



DIIS REPORT

TRANSBOUNDARY WATER GOVERNANCE IN A SHIFTING DEVELOPMENT CONTEXT

NEW DEVELOPMENT FINANCE,
DEVELOPMENT SPACES AND
COMMITMENT TO COOPERATION:
A COMPARATIVE STUDY OF THE MEKONG
AND THE ZAMBEZI RIVER BASINS

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Abbreviations

| | |
|---------------|---|
| <i>AfDB</i> | African Development Bank |
| <i>AsDB</i> | Asian Development Bank |
| <i>ASEAN</i> | Association of South East Asian Nations |
| <i>AWM</i> | Adaptive Water Management |
| <i>BOT</i> | Build-Operate-Transfer agreement |
| <i>BRICS</i> | Brazil, Russia, India, China and South Africa |
| <i>COMESA</i> | Common Markets for Eastern and Southern Africa |
| <i>CSR</i> | Corporate Social Responsibility |
| <i>DAC</i> | OECD's Development Assistance Committee |
| <i>EDM</i> | Electricidade de Moçambique |
| <i>EGAT</i> | Electricity Generation Authority Thailand |
| <i>EIA</i> | Environmental Impact Assessment |
| <i>FDI</i> | Foreign direct investment |
| <i>GMS</i> | AsDB's Greater Mekong Subregion Program |
| <i>IWRM</i> | Integrated Water Resources Management |
| <i>MRC</i> | Mekong River Commission |
| <i>MRCs</i> | The Mekong River Commission's Secretariat |
| <i>ODA</i> | Official development assistance |
| <i>PNPCA</i> | Procedures for Notification, Prior Consultation and Agreement (MRC) |
| <i>PPA</i> | Power purchase agreement |
| <i>RBO</i> | River basin organization |
| <i>SADC</i> | Southern African Development Community |
| <i>SADCC</i> | Southern African Development Coordination Conference |
| <i>SEA</i> | Strategic Environmental Assessment |
| <i>SOE</i> | State-owned enterprise |
| <i>TERRA</i> | Towards Ecological Recovery and Regional Alliance |
| <i>TNC</i> | Transnational corporation |
| <i>UNDP</i> | United Nations Development Programme |
| <i>WWF</i> | World Wildlife Fund for Nature |
| <i>ZAMCOM</i> | Zambezi Watercourse Commission |

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Finally, we are pleased that, together with our partners, colleague and friends, we have been able to set an agenda for transboundary water resources by developing a political economy perspective on water. This has enabled us to take water out of its box and, we hope, into a broader and more realistic nexus development perspective.

Copenhagen 31 July 2013

*Kurt Mørck Jensen and
Rane Baadsgaard Lange*

Executive Summary

A shifting context of global development. The global economy is in flux. The financial crisis has made the shifts observed in the political and economic power base in the international landscape more explicit. While Western economies continue either to freeze or shrink, emerging economies in Asia, Latin America and southern Africa are engaging more than ever in international development as business partners for developing countries. Brazil, Russia, India, China and South Africa (BRICS) and other regional growth centers are increasingly providing aid, investments and trade opportunities for other countries in the South. Recently, there has also been a slowdown in the economic growth of the BRICS. However, the slowdown of the BRICS is part of the overall contraction of the global economy and does not appear to affect their investments and trade engagement in developing countries. In parallel with this development, financial flows from western economies shift more towards private investments, as many governments cut aid disbursements to deal with national public deficits.

Natural resources in the Mekong and the Zambezi fuel economic transformation. Natural resource-rich economies in the Mekong (Asia) and the Zambezi (Africa) river basins are at the center of these global transformations. Governments in both regions are embracing accelerated economic growth strategies fuelled by the capitalization of natural resources, including water resources. Political instabilities, weak investor confidence and shifting donor priorities have restricted the realization of these strategies. However, the more recent surge in public and private funds from BRICS and transnational corporations (TNCs) provides new development finance with unprecedented opportunities for economic growth for least developed countries like Laos (Mekong) and Mozambique (Zambezi). The outcome of this development assuming a ten-year scenario may be borderline industrial revolutions.

More development space for Mekong and Zambezi countries. Moreover, the diversity of new investments empowers developing countries to make more sovereign decisions on their development strategies. The shifting development context is widening the development space and at the same time enhancing the political confidence of governments that were previously dependent on donors. These governments perceive this expanded development space as allowing them to pursue their desired policy goals and accelerate development.

Governance of transboundary water resources under pressure. The spectacular economic growth rates experienced by countries in the two international river basins has cast a shadow over the governance of water resources. In the Mekong, there is a race for natural resources, particularly in the least developed yet resource-rich countries of Laos and Cambodia. The ambitious expansion of hydropower in the Mekong system by Laos (so as to become ‘the battery of South East Asia’) bears witness to a Klondike-like development that threatens to throw transboundary water governance by the Mekong River Commission (MRC) into disarray. In the Zambezi, Mozambique has only recently started exploiting its coal reserves – allegedly the biggest in the world – and the government is now confronted with the daunting task of managing the water footprints of not only a booming mining industry but also extensive hydropower developments and large downstream irrigation schemes. Across the border, upstream Zambia plans to harness the Zambezi’s water resources for development of the same sectors. Being aware of the potential impact on downstream flows, Mozambique is eager to support Zambezi cooperation under the Southern African Development Community (SADC) and the embryonic Zambezi Watercourse Commission (ZAMCOM).

Water in the back seat. Water authorities are not at the center of national development planning, and prime ministers, bureaucrats and business elites are often less attentive to the sustainability of water resources as they consider the financial and economic gains of big investment projects. The safeguards of national water and environmental legislation – often developed with Development Assistance Committee (DAC) donor support – are being challenged by the surge in new investments. It is increasingly evident that, although water is part of the larger *nexus* of economic development, it takes a back seat in relation to the energy, mining and agriculture sectors. This illustrates the shifting context of development in the Mekong and Zambezi regions and elsewhere in the developing world.

Interlinking regional geopolitics and hydro-politics. Controversial hydropower development on the Mekong mainstream has demonstrated how new development finance can have transboundary repercussions. Investments from regional governments and TNCs in both international basins are enabling governments to proceed with new projects in the face of objections from downstream riparian countries and criticism from NGOs and donors. Historical geopolitical legacies vary between the two regions. In the Mekong, historical animosities emanating from the devastations of war and genocide in the Lower Mekong between the 1960s and the 1990s, as well as volatile geopolitics centered on China and Vietnam, receive an echo as the basin’s emerging

economies compete for natural resources and new markets in their poorer neighboring countries. In the Zambezi, the footprints of colonialism remain not least through the water resources infrastructure and governance realities of the basin's large hydropower dams. The Zambezi flows through a region that is also emerging from conflict (the sixteen-year civil war in Mozambique, where fighting ended in 1992 and building peace is a priority). In both river basins, these context-specific environments create a complex web of relationships between countries, closely interlinking hydro-politics and regional geopolitics.

Embryonic and established River Basin Organizations. Both the Mekong and the Zambezi have established river basin organizations (RBOs), although the Zambezi Watercourse Commission (ZAMCOM) was only established in 2012, almost twenty years after the Mekong River Commission (MRC). This makes the Mekong a useful benchmark for emerging governance modalities in the Zambezi (and other regions). These lessons are applicable, for example, in the context of the need for knowledge production, governance and possible changes to the legal frameworks governing water resource management by RBOs in international river basins around the world. Donors and particularly some NGOs want to see a shift from the current, soft law-based governance frameworks to frameworks based on stricter regulations and binding legislation – that is, on harder law. Controversies over the Xayaburi main-stream hydropower dam in the Mekong have exposed the limitations of the existing governance frameworks of the MRC and highlighted the significant disparities in national commitments to cooperation between downstream and upstream riparian countries. Similarly, latent conflicts may surface in the Zambezi that are likely to be accelerated by the new investments in mining, hydropower and large-scale agriculture, as these place increasing pressure on this relatively more fragile and vulnerable river system. These challenges are raising concerns not only over the future role of these Commissions, but in the Mekong as to the impact of the 300 million USD invested by donors in the MRC over more than two decades.

A political economy of water approach. Two critical questions arise in response to these challenges to transboundary water governance. The first is how new development finance influences cooperation on shared water resources in the Mekong and Zambezi basins, and the second is how this challenges the RBOs. In answering these, the concept of the political economy of water, an approach that considers water in a broader development context, is applied. In the two basin studies, the political economy of water analysis identifies hydropower as central to the development nexus in both river basins. Hydropower also supports other major developments going on in these two

basins, primarily mining and agriculture, all critical to national economic growth. Hydropower is also politically and economically controversial (pitting water resources stakeholders against each other) and is strongly linked to new development finance.

National commitments to River Basin Organizations. The way in which new development finance influences national interests in shared water resources in the context of the development space and strategies of national governments, analyzed using a political economy approach, illustrates the varying commitments to regional cooperative institutions such as RBOs and other bilateral or multilateral agreements in the two river basins. These differ between the two regions, as well as within each basin, depending on the status of a country's development and its position in the basin. For example, downstream countries are generally more vulnerable. Commitment and ownership is assumed to be a crucial determinant of the possible future role of RBOs in basin management, and therefore policy recommendations for governments, investors, civil society and DAC donors on how to strengthen commitment to transboundary cooperation and sustainable development are critical. It is particularly crucial, after twenty years of donor investments in RBO development, that future investments are based on what is feasible rather than what is ideal, whilst still working toward internationally recognized models of water governance.

The limitations of normative approaches to water resources management and the political economy of water alternative. DAC donors and water experts have been driving normative approaches to 'good water management' such as Integrated Water Resources Management (IWRM) for more than twenty years. Approaches such as IWRM, whilst analytically sound, are as policies based on unrealistic expectations and perceptions of national commitment, stakeholder ownership and harmonious decision-making. Moreover, IWRM typically neglects power asymmetries, conflicts of interest and politics, as starkly highlighted by the economic realities of riparian countries in the two basins. While acknowledging the historical legacy of IWRM, an approach based on a political economy of water has analytical and strategic value in a river basin context by considering transboundary water governance through national constituencies and clarifying how economic interests, new development finance and regional geopolitics influence national development spaces, and how this in turn influences hydro-politics and commitment levels to river basin cooperation. The strength of this approach is that it prioritizes strategic recommendations that are based on observed development realities and highlights where and what RBOs can and can't achieve given varying national commitments and the limited mandates embodied in RBO agreements.

Strategic recommendations for RBOs: knowledge management, sustainable investments and conflict resolution. A common priority for both basin RBOs is that they strengthen their role as (Mekong) or become (Zambezi) knowledge brokers and coordinators of transparent information that informs all stakeholders and decision-makers in basin developments. RBOs also need to apply their knowledge reservoirs more proactively to enhance the sustainability of new investments affecting the water resources of the rivers. In doing so, the RBOs need to engage more directly with private investors and civil-society stakeholders and to package knowledge and information strategically. Strategic information should, for example, demonstrate both basin-wide and project-specific development trade-offs and benefit-sharing arrangements. The RBOs need to become effective conflict managers by applying different conflict management mechanisms such as clearer and more formalized project notification procedures in dealing with conflict resulting from the intensifying pressure on the river basin regimes. Also, in the face of possible increased competition and conflict in the basins, RBOs may strengthen their governance mandates by strategically involving the right players and stakeholders that are not necessarily inside the water box, such as foreign affairs and the nexus ministries of energy, mines and agriculture. Civil society involvement is also critical, and there are weaknesses in both basins. Appropriately targeted civil-society involvement could in turn enhance the ability of RBOs to widen their engagement of stakeholders in the two basins.

Embrace polycentric governance in the basins. Finally, it needs to be recognized that the two RBOs are not the only framework of cooperation in the basins. RBOs need to embrace the reality of polycentric governance in both basins, including the bilateral cooperation agreements stimulated by new development finance and the well-entrenched regional economic and political frameworks of the SADC, ASEAN and the Greater Mekong Subregion Programme.

