international watercourse in line with the principle of equitable utilisation as elaborated under Articles 5 and 6 of the U.N. Convention. In addition, Article 21 provides, in relation to the ‘prevention, reduction and control of pollution’ that ‘[W]atercourse States shall, individually and, where appropriate, jointly, prevent, reduce and control the pollution of an international watercourse that may cause significant harm’ and that ‘[W]atercourse States shall take steps to harmonize their policies in this connection.’ As the ‘mutually agreeable measures and methods’ envisaged under Article 21 for this purpose include, inter alia, ‘[S]etting joint water quality objectives and criteria’, the potential role for common management machinery in environmental protection is obvious. Further, Article 24, which deals with the ‘management’ of international watercourses, provides that ‘[W]atercourse States shall, at the request of any of them, enter into consultations concerning the management on an international watercourse, which may include the establishment of a joint management mechanism.’ The UN Convention also envisages a role for common management mechanisms in relation to the settlement of disputes concerning the interpretation or application of the Convention.

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69 Article 8(2) provides that
‘In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions.’
70 Article 9(1) provides that
‘Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts.’
71 Article 21(2), (emphasis added).
72 Article 21(3)(a).
73 Article 24(1) (emphasis added). This provision would appear to suggest the efficacy of using permanent common management institutions for the purpose of planning the environmental protection of the watercourse in particular as Article 24(2) further provides that
‘“management” refers, in particular, to:
(a) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and
(b) Otherwise promoting the rational and optimal utilization, protection and control of the watercourse.’
74 Article 33(1) provides that
Common management regimes must necessarily be voluntary arrangements, established by treaty between basin States, as the rules of general international law will not impose a positive obligation and compel basin States to create such regimes. However, it is apparent that the accumulated practice of States in participating in such arrangements should serve to bolster the normative status, in customary or general international law, of the various rules comprising the duty to co-operate. This could, in turn, inform the substantive content of such procedural rules by making it clear that *bona fide* participation in common management institutions might go some way towards satisfying the obligations inherent therein. The IWRM concept, by focusing intently on the need for integration of national and sectoral priorities, adds very considerable support to the rationale for a common management approach which, as McCaffrey points out ‘expresses more accurately the normative consequences of the physical fact that a watercourse is, after all, a unity’ [and] ‘it implies collective, or joint action’ [and] ‘evokes shared governance’. Commentators have for some time expressed concern that, in the absence of common management arrangements, the traditional substantive rules of international watercourses law, including the no-harm rule and the principle of equitable utilisation, may be of limited avail in handling problems of water scarcity and quality. For example, in 1974 Utton could note in relation to the doctrine of equitable utilisation that

‘Yet there is a narrowness in the doctrine that contains the seeds of nationalistic inefficiency. The doctrine of equitable utilisation contemplates cutting the resources of the river basin up into equitable shares, each share to be independently developed by each riparian … However, as admirable as equitable independent development may be, independent development is not likely to make the most productive use of the resource.’

According to Tanzi and Arcari,

‘[I]t is against the background of such considerations that the concept of optimal utilisation of international watercourses to be pursued by riparian States *through the integrated management and development thereof* has gained widespread acceptance in legal literature and in the international governmental fora.’

They also note that ‘in the modern formulation of the equitable utilisation principle, the goal of sustainable use should be co-ordinated with the more utilitarian paradigm of optimal utilisation’, and that

‘If the parties concerned cannot reach agreement by negotiation … they may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institution that may have been established by them …’. (Emphasis added).

76 Supra., n. 56, at 169.
79 Supra, n. 68, at 18.
‘it is apparent that the sound realisation of sustainable use depends on the same co-operation and participation among riparian States in the joint and integrated management of the shared watercourse that we have previously indicated as prerequisites for optimal utilisation.’

The authors go on to conclude that

‘[I]f … exchange of information, consultation and notification are critical for the concrete determination of the substantive entitlement of States in the use of international watercourses, it is patent that the long-term goals of optimal and sustainable use of river waters can be adequately served only when procedural co-operation among riparians is carried out on a permanent, rather than on an occasional, basis.’

These conclusions are reminiscent, in a transboundary context, of one of the four general objectives of IWRM listed in Agenda 21:

‘The identification, strengthening, or development, as required, … of the appropriate institutional, legal and financial mechanisms to ensure that water policy and its implementation are catalysts for sustainable social progress and economic growth.’

