Beyond the river: the benefits of cooperation on international rivers

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Abstract Management of international rivers can be a cause of conflict or cooperation between states. Benefits of cooperation include benefits to the ecological river, the economic river, the political river and the catalytic river. The challenges are in balancing the trade-offs between states.

Keywords Benefits of cooperation; economic integration; shared river basins

Introduction

Rivers are complex systems
Rivers are interwoven with landscapes, with societies and cultures, and with political systems. International issues are always complex, always serious, often affairs of state and often sovereignty related. Perceptions become realities on international rivers. Positions are what we see, and what lies behind positions are interests that are often very different, and we need to respect them.

Rivers are political systems
Management of all rivers at the national level is political, and management of international rivers is very, very political. The word “rival”, in fact, has the same roots as the word “river”: dwellers on opposite banks of the river. The Chinese got it right a long time ago. Their character for river, for dike and for political order: put a dike on a river and you have political order.

Jurisdictional problems of international rivers are great. There are no entities unless they are negotiated; anarchy is a part of international rivers issues. There is a continuum, if you like, for basins in nations with strong central government, basins within federal nations with strong state governments (transboundary waters), and basins shared by nations (international transboundary waters). Each of them is complex, both legally and politically.

Terminology
The problems start with terminology. I never cease to be amazed when participating in international meetings, UN meetings for example, over arguments and debates on terminology. Often the meeting doesn’t go anywhere for the first few hours while the debate is over what to call these waters. I’ve used the term international rivers. That would be objected to in the first few minutes, and we wouldn’t get any further. The UN convention definition of a “watercourse” is: a system of surface/ground waters; a unitary whole, flowing to common terminus, situated in different states.

The word international is objected to by many, since “international waters” imply they do not belong to anybody. The terms “transboundary,” “shared” and “watercourse” are used when the focus is on freshwater basins, recognized marine eco-systems and coastal zones. Common approaches should be used. Unfortunately, no common approaches are often the case.
We live in shared river basins

On a global scale, 260 river basins are shared by two or more nations, and 50% of the land area of the planet and 40% of the world’s population actually live in those basins. Most of us at this symposium live in countries that share international rivers, even I do. I am British and we share a small international river with Ireland. In Africa, 60-plus international rivers exist, and there are more countries per basin than in any other continent, in part because countries on the map were drawn up in London and Paris and Berlin and Lisbon in the 20th Century.

Water wars or water for peace

Tensions in international river basins are long standing. I submit there will always be tensions to a greater or lesser extent, but always present to some degree and growing with demand. This leads to much talk of water wars. A recent edition of the prestigious journal *Foreign Affairs* had an article by Michael Klare (2001) on “The New Geography of Conflict” that highlighted “Possible Flashpoint for Resource Conflict: Jordan, Nile, Tigris – Euphrates, Indus, Mountain Aquifer – W. Bank/Israel”.

Others argue that conflict is unlikely and cooperation inevitable in international rivers. I have a slightly different argument. The benefits of cooperation, I submit, which a colleague and I have been working on, include benefits to the ecological river, the economic river, the political river and the catalytic river – all of them coming together in the “cooperative river”. Thus these different rivers can be classified as four “types”. The ideas outlined here are elaborated in Sadoff and Grey (2002).

Increasing benefits to the river: type one – the ecological river

The challenges here are limited water resources management, degraded watersheds, wetlands and biodiversity, and water quality. The opportunity to improve each of these, improve water quality and river flow characteristics, etc., is the cornerstone of river basin management. But there are many trade-offs, as we all know, and many arguments: the pristine river versus the engineered river, unthreatening start for international cooperation, and so on, as we can see in many recent examples.

The Global Environment Facility (GEF) has a window to support the global commons dimensions of international waters cooperation in the Baltic, where an example now is the Red Sea and the Danube. In the Rhine River during the 19th century, salmon production was enormously important. By 1920, no salmon were left in the Rhine. In the 1970s and 80s there was a major initiative to return the salmon by the year 2000. Through a complex programme of improving water quality, in the year 2000 salmon were swimming up to Mannheim and breeding in the Rhine.

We often think that this is an area where poor countries cannot engage, but it is clearly important that they do. The Southern Africa case of Mozambique in 2000, where there were serious floods, is a good example. Those floods can only be managed upstream in Zimbabwe, in Angola and Malawi and in South Africa.

But the poorest of the poor in upstream countries, moving into watersheds with steep slopes and rapid erosion as a consequence of land development and thus creating flashy rivers, cause greater risks for the poor downstream. The poorest of the poor upstream are thus impacting the poorest of the poor downstream living closest to the river. Cooperation on international rivers is essential, then, even in the poorest of nations.