I. Introduction

'ARA Zambeze faces the interesting challenge of being the first regional water administration trying to set the pace for water resources management when an industrial revolution is taking place.'

From Ambisys and Royal Haskoning: Expert Mining Wastewater Consultancy Report. Mission to Tete, Mozambique, February/March 2012

'After six months, all you can do is record the difference of opinion and that is the end of the process.'

Mr Viraphonh Viravong, Vice-Minister for Energy and Mines commenting on the Mekong River Commission's handling of the controversy over the Xayaburi hydropower dam (in *Cambodia Daily*, January 18; see Chen 2013)

Natural resource-rich economies in the two international river basins considered in this report, the Mekong and the Zambezi, are at the center of a shifting development context. Governments in both regions are embracing economic growth strategies fuelled by the capitalization of natural resources. While generally not new, it is only recently that these strategies have begun translating into accelerated economic growth. Political instabilities and weak investor confidence have previously constrained their realization. The surge in public and private funds from the BRICS and transnational corporations (TNCs) provide least developed countries like Laos and Mozambique with unprecedented opportunities for economic growth. This may mean near-industrial revolutions in a ten-year scenario. Moreover, the diversity of new investments empowers developing countries to make more sovereign decisions on their development strategies. Shifting contexts of development are therefore widening the development space and enhancing the political confidence of governments that were previously dependent on donors. These governments are taking this opportunity to pursue their desired policy objectives, and the expanding development space is becoming increasingly attractive to riparian governments in the two international river basins.

The spectacular economic growth rates of individual countries the two basins are leading to a reconsideration of current and past approaches to transboundary water resources governance. Ara-Zambeze, the provincial authority responsible for the Zambezi River in Mozambique, is confronted with the daunting task of managing the water footprints of the booming mining industry, hydropower and large downstream irrigation schemes. Across the border, upstream Zambia plans to harness the Zambezi's water resources for

development of the same sectors. Being aware of the potential impact on downstream flows, Mozambique is eager to support Zambezi cooperation under the Southern African Development Community (SADC) and the embryonic Zambezi Watercourse Commission (ZAMCOM). However, water authorities are not necessarily at the center of national development planning. When the financial and economic gains of big investment projects are flagged in the new development space, prime ministers, bureaucrats and business elites are often less attentive to the sustainability of water resources. The safeguards of national water and environment legislation – often developed with DAC-donor support – are challenged by the surge in new investments. It is increasingly evident that water is part of a larger nexus of economic development in which the energy, mining and agriculture sectors are in the driving seat, while water is in the back seat. This illustrates the shifting context of development in the Mekong and Zambezi regions and elsewhere in the developing world.

The controversy over the Xayaburi dam on the Mekong mainstream demonstrates how new development finance in Laos has transboundary repercussions. With Thai investment and a Thai power-purchasing agreement, the Laotian government has gone ahead with the project in the face of objections from downstream Vietnam and Cambodia and criticism from NGOs and donors. Xayaburi is only one in a cascade of planned hydropower projects on the Mekong mainstream that will make Laos the 'Battery of South East Asia.' The expansion of hydropower, mining and agriculture in Laos and Cambodia that draws on Mekong waters is almost exclusively financed by Thai, Chinese and Vietnamese investors. Echoing historical animosities, the three countries compete for natural resources and new markets in their poorer neighboring countries. This creates a complex web of relationships between countries through which hydro-politics and regional geo-politics become closely interlinked. When the MRC member states failed to reach a consensus over the Xayaburi dam, the Laotian Vice-Minister for Energy and Mines, Mr Viraphonh Viravong, reacted as follows: 'After six months, all you can do is record the difference of opinion and that is the end of the process.' This exposed the limitations of the MRC as a soft-law framework for the governance of the Mekong waters and demonstrated the huge disparities in national commitments to cooperation. These weaknesses raise concerns over the future role of the MRC, including the USD 300 million invested by donors.

This report addresses two key questions:

- How does new development finance influence cooperation on shared water resources in the Mekong and Zambezi basins?
- How does it challenge their river basin organizations?

The purpose of this report is threefold. *First*, it analyses how new development finance influences: i) national interests in shared water resources; and ii) the development space and strategies of governments in the two basins. National governments are at the center of the analysis and form the basis for understanding the evolving pattern of transboundary water governance. *Secondly*, it discusses the resulting commitment, or the lack thereof, to regional cooperative institutions and other bilateral or multilateral agreements by riparian states in the two river basins. The assumption is that commitment and ownership is a crucial determinant of the possible future role of river basin organizations in the basins. *Thirdly*, the aim is to provide policy recommendations for governments, investors, civil society and DAC donors on how stronger commitments to transboundary cooperation and sustainable development can be achieved.

The concept of *the political economy of water* is applied here to analyze how new development finance influences transboundary water governance. A political economy approach implies looking at water in a larger development context where public and private financiers, national governments, civil society and donors are stakeholders. Water is part of a nexus in which stakeholders and decisions in multiple sectors affect water resources development and government involvement in transboundary cooperation.

The investment booms in both basins draw heavily on water for hydropower, mining and irrigated agriculture and are often associated with large-scale concessions to foreign investors or domestic political and economic elites. Mines and commercial agriculture leave a double water footprint, as not only water is needed as a productive input, but ground and surface water is also polluted by the chemical run-off of mining operations and of fertilizer and pesticides from irrigated fields. Also, urbanization in both regions increasingly lays claim water resources for domestic and industrial purposes.

This report deals more extensively with hydropower, as it is particularly controversial and strongly linked to new development finance. Hydropower provides a relatively cheap source of the energy needed in the growth economies in the basins. The current surge in hydropower investments is primarily financed by the BRICS, commercial banks and TNCs. However, hydropower dams have a direct impact on river flows and ecosystems and often compromise the livelihoods of riparian populations. This makes dam development in the two basins an intricate case for the study of the impact of new development finance on the political economy of water and transboundary water governance.

This report seeks to open up the water box in order to understand the position of water in an unruly world dominated by political and economic stakeholders and conflicting development imperatives. This takes us outside the comfort zone of normative water policies. Since the beginning of the 1990s, DAC donors and water experts have driven approaches to 'good water management' such as Integrated Water Resources Management (IWRM), Adaptive Water Management (AWM) and most recently the Water, Energy and Food Security Nexus (Nexus) towards the governments of developing countries. The IWRM concept has been instrumental in the proliferation of River Basin Organizations (RBOs) in international river basins as holistic governance institutions, including the MRC and the ZAMCOM. While these approaches have an analytical dimension, their implementation strategies and policies have too often been based on unrealistic expectations and perceptions of national commitment and stakeholder ownership. The built-in holistic governance model, involving all basin countries, stakeholders and sectors, typically neglects power asymmetries, conflicts of interest and politics. Despite good intentions, these approaches have often been shipwrecked by the realities of economic growth in riparian countries. This report flips the coin and looks at transboundary water governance from the bottom up through its national constituencies. The focus is on how economic interests, stakeholder interactions and regional geopolitics influence national development spaces, and on how this in turn influences hydro-politics and river basin cooperation in the Mekong and the Zambezi. As such, the *political economy of water* approach calls for strategic recommendations based on the realities of development in the basins, rather than putting forward unrealistic perspectives regarding ideal water governance.

The report's analytical framework and methodology is explained in detail in the next two chapters (Chapters 2 and 3). Chapter 4 deals with the larger development shifts in the two basins in terms of economic flows from BRICS and DAC donors to riparian countries, including the modalities of the economic flows. Chapters 5, 6 and 7 present a comparative analysis of the dynamics of political and economic development in the Mekong and the Zambezi and selected case countries (Laos, Cambodia, Mozambique and Zambia). The last two chapters conclude the report and provide a set of strategic recommendations on enhanced riparian engagement and commitment to transboundary water cooperation under the auspices of RBOs.

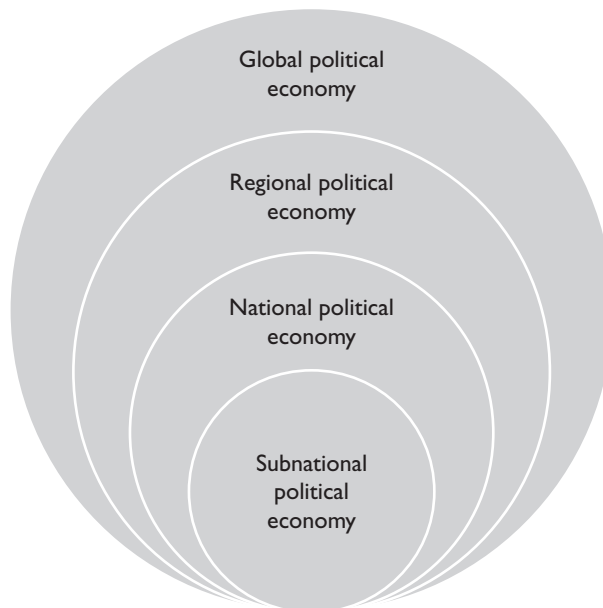
2. Analytical framework: the political economy of water

Transboundary water governance is political by nature. Citizens, companies and governments compete for access to water resources in international river basins to serve their basic needs, productive purposes or national growth strategies. This makes the allocation, development and management of transboundary water resources a question of *governance* at both the national and international levels.

The analytical framework in this report draws on *political economy* approaches to the analysis of national and transboundary water governance (see Mollinga et al. 2007; Molle 2008; Mollinga 2008; Swatuk 2008; Zeitoun and Allan 2008; DFID 2009; Cascão and Zeitoun 2010; Harris et al. 2011; Jensen et al. 2012).

With an emphasis on politics, economic interests and power, these studies have analysed the political economy of water in countries and regions. We build on these approaches and conceptualize the political economy of water as the socio-political

Figure 1. The political economies of transboundary waters



(from Cascão and Zeitoun 2010)

Box I. Normative water management models: IWRM, AWM and the Nexus

Integrated Water Resources Management (IWRM) evolved from the 1992 UN Conference on Environment and Development in Rio de Janeiro as well as the Dublin Conference on Water and Environment. The Global Water Partnership defines IWRM as: ‘... 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.’ (Global Water Partnership Technical Advisory Committee 2000:22). Implementing IWRM involves: i) establishing an enabling environment; ii) defining institutional roles; and iii) deploying ‘management instruments’. IWRM is applied in different ways and at many levels including local watershed, national and river basin. At the transboundary level, river basin organizations apply IWRM to develop cooperation, holistic basin planning, decision-support systems and stakeholder participation. IWRM has been promoted by the Global Water Partnership (GWP), DAC donors, UN agencies and development banks at the global, regional and country level. As a result, most international rivers basins have RBOs injected with IWRM principles.

Adaptive Water Management (AWM) evolved as a supplement to IWRM through the ‘New Approaches to Adaptive Water Management under Uncertainty’ (NeWater Project, www.newater.info), and the ‘Twin2go Project’ (www.twin2go.eu) financed by the EU Seventh Framework Programme. The strength of AWM is the acknowledgment of water in its political context and the emphasis on learning and testing water management in the political and administrative systems. AWM also emphasizes multiple stakeholder negotiations in water and introduces the idea of *polycentric water governance* defined as the integration of stakeholders, institutions and sectors in hydrological units. However, AWM is yet to demonstrate its added value as an approach that has practical application and is able to deliver better water management outcomes (than IWRM).