Furthermore, it seems reasonable to assume that common management arrangements will be increasingly employed as recognition of the physical unity of the drainage basin gains ground in international law. Of course, the physical unity of the basin is one of the fundamental tenets of IWRM. Indeed, the ongoing evolution and development of the so-called ‘ecosystems approach’ to the environmental protection of international watercourses is likely to considerably enhance legal recognition of the physical unity of drainage basins and so to highlight the need for common management institutions. It is difficult to imagine how co-riparian States could effectively cooperate over such ecosystems-related issues as the maintenance of ecological flows, the coordination of policies for the protection of the freshwater and marine environments, or effective protection against alien or invasive species, without functioning institutional mechanisms to manage the collection and use of scientific data, to facilitate inter-State communication and, generally, to build trust among the States concerned. Once again, IWRM continues to do much to promote ecosystems protection. Even the 2000 GWP definition of the

80 Ibid., at 20.
81 Ibid., at 20-21.
82 Supra, n. 9.
85 See, for example, U.N. Water, *Managing Water Resources Towards 2015* (Copenhagen, April 2007), which states, at 3, that
concept of IWRM refers explicitly to the need to refrain from ‘compromising the sustainability of\textsuperscript{86} vital ecosystems’, while the Agenda 21 statement of the objectives of IWRM includes ‘[T]he planning of strategies for the sustainable and rational utilization, protection, conservation and management of water resources’.\textsuperscript{87} In the context of a discussion on ‘the need for ecomanagement’ of international watercourses, Kaya concludes that

‘Under the light of the findings of the examination of the relevant sources of international law in the present study, it seems necessary to establish a treaty regime \textit{with an active and continuing revisional element which can only be achieved by setting up a joint water institution} with adequate powers and means in each basin.’\textsuperscript{88}

Yet again, articulations of the IWRM concept tend to champion such revisional or adaptive management techniques. Indeed, listed first among the objectives of IWRM set out in Agenda 21 is that of ‘[T]he promotion of a \textit{dynamic, interactive, iterative, and multisectoral approach to water resources management …’}.\textsuperscript{89}

Therefore, it is evident that IWRM represents a non-legally binding, and thus non-threatening, means for States to apply leading-edge ideas on water resources management, which provides States with the opportunity to address the ‘disconnect between basin management and national water policies and procedures’, to build trust between riparian governments and basin organizations, and to share information between river basin organizations, donors and governments.\textsuperscript{90} Clearly, such steps have the potential to enhance transboundary cooperation in respect of shared water resources very considerably.

Despite the flexibility and context-specific nature of the IWRM concept, little doubt can possibly remain in respect of the direct relevance of many of its key elements to the interpretation and application of rules of international water law. It was included as one of six principles adopted at the 1992 Dublin Conference on Water and the Environment and was adopted as the fundamental basis of international cooperation on water resources in Agenda 21.\textsuperscript{91} The environmental action plan for the twenty-first century agreed by States at the 1992 UN Conference on Environment and Development (UNCED).\textsuperscript{92} It was subsequently endorsed in 1998 by the UN Commission on Sustainable Development

\textsuperscript{86} Supra, n. 1, at 2.
\textsuperscript{87} Supra, n. 9..
\textsuperscript{88} Supra, n. 61, at 189.
\textsuperscript{89} Supra, n. 9 (emphasis added).
\textsuperscript{90} See, Danida / Danish Water Forum, Technical Workshop on Transboundary Water Cooperation: National Commitment, Stakeholders and IWRM in the Mekong, the Nile and SADC/Zambezi/Okavango (Copenhagen, March 2007), at 4.
\textsuperscript{92} See generally, \url{http://www.un.org/esa/sustdev/documents/agenda21/index.htm}
(CSD)\textsuperscript{93} and in 2001 by the UN General Assembly.\textsuperscript{94} It received widespread tacit endorsement at the ministerial level in the 2001 Ministerial Declaration of the International Conference on Freshwater\textsuperscript{95} and again in the Plan of Implementation adopted at the 2002 World Summit on Sustainable Development (WSSD).\textsuperscript{96} Inclusion in the WSSD Plan of Implementation of a target exhorting States ‘To develop integrated water resources management and water efficiency plans by 2005’ directly links the IWRM concept to the Millenium Development Goals (MDGs) addressing poverty, hunger, gender, equality, health, education and environmental degradation.\textsuperscript{97} This in turn links IWRM to the realization of a range of human rights, in particular a number of economic, social and cultural rights, such as the emerging human right of access to water and sanitation, as well as to a number of the key objectives of international water resources law, including the protection of the freshwater environment and the satisfaction of vital human needs.