Increasing benefits from the river: type two – the economic river

The challenge here is optimal river development, the opportunities are to improve hydropower and agricultural production, flood and drought management, and so on.
Optimal river basin development as we know needs to be the river basin in international rivers. There are difficult trade-offs, but they are best planned at the basin scale. The basin scale need not be a zero sum. Increasing water availability is absolutely a possibility through improved watershed management, artificial and natural storage, and so on. Focus should be on the economic ($) and social gains rather than focus on sharing water (cubic metres), which is much, much more difficult.

There are many examples of trade-offs that have been successfully implemented. In the Senegal Basin, there are co-owned infrastructure assets. The Malatali Dam, 300 kilometres inside Mali, is shared by Mauritania, Mali and Senegal. In the Lesotho Highlands, royalties to Lesotho are five percent of the country’s GNP from the transfer of water to the economic heartland of South Africa in Gautang. In the Southern Africa Development Community, countries come to trade and pool power, thus reducing energy costs, increasing energy flexibility, and increasing the potential to shed the difficulties and complexities of hydropower. The challenge is always sharing benefits, and doing it fairly.

Reducing costs because of the river: type three – the political river
Benefits in the first two types are very obvious, but much less so in the next one, the political river. The challenge here is tense regional relations and political economy impacts, while the opportunities are a policy shift to cooperation from dispute, and a policy shift to food and energy security away from self-sufficiency. When countries plan properly together when they share water resources, they can reduce the risk for conflict and even, in some cases, reduce military expenditures.

I submit as before that there will always be some tensions in all international rivers. On the Rhine a year ago we saw the tensions between Germany and France, for example. The concerns that Switzerland has, the upstream riparian, are still not showing. And nothing flows between some countries sharing international rivers – no labour flows, no telecomm flows, no industrial blocs, no agricultural commodities, etc. – nothing but the river itself. In extremely tense cases, this can lead to military preparedness by the parties.

Shared water is one contributory factor in relations between states, and it cannot be unbundled from all of the other complex dynamics between states. Water can contribute to disputes, and even conflicts, as in the Indus, Jordan, Euphrates and Nile, but water can also be a catalyst for cooperation and integration.

Increasing benefits beyond the river: type four – the catalytic river
Here, the challenge is one of regional fragmentation: nothing flowing. The opportunities are regional infrastructure, markets and trade. Cooperation itself can lead to political processes and institutional processes that enable other cross-border cooperation beyond the river, for example directly through forward linkages, such as agricultural surpluses increasing agribusiness and trade. Hydropower generation is another: pooling can expand and make much more profitable industry, for example.

The indirect opportunities are much less obvious. Diminishing tensions may enable greater economic integration and lead to increasing flows in unrelated sectors. For example, Thailand implicitly trades with Laos and China in order to create a web of inter-dependency trades in gas and in hydroelectric power.

The cooperative river: the dynamics of multi-type benefits
So the four types of benefits – increasing benefits to the river, from the river, reducing costs because of the river, and increasing benefits beyond the river – are all interlinked and all existing to some extent in all places. There are all types of benefits from cooperation in all basins, and non-cooperation even has costs due to the opportunities lost. The scale and
relative importance are unique to each basin. If the transactions costs are high, then the
deficits may be too small to justify cooperation in some cases.

In other situations, where there may be the necessary conditions for stable relations and
trade, the greatest benefits may in fact come from the type 3 and the type 4, the apparently
unrelated development.

The case of the Nile Basin Initiative, which I have the privilege to support in all the basin
countries, is one where all four types of benefits (with the greatest being perhaps Type 4)
are being explored by the 10 riparian states. Tensions in the basin have been historically
great. So the type 3 benefits, reducing the costs because of the river, are also very signifi-
can. An example of increasing benefits to the river is Lake Victoria, the second largest
freshwater lake in area in the world (larger than Belgium). There are extraordinary major
type 1 benefits there. There are also major opportunities to improve food production and
energy production, and to improve flood and drought management, so type 2 benefits come
into play. And, since nothing much flows between the countries of the Nile, except the
river, there is significant potential for opportunities to increase flows “beyond the river”
and achieve type 4 benefits.

**Incentives for cooperation**

What are the incentives for cooperation; why does cooperation take place? We find that it is
often due to concerns about problems or recognition of opportunities (problems may be
related to climate or river flow, opportunities may be in trade or economic development).
The catalysts that promote cooperation – how cooperation is fostered – is often through
improved communications and bringing groups together – stakeholders, farmers co-ops,
trade unions, the private sector, and civil society in different shapes and forms – and explor-
ing the linkages when cooperation might occur. And it is very clear that if, for example,
there are very high levels of type 3 costs, it is hard to move forward with anything. But type
1 benefits, working first on environmental issues, may open the door and reduce tensions in
type 3, which allows economic cooperation to take place, which shifts into type 4 benefits.