The *Water, Food and Energy Nexus* sees water as part of a larger development context in which energy and food security are strong drivers. The German government took lead in establishing the nexus approach at a conference in Bonn in 2011. Subsequently, the nexus percolated into the development policies of some DAC donors, the EU and policy institutes. The nexus is a broad and ambitious approach addressing unsustainable growth and resource constraints. It emphasizes the link between the water, energy and food sectors as well as the influence of trade, investment and climate policies. Many water experts see the nexus as a reaction to IWRM being confined to its water box and left out of decision-making in the lead development sectors of energy and agriculture. The nexus approach has the important analytical strength of understanding water in the complex dynamics of an increasingly problem-ridden development web. Its downside is its normative policy vision for integrated nexus planning expected to produce sustainable development outcomes. The nexus may therefore remain an idealistic development vision that could have a very long way to go when faced with the realities of the political economy of development in many countries.

and economic role of water resources in the larger political economy of development in a society. We define the *political economy of water* as i) the interests vested in water resources by public and private stakeholders from multiple sectors; ii) the institutions established by authoritative stakeholders to secure these interests; and iii) the processes that create, sustain and transform institutions and stakeholder relationships over time. Consequently, our analytical approach expands the *water box* by focusing on the larger political and economic contexts of water resources management. It also questions the idealism of normative water policies when faced with ‘realities on the ground’ (see Box 1).

The Mekong and Zambezi rivers flow across political borders and link individual countries in the river basins (or riparian countries) and their political economies of water. In this way, national political economies become embedded in the regional and global political economies of water (Figure 1) (Cascão and Zeitoun 2010). This places international economic development, cooperation and conflict over shared water resources at the heart of transboundary water governance. However, collaboration in international river basins rarely follows the ‘monolithic’ ideals of IWRM, as RBOs are only one among many cooperation frameworks in the basins’ beehive (Lankford and Hepworth 2010). Multiple bilateral and multilateral water agreements co-exist against the backdrop of international water law, regional economic cooperation in other sectors influences national water demands, and countries unilaterally draw on water resources for their development projects. Transboundary water governance is *polycentric*, and important water decisions are not necessarily made under the auspices of RBOs. Rather, governments and other stakeholders act strategically through various decision-making forums and establish water-related cooperation frameworks according to their economic and political interests. This reality of governance motivates an analytical approach that looks outside the water box to understand: i) the incentives and disincentives for countries and stakeholders to engage in RBOs; and ii) the challenges for transboundary cooperation posed by the wider geopolitical context.

This report focuses on how *new development finance* influences the national and regional political economies in the two basins, in particular the *development space* of riparian governments.

Development finance is defined broadly to incorporate traditional aid, concessional loans and commercial loans, as well as foreign direct investment. This definition follows the perception in national governments that these different sources of finance

contribute to the realization of their development policies and projects. This is not necessarily the perception of the investors engaging with government agencies, business partners and local communities in the pursuit of profit and company growth. *New* simply refers to the increasing amount and diversification of the sources of development finance available to governments in developing countries.

Development space refers to the degree of autonomy available to governments to ‘...define and implement policies that affect social and economic development’ (Kragelund, forthcoming). In developing countries, domestic constituencies, businesses, NGOs, donors, neighbouring governments and international investors constitute stakeholders that either enable or constrain the development space of national governments. Ultimately the concept is linked to the issue of *national sovereignty*, which concerns the right, ability and will to rule a country. This is not a static condition. Rather, governments face a *sovereign frontier* defined as a dynamic zone of contestation where stakeholders wield political and economic power to challenge, protect or transform the boundaries of countries’ self-determination. The power of political discourses, political leadership, and economic dependence on external funding, the number of external actors, security issues, institutional capacities, ideological conditions, and changes in the global economy are all variables affecting the sovereign frontier (ibid.).

What is at stake here is how new development finance and its modalities and the stakeholders (re)shape the development space of riparian governments. As a consequence, we build the political economy approach around a classic stakeholder analysis, with riparian governments at the centre. However, we incorporate two more concepts – *the perception of national interest* and *development strategies* – in order to capture the range of factors that influence the sovereign frontiers in trans-boundary water governance.

The *perception of the national interest* in international rivers among the ruling elites who inhabit the government institutions where authoritative decisions are made is the result of a political process in which stakeholders compete for influence over the national development agenda (Whitfield, Buur et al. 2013). Ruling elites depend on coalitions and exchange with bureaucratic and economic elites and domestic and international constituencies to build political support for their claim to office. National interests are neither static nor uniform and may change when public and private stakeholders manipulate discourses and mobilize resources to influence the ruling coalitions. However, national interests in international rivers are also struc-

tured by hydro- and geopolitical relationships in the river basin that often follow fundamental geographical, economic, ideational and historical traits. This includes one's position upstream or downstream, the importance of water resources for the national economy, the histories of conflict and cooperation, power asymmetries, etc. (see Cascão and Zeitoun 2010 for a detailed discussion of power in transboundary water governance). It follows that alterations in the development space and the associated constellation of stakeholders affect perceptions of the national interest among riparian governments as much as hydro-political balances and commitment to transboundary cooperation.

National interests are translated into *development strategies*. This concept denotes the bundle of means and partnerships that riparian governments use to pursue development priorities on shared water resources encapsulated in the perception of the national interest (e.g. economic, social, environmental or other). Development strategies are expressed in national policies, legal frameworks, international agreements, bilateral or multilateral cooperation, development projects and institutional practices. Development spaces are crucial for the implementation of development strategies. They can be understood as an expression of the sovereign frontier, as both domestic and transboundary cooperation and conflict are expressions of what governments and other stakeholders actually *do* with international rivers. As such, development strategies also express a certain degree of commitment to transboundary cooperation and RBOs.

The analytical framework as illustrated in Figure 2 and Box 2 present the range of stakeholders included in the report. Most of these stakeholders play a role in both the national and the regional political economies of water, making a national–regional distinction of their functions difficult. The model serves to provide analytical clarity only.

Specifically, we are concerned with the *changes* that the new development finance induces in the political economies of water in the Mekong and the Zambezi. This focus includes changes in the approach of traditional funders such as the World Bank, who, after years of not funding dam development, are now demonstrating an interest once again and are indicating their willingness to fund the Batoka Gorge development in the Zambezi, for example. In order to measure such changes, a baseline of the political economies in the basins prior to the emergence of the new development financiers must be established. In the subsequent chapters, this is provided through an historical analysis of the evolution in global financial

Box 2. Stakeholders in the political economy of water

Riparian governments denote political, bureaucratic and economic institutions and the elites that inhabit them. The core focus is on water and environmental agencies and their counterparts in the other nexus sectors, mining, energy and agriculture, as well as the top of government hierarchies, Prime ministers offices, financial and planning ministries.

Investors refer to public and private enterprises from BRICS-countries, regional emerging economies and western companies. We narrow the study to include a) Brazilian, Chinese and South African state -owned companies or entities (SOEs), b) commercial banks from riparian, western and BRICS countries, and c) companies from the same countries.

BRICS-donors include Brazilian, Chinese and South African development agencies and development banks. We do not include Russia and India due to their limited relevance for riparian countries in the Mekong and the Zambezi.

DAC-donors comprise the group of actors organized in the Development Assistance Committee of the Organization for Economic Cooperative Development (OECD). We focus on development agencies of European Union (EU) countries, North America, Australia and Japan, United Nations (UN) organizations and multilateral development banks, i.e. World Bank (WB), the Asian and African Development Banks (AsDB, AfDB).

Civil society organizations include national and international social and environmental NGO's. We look at national NGO's in the riparian countries (e.g. Terra, Justicia Ambiental, Warecod etc.) and the international partners (e.g. WWF, International Rivers, Earth Rights etc.).

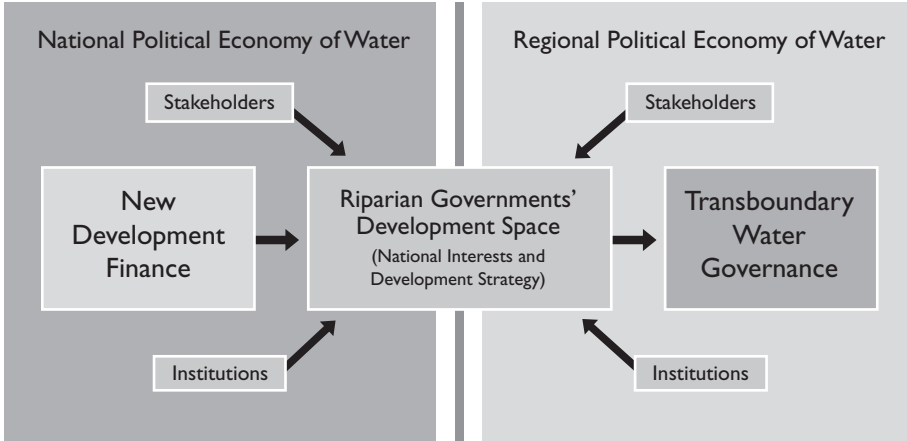
Intergovernmental organizations encompass the RBOs in the Mekong and the Zambezi basins and major non-water cooperative frameworks in Southern Africa and South East Asia. We deal with ADB's Greater Mekong Subregion framework (GMS), ASEAN, SADC and the Southern African Power Pool (SAPP).

flows, cooperative dynamics in the basins, and the national political and economic contexts of riparian countries.

The analysis of the development spaces, national interests and development strategies of riparian governments forms the basis for assessing the socio-political and economic role that water resources have for: i) national and regional development; ii) geopolitical interests vested in these development priorities by different stakeholders; and iii) national commitment to RBOs or other cooperation on the shared waters of the Mekong and the Zambezi. There is also the role that transboundary water management plays in contributing to achieving the regional goals of poverty alleviation, economic growth and regional integration. This is evident in the SADC

Treaty, for example, and the SADC Water Division actively promotes regional integration through its policy agenda in southern Africa.

Figure 2. Analytical framework



3. Methodology

The analytical approach includes a useful comparative dimension through its focus on two river basins. The Mekong and Zambezi basins have been selected as cooperation efforts in that these have been supported by Danish aid, through ZAMCOM and the MRC, since the 1990s. Moreover, both basins are large in that they support numerous countries (eight in the Zambezi and six in the Mekong) making for complex basin governance and decision-making. Both basins are seeing intense upstream hydropower developments to feed growing energy demand, and in both cases these developments are creating downstream challenges. This commonality is interesting given that water resource scarcity and allocation management processes differ between the basins. The comparative dimension sharpens the analytical understandings of the political economies of these basins, raises new questions for transboundary water governance, and ultimately, enables reciprocal learning between basin stakeholders. RBOs in both basins currently face the challenges of rapid economic development, increasing demands for water and other natural resources. However, comparing different historical, ecological, economic and geopolitical regions is a challenge, which we deal with through a context-sensitive analysis of the present and historical development dynamics in each basin.¹

The report's data material has been generated through desk studies and fieldwork. Literature reviews and international databases have been instrumental in refining the research questions as well as the initial data-collection and quantitative analysis of the national and regional political economies of water. Two months of fieldwork were carried out in the Lower Mekong countries (Cambodia, Laos, Thailand and Vietnam) and in parts of the Zambezi basin (Botswana, Zambia, Mozambique and South Africa). Existing professional networks and 'snowballing' were important in the identification of relevant informants in the two regions. The purpose of the fieldwork was: i) to update quantitative and qualitative data and information on developments in the basins; and ii) to discuss the analytical approach and related research questions with key informants. Nearly sixty interviews with high-level decision-makers, bureaucrats, civil-society representatives, academics, donors and representatives of the private sector have contributed to the analysis and conclusions of the report. The study also included participation in ten seminars, workshops and conferences

¹ The broad and comparative scope of the study is at the same time its strength and its weakness. The analytical framework allows us to grasp the larger shifts in the national and regional development contexts, but to create a consistent narrative some detail and complexity have necessarily been left out.

in South Africa, Thailand, Germany, Sweden and Denmark, where the approach, preliminary findings and policy recommendations of the research were presented. These events had an agenda-setting purpose by emphasizing the ‘political economy of water’ and ‘out of the water box’ approaches, as well as the particular role of new development finance as a development driver.