The very widespread support that the IWRM concept receives in the declared commitment and practice of States is also important as it lends added legitimacy to those rules and principles of international water resources law to which key elements of IWRM correspond. A survey of a group of 90 States conducted by GWP, UNEP and the Japan Water Forum, and presented at the 4th World Water Forum in 2006, shows that, by the end of 2005, 25\% had reportedly made good progress in implementing IWRM and 50\% had made some progress, while only 25\% had made little or no progress.\textsuperscript{98} Clearly, such findings might have significant implications for the identification of consistent State practice, and thus for the determination of the existence or of the specific normative content of customary rules and principles.

Consider, for example, how widely adopted common approaches to IWRM might inform the nature of the obligations inherent to the duty of States to notify co-riparians of planned measures or to engage in the ongoing exchange of data relevant to utilization and management of shared water resources. In this way, IWRM supports the legal authority of certain core rules of international water resources law and, perhaps more importantly, provides a non-legal framework for the development and identification of the detailed substantive and procedural obligations contained therein. After all, prominent legal


A UN-Water Task Force for developing a formal system for monitoring of progress of IWRM has now been established and was due to present asset of indicators in this regard at CSD 16 in 2008, see U.N. Water, \textit{Managing Water Resources Towards 2015} (Copenhagen, April 2007), at 3.

\textsuperscript{94} UNGA Res. 55/196, UN Doc. A/RES/55/196 (1 Feb. 2001).

\textsuperscript{95} Ministerial Session of the International Conference on Freshwater, Ministerial Declaration (Bonn, 4 Dec. 2001). Available at \url{http://www.water-2001.de/outcome/MinistersDeclaration/Ministerial_Declaration.pdf}.

\textsuperscript{96} Plan of Implementation of the World Summit on Sustainable Development, in particular paras. 2-4 and 24-46. Available at \url{http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf}.


\textsuperscript{98} \textit{Ibid.}
commentators would take pains to point out that, in relation to the formation of customary international rules, ‘what states do is more important than what they say’. 99

In each of these articulations of the IWRM concept alluded to above and of the steps that States must take towards its progressive achievement, the implementation of IWRM is expressly or implicitly linked to obligations arising under international law. For example, the CSD’s 1998 report, in setting out the ‘actions and means of implementation’ required of governments for IWRM, states:

‘In formulating and implementing integrated water resource management policies and programmes, there is a need to take into account actions to implement relevant conventions in force, in particular conventions on biological diversity, desertification, climate change, and wetlands and the Convention on International Trade in Endangered Species of Flora and Fauna (CITES)’. 100

Clearly, such conventional instruments, as central building blocks of general international environmental law, inform the environmental protection requirements of international water resources law. The report further advises governments that they should consider ‘relevant recommendations and/or programmes of action emanating from a number of major international conferences and events’. 101 Also, in a clear reference to the concept of a human right to water and sanitation, which is rapidly emerging in international legal discourse and practice, the report advises that, ‘in formulating such policies,

Governments are called upon to address the need for achieving universal access to water supply and sanitation’. 102 Such statements clearly illustrates how the universal State commitment to IWRM and the progressive adoption by States of measures intended to implement key elements of the concept can provide a significant fillip to State compliance with obligations arising under international law.

Indeed, in respect of the cardinal rule of international water law, that of equitable utilisation, which requires a complex and structured balancing of competing economic, social and environmental interests with a view to identifying an equitable inter-State allocation of shared waters, and to which all other rules of international water law are subordinate, expert commentators have long concluded that in order for such a process to be meaningful, appropriate mechanisms must be established for gathering and sharing relevant information. The 1998 CSD report states, under measures required in relation to ‘information for decision-making’, which is in turn listed under ‘actions and means of implementation’ for IWRM:

100 Supra, n. 93, at para. 17.
101 Ibid.
102 Ibid.
Governments are encouraged to establish and maintain effective information and monitoring networks and further promote the exchange and dissemination of information – including related socio-economic and environmental data, gender differentiated where appropriate – needed for policy formulation, planning and investment decisions and operational management of freshwater resources, and encourage the harmonization of data collection at the basin/aquifer level.

Governments are further encouraged to establish, implement and monitor various ‘water-related indicators of progress in achieving water resource management, including water quality and quantity objectives’ and to ‘carry out national water quality and quantity inventories for surface water and groundwater’. Indeed, it is difficult to imagine that co-riparian States could easily agree on what constitutes an ‘equitable and reasonable’ allocation of water share or uses in the absence of some form of comparable mechanisms in each co-riparian State, which could produce data likely to be acceptable to (and useable by) each of the States involved. The CSD report clearly recognises the practical significance of such informational mechanisms and calls on the international community to support such national efforts, stating specifically that:

‘The United Nations system is called upon to play a central role in the development and coordination of relevant data and information networks, strengthen regional and global monitoring systems, carry out periodic global assessments and analyses, and promote the broadest exchange and dissemination of relevant information, in particular to developing countries.’