**How can benefits be shared?**

The challenge of optimal river development may give unacceptable distribution of bene-
fits. The whole notion of benefits can be problematic. Even though you may gain, you may
see someone gaining more than you think they should be gaining, and you therefore may
not be prepared to cooperate. There are some examples of that. So it is essential to achieve
the perception of fairness. Mechanisms of redistribution and compensation are important,
and these are all political decisions. They may be formed by legal and by economic opinion,
or they may be formed by engineering options and hydrologic options, but the decisions are
always political.

**Principles on international consensus**

As some of you know, the 1997 UN Convention on the Law of Non-Navigable Uses of
International Watercourses has not gone into force because only a few countries have
ratified it. But the two key principles of “Equitable and Reasonable Utilization,” often
espoused only by upstream states, and “No Significant Harm,” often expoused by down-
stream states are critical because – to stress the point here – harm can travel in both direc-
tions. The physical harm travels downstream, obviously, but harm travels upstream because
of the foreclosure of future use by use downstream, and that is a very important principle.

There is no consensus on prioritization, though the convention does talk about basic
human needs, and no consensus on specific criteria, although there is a list of proposed
criteria in the UN conventions.
**Possible mechanisms for sharing benefits**

This is where innovation becomes extremely important. Water sharing itself is the classical, conventional way forward in most international agreements. Methods are assigning and reassigning water rights, payments for water, payments for use rights, bilateral sale, equal water market, etc., like those being proposed and discussed in the Middle East.

Other mechanisms are, for example, payments for benefits, compensation for lost benefits, payments to allow uses, purchase agreements for power and agriculture, etc. The agreed price can, in fact, commit a transfer of benefits. You may decide to purchase hydropower from an upstream state, and you may choose to pay over the market rate because that keeps water in the river and allows you to use the water for other benefits downstream. And again there are examples for these types of negotiations. Purchase agreements can themselves transfer benefits.

The key is the bundling of broader benefits. The deal may just not be a deal on water; it may be a deal on open skies and ports, on trade, in infrastructure and so on.

**Some lessons from experience – benefit sharing**

Cooperation or dispute will always come from perceptions over the total stock of benefits, and the way in which those benefits are shared. It is essential to broaden that bundle of benefits. Some are obvious, others much less so. Type 3 and 4 are much less obvious but maybe even more important than Type 1 or Type 2.

In general:
- Cooperation or dispute: choice determined by perceptions of benefits
- Broaden bundle of benefits: some obvious, others less so
- Sharing benefits and/or water: explore innovative sharing mechanisms
- Perception of fairness essential to sustain cooperation
- Importance of political process
- Framework agreements on principles; subsidiary agreements on investments, deals, etc.
- From river cooperation to economic integration.

Regarding the move from river cooperation to economic integration, the Rhine is a good example. It has always been the engine of Europe’s economy, and it continues to be today. There has been much dispute over the Rhine, with the early agreements in Europe focusing very much on the Rhine at the end of the 2nd World War to build the type of cooperation that would mean there would never be a third war in Europe.

**Some lessons from experience – the process**

In general, key lessons about the process are:
- Imperative of trust: from positions to interests. Do people want the water or the social and economic benefits that will be derived from that water?
- Build capacity to level playing field between states. Negotiations are not possible when capacity is not equal
- Engage civil society: community of interest
- Share experiences: in the bus
- Riparian ownership builds commitment: crossing Rubicon, this idea of commitment-commitment, meaning that countries reach a point where it is difficult to go back
- Self-financed (ie cost-effective) institutions are essential
- Riparian commitment
- “Shared Vision”: recognizing win-win – the Baltic, Rhine, and Nile, for example. States coming together to develop a vision
- Share benefits, not only water
- Inclusiveness and subsidiary
• Build basin-wide framework
• Framework needs investment – there is no point having institutions without development and benefits, but development and benefits can not take place without institutions and some type of legal framework
• Achieve early results through sub-basin action.

Conclusions and challenges
The challenges are always balancing trade-offs. The environmental challenges are in moving from degradation to sustainability. The political challenges may be moving from conflict to peace, dispute to cooperation. The economic challenges are in moving from poverty to growth with equity, and from fragmentation of infrastructure and markets to integration of markets and infrastructure.

I can’t emphasize enough the importance of process, such as in the interbasin exchanges and shared experiences in the Nile Basin.

So, in summary, there are always varying degrees of tensions and four types of potential benefits in all international river basins. It is important to recognize the benefits and share them fairly (not just water). There are no blueprints: the process is as important as the product. The process and the product will always be lengthy and costly, too: think of a number and double it.

The political river is always informed by law, economics, engineering, and hydrology; but the key is to integrate skills and to look at the problem through the different lenses. And, moving from cooperation to economic integration will bring major benefits beyond the river. These issues are extraordinarily important and will continue to grow as water demands grow and as concerns over rivers grow. But as these grow, so will the imperatives of cooperation.

References
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