In the report, we use foreign direct investment (FDI) and official development assistance (ODA) statistics as indicators of the evolving pattern of economic relations and interdependencies between riparian countries and financiers of development from BRICS and DACs. However, quantitative data on these relationships are a minefield of caveats and access problems. Consistent, comparable and reliable information on ODA and FDI financial flows from BRICS and DAC donors to riparian countries are simply not available (ECOSOC 2008; Kaplinsky and Farooki 2009; UNCTAD 2010; Walz and Ramachandran 2011; UNCTAD 2012). The primary reasons are: i) the lack of an international definition of what constitutes development assistance and foreign direct investments; and ii) the related differences in reporting by donors, investors and recipient countries.² Furthermore, official pledges of assistance or investments often fail to materialize. Detailed quantitative analysis of development finance flows from BRICS and DACs to riparian countries has therefore not been possible. This makes it difficult to assess the relative importance of BRICS in the political economy of development in the Mekong and the Zambezi. Instead aggregate estimates of ODA flows from BRICS and DACs to developing countries in general are used to illustrate the shifting development contexts in the basins. Aggregate data on FDI and ODA flows to riparian countries are derived from the World Bank’s ‘World Development Indicators’ (WDI) and the OECD-DAC International Development Statistics. Combined with the Human Development Index (HDI), these data are also used to analyse the economic strength of riparian countries, e.g. GDP and growth rates, and the evolution of the contribution of ODA disbursements to government budgets and gross national incomes provides insights into DAC-donors’ position in the political economy of water in riparian countries (see sections 5.2 and 6.2).³ The ‘Statistical Bulletin of China’s Outward Foreign Direct Investment’ published by the Chinese Ministry of Commerce has been used to identify FDI flows from the rising superpower to

² The BRICS and other emerging donors are not members of the OECD-DAC, and there is no central database where aid disbursements from BRICS are recorded; see Walz and Ramachandran 2011.

³ The IMF and UNCTAD also collect FDI data, but IMF’s publicly available data is at the same aggregated level as the World Bank’s (i.e. no investing country or sector breakdown), and the lacunae in the country-specific UNCTAD data are so huge that comparative analysis is virtually impossible.

the Mekong and Zambezi countries (MOFCOM 2010).⁴ Due to the validity and reliability problems of these different data sets, we have refrained from making comparisons across different FDI data sets. This creates a lacuna in the analysis that can only be filled through new primary data collection, which falls outside the scope of this report.

In terms of qualitative sources, access to informants and data on large infrastructure projects involving new development finance such as the Mphanda Nkuwa (Mozambique) and Xayaburi (Laos) hydropower projects have been difficult to acquire. Access to private-sector stakeholders would require considerably more time and networking than was available for this fieldwork. These difficulties of access illustrate the conclusions drawn in this report, i.e. that there continues to be a general lack of transparency surrounding such natural resource-based projects. Governments, developers and investors involved in these projects rarely enter into dialogue with researchers or civil-society stakeholders, who are a rather common phenomenon in developing, and some developed, countries. Consequently, most of the data and information on large-scale investments in hydropower, mining and agriculture were gathered from secondary sources. This implies some reliability problems. Qualitative data on the political and economic relationship between investors and client governments are sometimes difficult to verify. They are based on interviews and conversations conducted in the field. Discussing and contesting large-scale hydropower or other water development projects may also be risky for government bureaucrats, academics and civil-society representatives in some countries. Fear of repression may institute self-censorship by informants and make some stakeholders less willing to provide information to outsiders. Triangulation of the multiple qualitative data-sources utilized in the report (i.e. interviews, government, donor or NGO reports, international research and media articles, policy papers etc.) has served to address these problems of validity and reliability in the shady territory where decisions are made. Hence, the triangulation process serves to strengthen the evidence base that underpins the conclusions drawn in this report.

⁴ The data-set may not provide an accurate picture of the distribution of Chinese FDI. For most of the recording period (2004-2010), FDI flows to and stocks in Hong Kong account for more than half of total Chinese investments. A reasonable assumption is that Hong Kong is not the actual destination of these investments; rather, the country is used as a business hub for Chinese companies investing in the rest of the world – and back to China. To address this problem, Chinese FDI in Hong Kong have been excluded from the total FDI values used for computing riparian countries' shares in the analysis.

4. Shifting contexts of development

On the top floors of a brand new high-rise building in Maputo are the offices of Hidroeléctrica de Mphanda Nkuwa. The company is a joint venture between Mozambique's national energy utility, Electricidade de Moçambique (EDM), the Brazilian construction firm Camargo Correa and the Mozambican company Easysytech, created to build a 1,500 MW dam on the lower stretches of the Zambezi River. The dam will export power to neighboring South Africa and the construction costs of USD 2 billion are nearly entirely being financed by commercial and development banks in South Africa and Brazil. The corporate and financial structure of the Mphanda Nkuwa project is a good illustration of the shifting context of development in which public and private investors from BRICS increasingly challenge the historical dominance of the OECD countries as partners for riparian country governments. A decade or two ago, the World Bank or western commercial banks would have provided the finance, and the construction company would most likely have been a western TNC.

This chapter serves three purposes. *First*, it provides relevant statistical evidence which illustrates the shifts in the global development context. We use aid flows, foreign direct investments and trade as indicators of the emerging multi-polarity in terms of development finance and economic interdependence. *Secondly*, it discusses the modalities of public and private sources of development finance from BRICS and OECD countries, and their potential influence on governments' development space and the political economies of water in the Mekong and the Zambezi. *Thirdly*, the chapter briefly mirrors the recent shifts in the historical conduct of DAC donors and western TNCs as sponsors of political and economic development for BRICS and the riparian countries.

4.1 The reconfiguration of the global aid regime

New development financing opportunities are increasingly becoming available for developing countries. ODA from DAC donors shows signs of contraction, while development finance from non-DAC donors and investments from the BRICS are playing an increasing role, although in different ways. This is resulting in the simultaneous presence of DAC donors and the BRICS in most developing countries. Whilst the DAC donors may be experiencing competition for development space and less control, this dual presence could also be seen as complementary and therefore in the interests

of developing countries. Aid and development finance from the BRICS tends to flow towards economic infrastructure, while aid from the DAC donors tends to flow towards social sectors, good governance, civil society, the environment and climate change.

ODA from DAC donors peaked in 2010, reaching USD 137 billion (OECD Development Cooperation Directorate 2013).⁵ Since then, the continuing financial crisis and turmoil in the Eurozone has led many western governments to tighten their budgets. This has had a direct impact on development aid, which has declined by 6% in the past two years, bearing witness to the shifts in the global aid regime. This drop succeeds two decades in which ODA from DAC members nearly doubled and western governments enjoyed a monopoly position in terms of development aid. This situation is gradually being transformed. Studies estimate that development assistance from the BRICS and other non-DAC donors varied between USD 11 and 41 billion in 2009, equaling 8 to 31% of global aid disbursements (Walz and Ramachandran 2011). Most of the new development assistance is provided by China (Table 1). The upper estimate of Chinese aid is USD 25 billion, which in absolute amounts makes the superpower second to the USA, the world's largest donor. Lower estimates make China look like a pixie compared to even small Western donors like Denmark.⁶

Estimated aid flows from Brazil, India and South Africa also vary, but they appear more modest than Chinese aid. The huge variations in assessments of development aid from the BRICS demonstrate the methodological uncertainties discussed in the previous chapter. Despite these uncertainties, data on the increasing development assistance from the BRICS highlights the relative importance of South-South development cooperation (Rowlands 2008). This provides governments in the least developed countries with both alternative sources of finance and a means of meeting the declining ODA from western donors, while at the same time challenging the dominant position enjoyed by DAC donors in past decades.

Development assistance from one developing country to another is not a new phenomenon (Brautigam 2009; Kragelund 2011; Walz and Ramachandran 2011), particularly where these developing countries are also emerging economies. The 1955 Bandung Conference of Asian and African States laid down the principles for

⁵ At constant 2011 prices; see OECD International Development Statistics database.

⁶ Walz and Ramachandran 2011 note that the upper Chinese estimates include financial flows normally labeled as FDI and loans under conditions not labeled as aid by DAC donors. Due to some BRICS practices of bundling aid, investments and trade, isolating genuine aid disbursements is difficult.

Table I. Estimates and characteristics of BRICS development assistance. Estimates are based on 2009 or most recent data.

| | <i>Brazil</i> | <i>South Africa</i> | <i>India</i> | <i>China</i> | <i>Russia</i> |
|---|---|---|--|---|---------------------------------------|
| Aid outflows, upper/lower estimate (mil. USD/annum) | 4000/356 | 475/109 | 2171/488 | 25098/1500 | 785/785 |
| Aid inflows (mil. USD/annum) | 338 | 1075 | 2502 | 1132 | 0 |
| Outflows as % of GNI (upper/lower) | 0.30/0.03 | 0.17/0.04 | 0.16/0.04 | 0.71/0.04 | 0.07/0.07 |
| Form | N/A | Grants and loans | Credits, concessional loans and grants | Grants, credit lines, interest free loans and concessional loans | Multilateral institutions |
| Modality | Co-financed projects and technical assistance | Co-financed projects and technical assistance | Projects, technical assistance (consultancy), debt cancellation, humanitarian assistance, scholarships | Projects, technical assistance, debt cancellation, stipends | N/A |
| Geographical focus | Latin America and 15 African countries | Africa | Immediate neighborhood and Africa | Latin America, Asia and Africa | N/A |
| Sectors | Agriculture, education, health, governance, infrastructure, post-conflict resolution | Democratization, post-conflict resolution, humanitarian assistance, private sector and infrastructure | Agriculture, infrastructure, transport | Infrastructure, productive sectors, health, prestige projects | N/A |
| Donor cooperation | Multilateral development institutions, India and South Africa (IBS), China, and some DAC-donors | India and Brazil (IBS), multilateral institutions and other DAC-donors | India and South Africa (IBS) | Limited | Multilateral development institutions |
| Geopolitical interests | Reform of global governance structure, support for UNSC-seat, resources, new markets | Resources, regional markets, stability and security | Resources, new markets, development of a pro-India constituency, support for UNSC-seat | Resources, new markets, alliances, support in global institutions | N/A |

(adapted from ECOSOC 2008; Rowlands 2008; Kaplinsky and Farooki 2009; Kragelund 2011; Walz and Ramachandran 2011).

South-South cooperation for economic growth.⁷ However, ODA from non-DAC sources was circumvented by the Cold War and remained marginal in the 1990s when DAC donors controlled 95% of global aid disbursements. During this period, most of the BRICS also figured as recipients of DAC development assistance, and India, Brazil and South Africa still receive bilateral and multilateral aid. The current increase in South-South cooperation is connected to the economic and political interests of the emerging economies. While development assistance from the BRICS is formally portrayed as an expression of solidarity of one developing country with another, the BRICS and regional emerging powers also use their development assistance to build diplomatic relations and strategic alliances. Aid from the BRICS is also often connected to economic packages consisting of private investments and trade agreements, which serves domestic growth imperatives by creating access to new markets, business partnerships and natural resources in other developing countries. Some BRICS have a preference for aid disbursements in their immediate neighborhood, which may then, as an outcome by default, strengthen regional cooperation. China is the only emerging donor with a global outreach. South Africa's focus is on Sub-Saharan Africa, while Brazil primarily engages with the Portuguese-speaking parts of Africa. India is presently only marginally involved outside Asia, but Indian banks are increasingly showing an interest in financing investments in southern Africa. This makes South Africa, Brazil and China relevant for the political economy of water in the Zambezi basin, whereas China is the dominant emerging donor and financier in the Mekong basin.⁸ Their engagement in riparian countries will be discussed in detail in Chapters 5 and 6.