The 1998 report adopted the recommendation of the Expert Group, which had also included detailed recommendations on international cooperation making it quite clear that it regarded a common approach among States in respect of national implementation of IWRM was essential for achieving effective international cooperation on international watercourses.

To appreciate the relevance of the IWRM approach in terms of providing assistance to States in operationalising the doctrine of equitable utilization, it is only necessary to consider the 2000 GWP definition of IWRM, which refers to the need ‘to maximize the resultant economic and social welfare in a equitable manner without compromising the sustainability of vital ecosystems’. Equally, one might consider the objectives of IWRN set out under Agenda 21, which refer to ‘a dynamic, interactive, iterative, and multisectoral approach to water resources management … that integrates technological, socioeconomic, environmental and human health considerations’ and to ‘projects and

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103 Ibid., para. 19.
104 Ibid., para. 20.
105 Ibid., para. 21.
106 Ibid., para. 23.
108 Supra, n. 1, at 2.
programmes that are both economically efficient and socially appropriate’.

The Mekong River Commission, established under the 1995 Agreement on Cooperation for the Sustainable Development of the Mekong Basin, provides one of the most highly developed examples of an international river basin organization founded to facilitate transboundary water cooperation. Currently the MRC Secretariat administers a range of joint programmes, including:

- the Basin Development Plan;
- the Water Utilisation Programme;
- the Environment Programme;
- the Flood Management and Mitigation Programme;
- the Fisheries Programme;
- the Agriculture, Irrigation and Forestry Programme;
- the navigation Programme;
- the Hydropower Programme;
- the Information and Knowledge Management Programme; and
- the Integrated Capacity Building Programme.

This extensive web of inter-related programmes gives some indication of the complexity of working towards the objective of ‘reasonable and equitable utilization’, as required under Article 5 of the 1995 Mekong Agreement. The role of IWRM in this process is absolutely central and the Basin Development Plan process, in particular, is explicitly based upon the principles of IWRM and comprises three elements:

- Development Scenarios, which assess the potential and constraints for the further development of some of the water resources in the various parts of the Mekong Basin. The results will guide the formulation of the IWRM-based Basin Strategy and the project portfolio.
- An IWRM-based Basin Strategy, which provides a long-term view of how the Mekong Basin may be developed in a sustainable manner for poverty reduction. The strategy will also guide the implementation of the IWRM at basin, national and sub-basin levels, and assist line agencies with preparation of plans and projects that are sensitive to resource protection issues.
- A project portfolio of structural (investment) projects and supporting non-structural projects, as envisioned in the 1995 Agreement, to develop some of the Mekong Basin’s water and related resources and minimise harmful effects that might result from natural occurrences and man-made activities.

109 Supra, n. 9.
111 See http://www.mrcmekong.org/about_mrc.htm
112 See http://www.mrcmekong.org/programmes/bdp.htm
Conclusion

Therefore, it would appear that the IWRM concept can act as an effective bridge between sustainable national water management policies and water resources cooperation at the transboundary level. First of all, IWRM clearly demands a high standard of environmental performance at the national level. For example, a recent UN-Water conference in Copenhagen has concluded that:

‘Water reforms and good water governance – in an Integrated Water Resources Management (IWRM) framework - … supports integration of water supply and use with the management of waste, sewage and groundwater protection. Protection and quality improvements of water are preconditions for sustaining the resource base for the reliable provision of good quality water for human consumption. Integrated Water Resources Management is also critically important to maintain the ecosystems and the services they provide. The principles of sustainable development must be integrated into country policies and programmes in order to reverse the loss of environmental resources.’\(^{113}\)

This required standard of national environmental performance can very easily be translated to the transboundary level, especially where common approaches to the implementation of IWRM have been employed by all or many of the States in a basin or region. As Tarlock points out, ‘[B]ecause it is river basin or catchment area focused, it can either be confined to the national level or expanded across national boundaries’. Indeed, in the context of a discussion of IWRM as applied to the Okavango basin, Guriswamy and Tarlock optimistically conclude that

‘The evolving Okavango management regime is an example of the current thinking in the world water community that the best hope for the adoption of sustainable water management both within and among nations is the adoption of Integrated Water Resources Management (IWRM)’\(^{114}\).

Recommendations for the Application of IWRM at Transboundary Level

- UNEP act to raise awareness of the linkages between the application of IWRM at the national level and effective transboundary water resources cooperation;
- UNEP to …


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