The BRICS have adopted modalities and institutional arrangements that differ from the current DAC donor definition of 'good development assistance' (ECOSOC 2008; Rowlands 2008; Tan-Mullins et al. 2010; Kragelund 2011). Bundled packages of large infrastructure projects, special economic zones, public and private company investments and natural resource concessions that are intimately linked to the political and economic interests of the donor country are often the preferred strategy. China's 'Angola mode' represents the archetypal case, where a closed financial circuit involving development assistance, concessional and commercial loans mostly serves Chinese business interests (Box 3). However, the bundling strategies of the BRICS largely mirror the historical conduct of DAC donors. DAC donors only recently officially

⁷ The Bandung principles encompass 1) respect for the sovereignty and territorial integrity of all nations, 2) abstention from intervention or interference in the internal affairs of another country, and 3) abstention by any country from exerting pressure on any other country.

⁸ India is also providing assistance to African countries, including the Zambezi basin, but remains of minor importance compared to other BRICS. Russia's aid primarily flows through multilateral institutions, making it less visible and closer to DAC donors.

Box 3. Chinese aid, investments and trade in the ‘Angola mode’

The ‘Angola-mode’ has become a framework for much of China’s engagement in Sub-Saharan Africa and other developing countries through Chinese state owned enterprises (SOEs). It is an integrated package that features:

- Credit from Chinese development or EXIM banks at subsidized rates
- Tenders for infrastructure and natural resources projects exclusively for Chinese TNCs and SOEs
- Funds that are tied to the use of Chinese inputs and make intensive use of Chinese skills but they may also involve investment and subcontracting in recipient countries
- Loans are repaid by the recipient country through cheap commodity exports to China

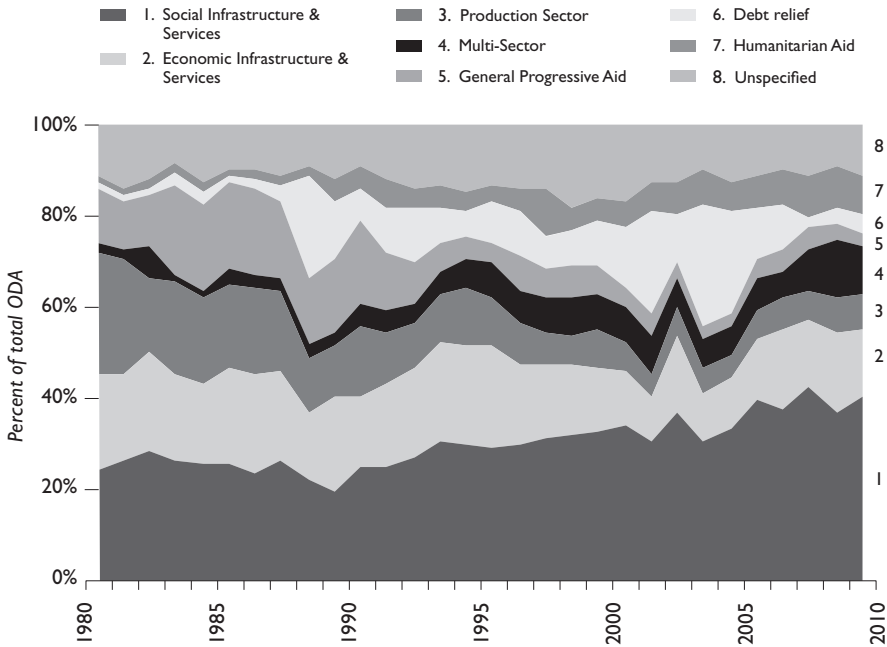
The ‘Angola mode’ to a large extent represents a closed circuit with little impact on the local economy in the recipient country. There are other modes of Chinese engagement that involve joint ventures and clauses to use local suppliers and workforce etc.

(Sources: ECOSOC 2008; Haglund 2008; Kaplinsky and Morris 2009; Alden and Alves 2010)

‘unbundled’ aid from national business interests (Brautigam 2009; Kaplinsky and Morris 2009). This was the result of criticism from recipient governments, researchers and international NGOs focusing on the costs, exclusiveness and exploitative relationships associated with tied ODA, as well as the shift towards channeling aid through multilateral development institutions like the World Bank.

DAC donor discussions on financial assistance from the BRICS largely echo this criticism. But developing country governments are not part of the chorus of critics (Tan-Mullinset al. 2010). The BRICS and developing countries define themselves as ‘business partners’ and perceive their mutual involvement to be on an equal footing. This contrasts with the hierarchical relationship with the DACs, as expressed by the former President of Botswana, Festus Mogae: ‘I find that the Chinese treat us as equals. The West treats us as former subjects’ (Walz and Ramachandran 2011). The BRICS offer assistance to large-scale infrastructural development and productive sectors (Woods 2008). They engage in economic development more directly than DAC donors and compete directly with the development banks as financiers of large infrastructure projects. These kinds of interventions are in demand among the leaders of developing countries. Unbundling and shifting policy priorities have channeled development assistance from DAC donors towards poverty reduction, education, health, governance and sustainable development as portrayed in Figure 3 (Brautigam 2009; Walz and Ramachandran 2011). The BRICS and other emerging economies are

Figure 3. Sector distribution of bilateral development assistance from DAC donors from 1980-2010



(Source: OECD 2013)

now stepping in as suppliers of development finance, thus widening the development space of developing country governments.

The expanding development space is not limited to finance. To leaders in developing countries, the BRICS represents an alternative development model with strong state involvement in the domestic economy and with the Asian ‘developmental state’ as the best example (Brautigam and Xiaoyang 2011; Kragelund 2011). This model deviates from the more neo-liberal approach to development advocated by the DAC donors and the Bretton Woods Institutions. The successful economic development of the BRICS, in spite of absolute western economic dominance, provides legitimacy to alternative development policies, and more state involvement resonates with the political and economic interests of national elites in developing countries. In addition, South-South cooperation emphasizes the principle of non-interference in the recipient country’s internal affairs. In contrast to DAC donors, the BRICS typically abstain from applying conditionalities in their development assistance apart from the economic ties built into the bundling

strategy.⁹ In spite of the partnership rhetoric around new aid modalities, DAC members increasingly face domestic and peer-pressure to apply a broad range of conditions regarding poverty alleviation, human rights, good governance and environmental sustainability in their disbursements (Tan-Mullins et al. 2010). These characteristics and the preference for large infrastructure projects make aid from the BRICS attractive and less bureaucratic in the eyes of governments and elites in developing countries.

While the absolute financial contribution of non-DAC donors is uncertain, the emerging alternatives to DAC donors are creating a new development context for countries in the Mekong and the Zambezi basins. As Chinese, Brazilian and South African development finance provides new opportunities for investments in economic infrastructure, governments and elites in the basin countries may shift political and economic allegiances towards the BRICS or use the BRICS alternative in their bargaining position with the DAC donors. However, as discussed earlier, the simultaneous presence of DAC donors and the BRICS can also be complementary.

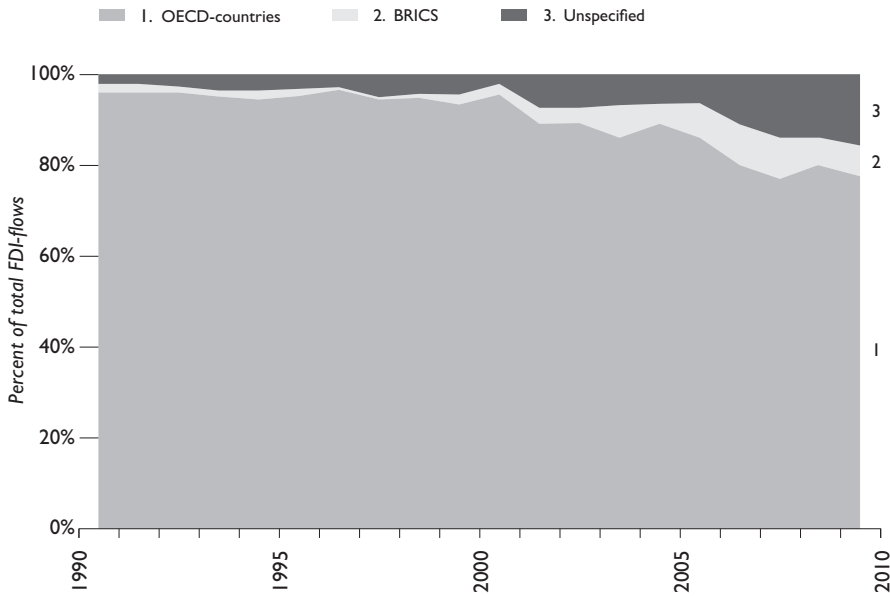
4.2 Development finance from private investors

Global private investment flows dwarf global development assistance. The OECD's International Direct Investment Statistics show that global FDI flows have risen from USD 220 billion in 1993 to more than USD 1.4 trillion in 2011, nearly ten times BRICS' and DAC donors' ODA (OECD 2013).¹⁰ An increasing share of these private investments flows towards developing countries (UNCTAD 2012). In the eyes of government agencies, foreign direct investments are a source of development finance. Investors engage in infrastructure projects, natural resources extraction and other business activities based on profit incentives. At the same time, these private-sector investments fuel economic growth and enable developing country governments to implement ambitious development strategies. The OECD countries have historically been the most important investors in developing countries in southern Africa and South East Asia (UNCTAD 2012). But investors from the BRICS, the Arab countries and Asian economies are increasingly contributing to the expanding availability of private finance for developing countries, as illustrated by the decreasing share of OECD members in global FDI outflows (Figure 4)(UNCTAD 2007; 2010; OECD 2013).

⁹ However, the 'One China' policy is an integral part of Chinese foreign aid. Only countries that acknowledge Chinese supremacy over Taiwan receive support. In the Zambezi, only Botswana has kept its diplomatic ties with Taiwan. None of the Mekong countries have formal relationships with Taiwan. See Kragelund 2011; Walz and Ramachandran 2011.

¹⁰ The 2012 value of global FDI is somewhat lower than the pre-financial crisis peak in 2007, but it represents a recovery from previous years.

Figure 4. FDI outflows from OECD and BRICS as share of global FDI 1990-2010



(Source: OECD 2013)

The growth economies in the Mekong have been much more attractive for investors than the much smaller economies in the Zambezi (Figure 6 and Figure 5). This illustrates the disparities in economic development between the two regions, which also have bearing on the degree to which basin water resources are under pressure. As mentioned earlier, water resource scarcity differs between the two basins. Although the Mekong is under stronger development pressure than the Zambezi, the more water-scarce Zambezi feels the pressure of even relatively small economic developments. The larger Mekong economies were established on a stronger water resource base, which is now starting to come under pressure.

The successful economic development of China, Thailand and Vietnam has made these countries the main locus of investments in the Mekong. Angola has historically been an important magnet for FDI in the Zambezi, but investments in the region are generally low and marginal compared to the much larger economy of the regional power, South Africa, which is not a Zambezi-basin riparian country. However, the poorest and historically less investor-attractive countries in both basins have recently enjoyed a surge in foreign capital inflows.

Myanmar, Cambodia, Zambia, Botswana, Mozambique, Tanzania and Namibia have all experienced significant increases in annual FDI inflows the last five to ten years, while Laos, Zimbabwe and Malawi continue to be minor economies that are less attractive to global investors.¹¹ These data are based on the World Bank's World Development Indicators database, which has been developed from host-country reports of FDI. The data are not likely to include all investments from the BRICS. This is especially the case for China, whose FDI does not necessarily follow official pathways (Kragelund forthcoming provides an example from Zambia). Moreover, it is not always clear whether the Chinese FDI originates from private or government sources (Haglund 2008; Kaplinsky and Morris 2009).

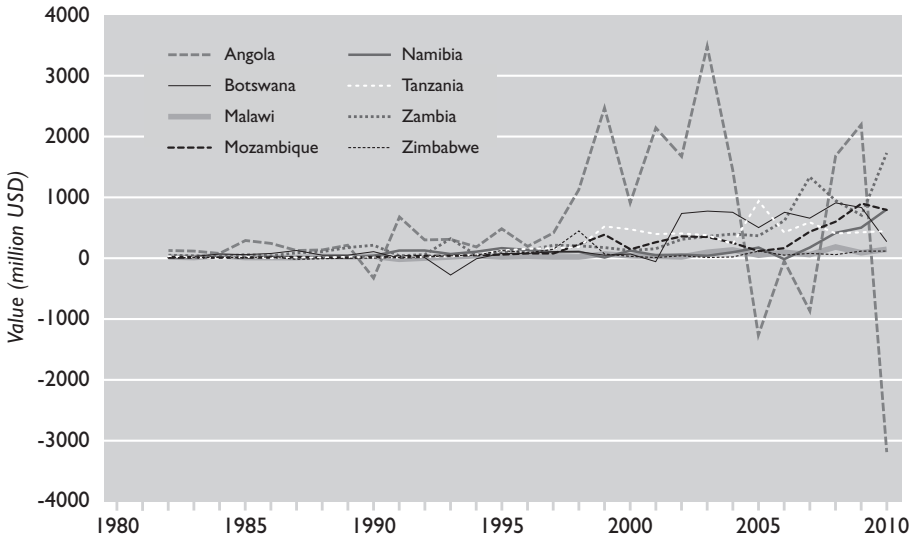
The bundling strategy applied by the Chinese government tends to blend government aid credit from development banks, SOE investment flows and trade agreements (see Box 2 on the Angola mode). Moreover, many global Chinese companies are de facto SOEs intimately linked to the Chinese government. Data on Chinese FDI outflows from the Chinese Ministry of Commerce show that investments in the two basins are growing and generally follow the same pattern as FDI flows from other sources (MOFCOM 2010).¹² The adjacent Mekong countries are much more important to China than the Zambezi countries. Even bottom-end Laos in the Mekong receives the same amount of Chinese investments as the Zambezi basin total in 2010 (approximately USD 300 million). South Africa is the key locus of Chinese investments in Sub-Saharan Africa, being much more important to China than any of the Zambezi countries.¹³ It should also be noted that the most significant trend in Chinese investments is the acquisitions in the major developed economies in the wake of the financial crisis, not investments in developing countries.

¹¹ UNCTAD's 2012 Investment Report states that least developed countries generally face an FDI recession in the wake of the financial crisis. However, UNCTAD also report that some of the LDCs in the Zambezi and Mekong regions are currently performing above expectations in terms of attracting FDI, including Mozambique, Zambia and Cambodia, which is studied in detail here. Also, Laos is performing according to expectations.

¹² As reported in China's *Statistical Bulletin of Chinese Foreign Direct Investments*. The figures are most likely underestimates. Due to the poor data quality, the WDI's aggregated FDI flows and Chinese flows have been analyzed separately, as they are incompatible (not measuring the same flows of money). The Chinese SOE investments are more likely to be represented in the *SBOCFDI* as non-Hong Kong investments, i.e. the actual flows of money recorded and analyzed, whereas more genuinely private Chinese companies will tend to go through Hong Kong (personal communication with Luke Patey and Tomas Skov Lauridsen, DIIS).

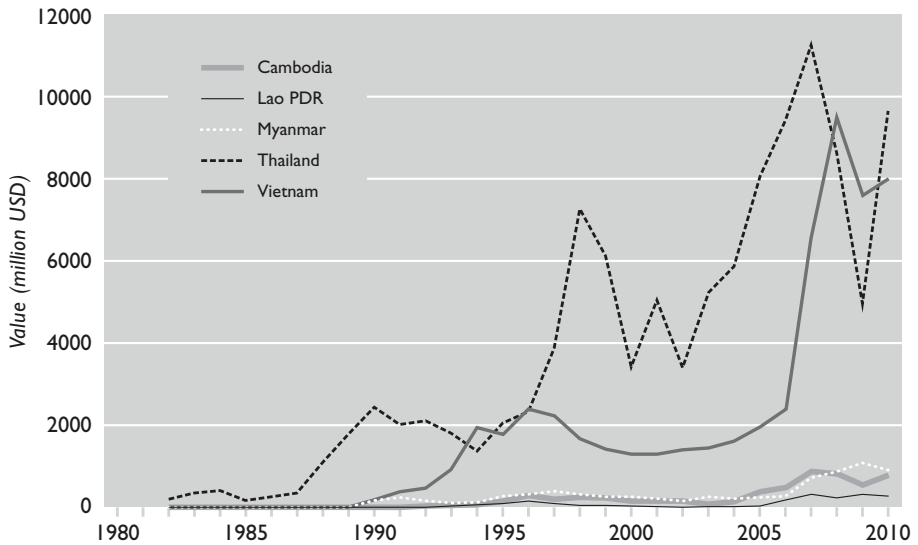
¹³ The peak in 2008 refers to the Industrial Bank of China's purchase of a 20% stake in South Africa's Standard Bank for USD 5.5 billion. Both are the largest banks in their respective domestic economies. The acquisition illustrates some of the methodological problems of the data: since the buy-in, Chinese investment can be channeled through Standard Bank and appear as South African investments in FDI statistics.

Figure 5. Total FDI flows to Zambezi countries 1981-2010



(Source: World Bank 2012)

Figure 6. Total FDI flows to Mekong countries (Cambodia, Lao PDR, Myanmar, Thailand, Vietnam) 1981-2010



(Source: World Bank 2012)

TNCs, commercial banks and other financial institutions such as western pension funds play an increasingly important role as investors in large-scale infrastructure, extractive industries and extensive agriculture, all of which have significant water footprints (Conley and Williams 2011). The Bretton Woods Institutions have been instrumental in opening up developing countries for private investors. The World Bank and the IMF's structural reforms during the 1980s and 1990s led to the increased privatization of energy, water and extractive industries in developing countries. The World Bank and the IMF also faced NGO campaigns against controversial infrastructural development which reduced their role as direct sponsors of such projects.¹⁴

One of the most significant examples comes from the hydropower sector. In the 1990s, the report on the social and environmental impacts of hydropower dams by the World Commission on Dams (WCD) led to controversies over continued donor and development bank financing of large-scale dams (Bosshard 2010; Hirsch 2010; Pittock 2010). Though the WCD guidelines were never adopted by the World Bank, they initiated the development of sustainability safeguarding procedures in the Bank's disbursements and led to a stronger Bank focus on the facilitation of investments and partnerships rather than the direct provision of loans and guarantees for hydropower infrastructure. While private investments have always been important to developing country governments, these policy changes on the part of the World Bank have – possibly unwittingly – opened up the hydropower investment market further to private investors from both western countries and the BRICS.

Hydropower investments in international river basins are among the biggest, most expensive and most complex international projects. Chinese companies have become significant hydropower dam builders in recent years. Sinohydro is the world's largest hydropower developer and claims to control more than 50% of the market (Verhoeven 2011). In terms of stakeholders interested or affected, hydropower projects involve financiers, construction companies, government agencies, local administrations and communities. Hydropower projects in developing countries are often organized in public-private partnerships involving national and international investors as well as governments' energy utilities. Typically, the financial modality 'project finance' is used to acquire funds for these large concessions from investors and from power purchasing

¹⁴ E.g. the Namada dams in India and the Three Gorges Dam in China. Multilateral development banks do provide some funds or security for large-scale infrastructural development, and the World Bank, IFC, AsDB and others play important roles as facilitators of hydropower projects in both the basins studied here; cf. Middleton 2009 World Bank 2009.

agreements with energy utilities from the host country and/or its neighbors in order to secure revenues for the project company (Box 4).

In Chapters 5 and 6 we demonstrate how the shifts in development finance *widen the development space* of governments in the Mekong and the Zambezi regions. While giving governments more room for maneuver, legal contracts with hydropower investors and power purchasers also *tie the hands of governments*, and the established hydropower infrastructure becomes hard facts that in turn affect other riparian countries. The capacity and willingness of riparian governments to negotiate sound legal agreements (BOTS, PPAs etc.) with private investors and the enforcement of sustainability frameworks therefore become important for how the investments will

Box 4. Project finance, large-scale infrastructure and natural resources investments

Project finance is the financial modality used to provide private capital for large, privately sponsored infrastructure projects and extractive industries such as hydropower dams, oil and gas pipelines, mines, power plants, telecommunication facilities, etc. Typically, a legally independent project company is established with equity from one or more sponsoring firms and host government agencies or enterprises (e.g. energy utilities) making it a public-private partnership. The project company obtains loans from public or private financiers as non-recourse debt, i.e. lenders are repaid by the revenue generated by the project only. This creates certain financial risks for investors relating to projected revenues and potential political processes that may slow down implementation.

The project company negotiates a concession agreement with the host government often in the form of build-operate-transfer (BOT), build-operate-own or build-lease-transfer covering a time-span of 25-30 years or more. Hydropower projects also involve negotiation of a power purchase agreement (PPA) with energy utilities from the host country and neighboring country.

There are many stakeholders involved in these projects, e.g. construction companies, commercial banks, state owned or multilateral development banks and government utilities, all of which have their individual incentives and standards regarding sustainability. Public-private partnerships potentially affect the incentives of government agencies to apply social and environmental legislation. But they may also infuse international sustainability standards like the Equator Principles (EQP), the UN Principles for Responsible Investments (PRI) or internal CSR investor policies into project development in weak regulatory contexts. This makes the contractual negotiations between investors, governments and contractors - as well as independent stakeholder monitoring of project implementation - core elements affecting development outcomes in host countries.

(Sources: Conley & Williams 2011; Equator Principles Association 2013; UNEP Finance Initiative & UN Global Compact 2013)

contribute to economic growth and sustainable development. As the regulatory capacity and accountability of most governments in the two basins are weak, international standards for large-scale infrastructure investments become important.

International standards like the UN Principles of Responsible Investments and the International Finance Corporation's (IFC's) Equator Principles are increasingly penetrating international financial institutions, at least at face value (Wright and Rwabizambuga 2006; Scholtens and Dam 2007; Conley and Williams 2011). While their impact remains contested, the home constituencies of private investors in developed economies are increasingly leveling demands on corporate conduct in developing countries.¹⁵ Most signatories to these standards continue to be from investors and companies in western countries, adherence by investors from the BRICS being generally weaker. Asian, especially Chinese investors have been accused of low CSR standards, and the 'Angola mode' allegedly only creates limited economic benefits for the host country (International Rivers 2008; 2012b).¹⁶

However, there are examples of more beneficial agreements being made with Chinese investors by developing country governments. They typically involve joint ventures, as well as social and environmental clauses obliging the investor to use host country companies and labor and to reinvest some of the revenue in the host country. The Chinese MOFCOM's 'Guidance on Social Responsibility of China's International Project Contracting Industry', along with other recent policy changes in the Chinese government's regulation of businesses and banks, also suggest increasing Chinese sensitivity to domestic and international criticism (Alden and Davies 2006; Haglund 2008; Brautigam 2009; Middleton 2009). The question is to what extent these policy changes are implemented by Chinese SOEs overseas as they enjoy considerable independence to pursue individual company goals. Unsustainable domestic business practices and host country governments' regulatory behavior appear to be crucial determinants of corporate conduct. Importantly, this is not only the case for Chinese companies. Western TNCs' track records in developing countries are equally controversial: 'tax evasions, patchy adherence to local laws and conflicts with local stakeholders are also pervasive issues among Western investors' (Haglund 2008; see also Brautigam 2009; Alden and Davies 2006).

¹⁵ The Danish political reaction to the poor CSR standards of investors in the textile industry in Bangladesh is a case in point.

¹⁶ Presentation by the ANZ Bank at the Mekong2Rio conference on nexus development in international river basins in Phuket, Thailand, May 2012.

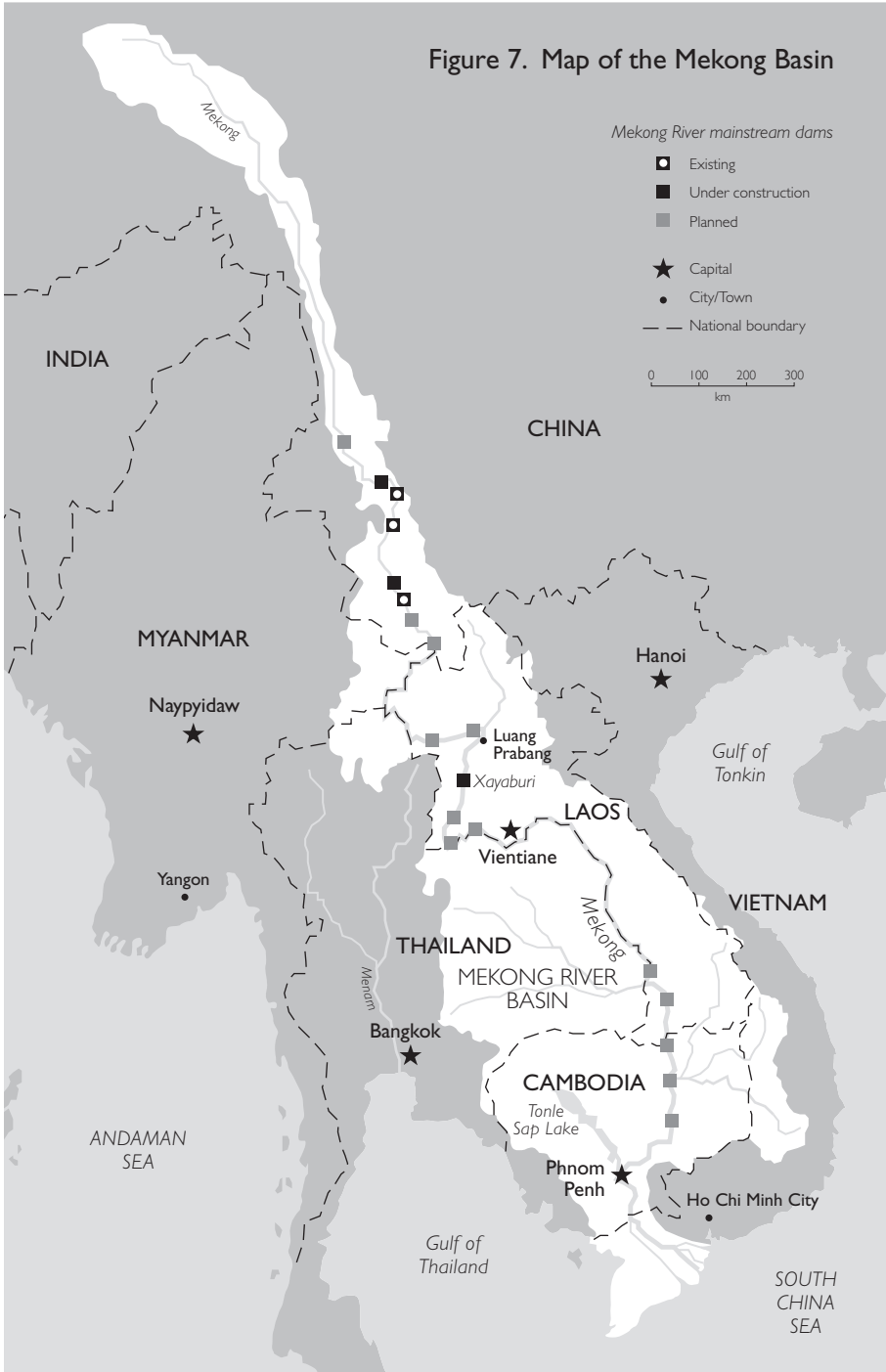
5. The Mekong

The Mekong River runs through the heart of one of the most dynamic economic regions in the world. The river rises on the Tibetan plateau and proceeds through Yunnan Province in China and then meanders through the diverse landscapes of Myanmar (Burma), Laos, Thailand, Cambodia and Vietnam before reaching the South China Sea (see map in Figure 7). An extensive network of more than a hundred tributaries, some of which also cross the borders of riparian countries, feeds the mainstream. The river drops from 5,000 meters altitude on the Tibetan Plateau to sea level on the floodplains of the delta, creating huge differences in topography and ecosystems. Most of the region lies within a tropical climate zone that translates into significant seasonal variations. Sixty million people inhabit the Lower Mekong Basin, most of whom rely on the river system for their livelihoods. The river's hydrology is dominated by the monsoon flood-pulse that facilitates the exchange of water, sediments, nutrients and biodiversity. This creates rich agricultural opportunities, especially in the Vietnamese and Cambodian floodplains, and the freshwater fish catch in the Mekong is the largest in the world. Small-scale subsistence fisheries, capture fisheries and aquaculture are important components of both regional food security and socioeconomic development.

However, economic growth is rapidly transforming the interests of riparian countries in the Mekong. Development is challenging prevailing geopolitical relations. China, Thailand and Vietnam have become important regional economic powers in a few decades, shifting the development context for the least developed countries, Laos, Cambodia and Myanmar. At the same time, the negative environmental side-effects of these riparian countries' development strategies have begun to surface. Deforestation and over-exploitation of natural resources, water pollution, declining fish stocks, biodiversity loss and salination are emerging problems that are degrading traditional sources of food security. This is a new situation for the riparian governments, as they have traditionally treated the Mekong as a river of plenty. The recent controversy over the Xayaburi hydropower project in Laos has created unprecedented hydro-political tensions between these riparian states, placing a spotlight on the rapid economic growth fuelled by water and other natural resources.

5.1 A brief history of cooperation and conflict in the basin

Transboundary water cooperation in the Mekong basin has one of the most significant institutional histories in the world, with dialogues on river basin management dating



back to the early 1950s. Cambodia, Laos, Thailand and Vietnam established the Mekong Committee in 1957 under the auspices of the UN. One of the outcomes of the Committee was a planned cascade of mainstream dams from northern Laos to the headwaters of the Mekong delta in Cambodia, developed by the US Bureau of Reclamation. Transforming the river into a powerhouse for economic development in the region was part of the US attempt to create a bulwark against communism. The US saw the Mekong Committee as a mechanism for realizing these plans. The subsequent Indochina wars and the Khmer Rouge terror regime in Cambodia put the hydropower dreams and cooperation on hold. The UNDP-brokered 'Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin' reunited the four Lower Mekong countries under the Mekong River Commission (MRC) in 1995 (Mekong River Commission 1995).

The MRC agreement introduced an RBO mandated to facilitate sustainable development and a holistic basin development plan. It embodied state-of-the-art thinking on transboundary water resources management, including IWRM principles and international water law.¹⁷ The agreement established a three-tier governance structure, with a Secretariat (MRCS) responsible for building capacity and providing decision-making support to the Joint Committee, consisting of senior civil servants and the Council of Ministers. The agreement is shaped by the 'Mekong Spirit'¹⁸ and is commonly referred to as a 'soft law' framework, where decisions are made by consensus and countries have no right of veto in the case of unresolvable disputes (Hirsch and Jensen 2006). When countries cannot solve differences, governments have to resort to diplomacy or invite mediation by a third party.

The MRC agreement also prescribes the establishment of common rules for water utilization and for notification and consultation on development projects with transboundary impacts, especially on the mainstream. The 'Procedures for Notification, Prior Consultation and Agreement' (PNPCA) agreed to by member countries in 2003 operationalizes these provisions in a set of procedures guiding transboundary negotiations on large-scale development interventions in the river basin (Mekong

¹⁷ MRC member countries agreed to cooperate on the utilization, management and conservation of water and associated resources, e.g. irrigation, hydropower, navigation, flood control, fisheries and environmental protection, in order to 'optimize the multiple use and mutual benefits for all riparians' (Mekong River Commission 1995).

¹⁸ The 'Mekong Spirit' is commonly referred to by the MRC member states to connote consensual political decision-making. It may be explained by the wish of MRC member states to signal a new era of peace and harmony in the Lower Mekong after decades of war and conflict. Some analysts also explain the 'spirit' and consensus ideal as rooted in a specific Asian political culture that conceals disagreements and conflicts.

Table 2. Planned hydropower dams on the Lower Mekong mainstream

| Country | Project | Power (MW) | Project cost (USD mil.) | Developer | Financiers | Market |
|---------------|---------------|------------|-------------------------|---|--|--|
| Laos | Pak Beng | 1,230 | N/A | Datang International Power Generation Co. Ltd. (China-Hong Kong) | N/A | Thailand or China or Laos |
| Laos | Luang Prabang | 1,410 | N/A | PetroVietnam Power Corporation (Vietnam) | N/A | Thailand or Laos |
| Laos | Xayaburi | 1,285 | 3,500 | CH. Karnchang Public Company (Thailand) | 4 Thai banks: Krung Thai Bank, Bangkok Bank, Kasikorn Bank, and Siam Commercial Bank | PPA with EGAT assigning 95% to Thailand and 5% to Laos |
| Laos | Pak Lay | 1,320 | 1,700 | Sinohydro(China) & CEIEC | China Exim Bank | Thailand and Laos |
| Laos | Sanakham | 570 | N/A | Datang International Power Generation Co. Ltd. (China-Hong Kong) | China Datang Overseas Investment Company Ltd. | Thailand or China or Laos |
| Laos-Thailand | Pak Chom | 1,079 | N/A | Department of Alternative Energy Development and Efficiency, MoE, Thailand (Thailand) | N/A | N/A |
| Laos-Thailand | Ban Khoum | 2,000 | N/A | Italian-Thai Development PLC & Asia Corp, Holdings Limited. (Italy-Thailand) | N/A | Thailand and Laos |
| Laos | Lat Sua | 800 | N/A | Charoen Energy and Water Asia Co. Ltd.(Thailand) | N/A | |
| Laos | Don Sahong | 360 | N/A | Mega First Corporation Berhad (Malaysia) and Government of Laos | N/A | Thailand |
| Cambodia | Stung Treng | 980 | N/A | Urban and Industrial Investment and Development Corporation (Vietnam) | N/A | Cambodia |
| Cambodia | Sambor | 3,300 | N/A | China Guodian Corporation (CGDC) | N/A | Cambodia |

(Sources: Middleton et al. 2009; International Rivers 2012a; Save the Mekong Coalition 2013)

River Commission 2003).¹⁹ The PNCPA procedures may be considered one of the core governance tools of the MRC. Their purpose is to establish mutual understanding and consensus on whether or not to implement projects proposed by one or more riparian countries.

Since its establishment, the MRC has received more than USD 300 million in development aid from European donors, Australia, Japan and the USA. This has resulted in a wide array of programs focusing on basin development, fisheries, environment, knowledge, hydropower and climate change, amongst other things. The assumption has been that the knowledge and capacity developed through donor assistance would enable the MRC countries to agree mutually on sustainable development interventions and thus prevent conflict. However, the re-introduction of mainstream dams on the development agenda in the basin has challenged the MRC framework and exposed the disparities in riparian countries' commitments to transboundary cooperation (see Table 2).

On 20 September 2010, Laos submitted the Xayaburi dam proposal to the MRC's PNCPA process as the first of these large hydropower projects (Mekong River Commission Secretariat 2011a). A Thai Company, financed by Thai banks, is developing the dam, and the Thai national energy utility EGAT is the main power purchaser. Documentation for the PNCPA process included a project feasibility study and environmental and social impact assessments, but without any assessment of potential transboundary impacts. Less than a month later, the MRC Secretariat published a Strategic Environmental Assessment (SEA) of proposed mainstream dams, including the Xayaburi (International Center for Environmental Management 2010). The SEA portrayed the basin-wide trade-offs associated with hydropower development (i.e. the economic benefits from increased energy security compared to cost in terms of fishery resources losses, decreasing agricultural opportunities, biodiversity and ecosystem degradation, etc.). The key recommendation was a ten-year moratorium on mainstream dams to allow for more studies to improve understanding of the potential impacts of mainstream dams and the distribution of costs and benefits across riparian states, an option immediately rejected by Laos.

The SEA was a game-changer for downstream countries. Both Vietnam and Cambodia have hydropower interests in the Mekong system, but the huge trade-offs from mainstream dam development led governments in both countries to oppose

¹⁹ Other informal procedures include 'Procedures for Water Use Monitoring' and 'Procedures for the Maintenance of Flow on the Mainstream'.

the Laotian plans (Cambodia's ambiguous position is discussed in Section 5.4). The subsequent negotiations illustrate how an expanding development space for one country can affect the hydro-political balance in an international river basin. It is also an example of how an expanded development space can influence commitments to transboundary cooperation. Criticism from downstream governments, civil society, the international media and DAC donors resulted in a series of contradictory stop-and-go announcements by the Laotian governments and Thai investors. But the ground-breaking ceremony for the Xayaburi project was eventually held in November 2012, which included the participation of Cambodian and Vietnamese officials (see International Rivers 2013d for a timeline of events). The Xayaburi project was on.

Prior to this ground-breaking ceremony, a compromise on the upstream–downstream controversy over the Xayaburi was reached as a result of closed corridor negotiations between Laos and Vietnam. The compromise reportedly involves compensation to Vietnam in the form of natural resources concessions in southern Laos. It appears to be a compromise that satisfies the economic and geopolitical interests of both countries. However, it may have had very little to do with the river itself, and it completely ignores Cambodia's recurring complaints (interviews with stakeholders in the region).

The Xayaburi controversy exposed the weaknesses of the MRC's governance framework, including the weak position of the MRC Secretariat in the political economy of water in the basin. The Secretariat's repeated attempts to facilitate cooperation and informed decision-making have been obstructed by the conflicting interests of the MRC member states and by their preference for bilateral negotiations that obstruct their commitments to multilateral regional conflict-resolution. This puts the future role and the mandates of the MRC in question.

5.2 The regional political economy of water

The Xayaburi controversy is merely the tip of the iceberg in terms of challenges for transboundary water governance in the Mekong incurred by the region's shifting development context. The MRC is facing a regional political economy of water structured by national differences in human and economic development (see Table 3). The emerging economies of China, Thailand and Vietnam are increasingly investing in natural resources development in the poorer riparian countries, while the growing demand for energy in Asian mega-cities and industrial centers is creating a lucrative regional market for hydropower and other commodities. Therefore, growth and human development is now picking up pace in Myanmar, Cambodia and Laos. Regional economic integration and

Table 3. Development indicators for the Mekong countries 2001-2011

| Variable | GDP | | GDP growth | | GNI/capita | | HDI | | Gini-coefficient | | Foreign direct investments, net inflows | | Official development assistance (DAC) | |
|----------|-----------------------------|------------|-----------------|------|-----------------------------|-------|-------|-------|------------------|------|---|---------|---------------------------------------|---------|
| | Constant (2005) USD million | 2011 | Average 2001-11 | 2011 | Constant (2005) USD million | 2011 | 2002 | 2012 | Index Value | Year | Current USD million | 2011 | 2001 | 2011 |
| Year | 2001 | 2011 | Average 2001-11 | 2011 | 2001 | 2011 | 2002 | 2012 | Value | Year | 2001 | 2011 | 2001 | 2011 |
| Cambodia | 4,350 | 9,984 | 8.0 | 7.1 | 337 | 599 | 0.444 | 0.543 | 36.03 | 2009 | 149 | 902 | 421 | 792.25 |
| China | 1,534,663 | 45,221,140 | 10.4 | 9.3 | 1,189 | 3,116 | 0.590 | 0.699 | 42.06 | 2009 | 44,241 | 280,072 | 1,549 | -795.7 |
| Lao PDR | 214 | 470 | 7.2 | 8.0 | 375 | 627 | 0.453 | 0.543 | 36.74 | 2008 | 24 | 301 | 245 | 396.67 |
| Thailand | 140,496 | 223,782 | 4.0 | 0.1 | 2,162 | 3,041 | 0.625 | 0.690 | 39.37 | 2010 | 5,067 | 7,780 | 280 | -153.1 |
| Vietnam | 39,387 | 82,653 | 7.1 | 6.0 | 494 | 942 | 0.534 | 0.617 | 35.57 | 2008 | 1,300 | 7,430 | 1,432 | 3,513.8 |

(Sources: UNDP 2013; World Bank 2013)

infrastructural development (for example, power grids, transport corridors and regional energy markets) have also intensified through cooperation in ASEAN and the Asian Development Bank's (AsDB) Greater Mekong Subregion (GMS) program. Government commitments to both the GMS and ASEAN appear strong, as exemplified by frequent summits and ministerial meetings. The two frameworks have attracted high levels of political attention, which the MRC has so far not been able to achieve.

The development spaces, national interests and development strategies of the economically stronger riparian countries figure prominently in the regional political economy of water: China has demonstrated its geopolitical, economic and hydrological hegemony in the Mekong through its unilateral development of three mainstream dams on the Upper Mekong (called the Lancang in China) (Magee 2012), and more are in the pipeline.²⁰ The existing and planned Lancang dams are the result of domestic economic growth imperatives that define China's interest in the river (Hensengerth 2009).²¹ The Lancang cascade is part of China's 'Western Development Campaign', which is meant to address income disparities between China's south-eastern growth centers and the poorer Yunnan province while increasing domestic energy security. China has an observer seat in the MRC, but although it signed a data-sharing agreement with the MRC in 2002, the Chinese government has been reluctant to cooperate and share information on its Lancang dams and development plans (interview, Vietnam's National Mekong Committee).

China has expressed very little interest in Mekong water cooperation with its Lower Mekong neighbours. Rather, it has emphasized its involvement with the AsDB-led GMS program, as it supports the economic integration of its landlocked western provinces with the Lower Mekong. Water has deliberately been excluded from the GMS program partially to facilitate Chinese participation (interview with AsDB). China's strategic interest in its fringe countries is reflected through increased development assistance and investments in Cambodia, Laos and Myanmar (Hensengerth 2009; MOFCOM 2010). Table 2 also illustrates that Chinese SOEs and development banks are involved in tributary and mainstream hydropower projects in Laos and Cambodia (see also Ministry of Energy and Mines 2008; International Rivers 2012b). This shows how China's

²⁰ In addition, the massive 4,400 MW Xiowan dam with a 292 meter-high wall has recently been completed, and the 900 MW Gongguoqiao dam is under construction. The National Development and Reform Commission's approval of China's Huaneng Group's Miaowei Hydropower Station on the Lancang River on 27 May 2013, which will generate 1,400 MW for the China Southern Power Grid, is the latest development in China (Industrial Info Resources China 2013, see Magee 2012 for an overview).

²¹ However, domestic controversies over mega-dams in China are rising and, as noted in the previous chapter, the central government has made some shifts in official policy, though this has not affected dam development on the Lancang.

development strategy, which is driven by economic and geopolitical interests, serves to expand the development spaces of the governments of Laos and Cambodia (see below).

National interests in the Mekong's water resources are somewhat more complex in the case of Thailand. Previous governments developed seven hydropower dams on tributaries during the 1990s, but perpetual civil-society protests against the Pak Mun dam effectively contracted the development space of national elites and put an end to dam building in Thailand (Foran and Manorum 2009; Hirsch 2010). However, the tension between Thai communities in the north and northeast (dependent on Mekong waters for agriculture and fisheries) and the central government continues in relation to Laos's dams. The depletion of domestic fossil-fuel reserves in the Gulf of Thailand has motivated the Thai government to pursue an energy policy focusing on the diversification of energy supply (interview with stakeholders in the region). The Electricity Generating Authority of Thailand (EGAT) has engaged neighbouring Laos and Myanmar for cheap hydro-energy to power the growing Thai economy (Greacen and Greacen 2004). EGAT has become the main customer for producers of hydropower in the region. EGAT is a key partner for the Laotian government in connection with the Xayaburi project, which is partially financed by a state-owned Thai bank (Krung Thai Bank) (Middleton, Garcia et al. 2009). Furthermore, Thai construction companies are heavily involved in Laos's hydropower expansion, creating benefits for Thailand's economic elite. Thai economic interests and energy security concerns are thus playing a key role in Laos's expanding development space by creating a market for export-driven hydropower development and by providing both public and private finance. These economic interests may at least partly explain Thailand's relatively weak commitment to transboundary cooperation under the auspices of the MRC.²²

The Thai government's collaboration with Laos on hydropower development (through EGAT) has been challenged by Thai civil society and international NGOs through public campaigns, alternative policy suggestions and legal petitions against the Thai government involvement in the Xayaburi project.²³ In spite of Thailand's widely

²² Another likely and more fundamental reason is that the Mekong isn't really of very great importance to central Thai elites, who are rather more oriented towards Thailand's central Chao Praya River Basin and the greater Bangkok area.

²³ Thai civil-society organizations, in collaboration with international NGOs, expressed strong concerns over the Xayaburi project during the PNPCA process. Subsequently, Thai NGOs supported by international partners have filed a petition challenging the state-owned Thai banks' financial support for the project, as well as the decision of EGAT to purchase power from it, and the national Human Rights Commission held a hearing on the topic (interview with NGOs in the region). Thai energy experts also produced a report that has been endorsed by more than 140 Thai civil-society organizations. The report demonstrates that electricity from Xayaburi and other Lao dams is not needed in Thailand and that growing demands could be met by alternative sources (Greacen and Greacen 2012).

respected civil rights (free speech, free media, etc.), these initiatives have so far not seriously penetrated Thailand's political and economic elite and its representation of Thai national interests in the Mekong. Nevertheless, Thai civil-society advocacy groups (e.g. Towards Ecological Recovery and Regional Alliance, TERRA), together with regional and international partners (e.g. Save the Mekong Coalition, International Rivers), present a vibrant voice of opposition to hydropower development in the Mekong region. Although the vibrancy of Thai civil society may have been affected by Thailand's strongly polarized red–yellow politics²⁴ (interviews at Chulalongkorn University, Department of Political Science, May 2013), repeated calls for transparency, accountability and social justice in relation to hydropower development continue to position Thai civil society and its regional and international partners as visible stakeholders in the Mekong.

Vietnam is home to the highly productive, densely populated and ecologically sensitive Mekong Delta. It is a critical part of the country's economic backbone. Nearly a quarter (twenty million) of the Vietnamese population derives its livelihood from the delta's natural resources. Irrigated agriculture, capture fisheries and aquaculture in the delta generate more than 50% of the country's rice, fruit and marine food products, some of which are exported to other riparian countries and global markets (Ministry of Natural Resources and Environment 2012). This makes the health of the delta crucial for national and regional food security (interview, Vietnam's National Mekong Committee).

Besides hydropower schemes on Mekong tributaries in Vietnam's central highlands, Vietnam has strong economic interests in the Mekong waters for food production and agribusiness in the delta. The food security and economic growth imperatives linked to the delta explain the official Vietnamese government's efforts to preserve the delta's natural resource base at both the domestic and transboundary levels (Government of Vietnam 2012; Ministry of Natural Resources and Environment 2012). The SEA of mainstream dams constitutes a U-turn in the Vietnamese government's treatment of upstream hydropower. The image of the Mekong as a 'Shangri-La of

²⁴ 'Red–yellow politics' refers to Thailand's two bitterly divided political camps: the red shirts and the yellow shirts. The red shirts began as supporters of former Prime Minister Thaksin Shinawatra, who was ousted by a military coup in 2006. The red shirts' support was transferred to the ruling Pheu Thai party led by his sister Yingluck Shinawatra, who is now Prime Minister of Thailand. The yellow shirts represent those opposed to Thaksin Shinawatra and the Pheu Thai party. The yellow shirts were the force behind the street protests that led to the 2006 coup. They include royalists, ultra-nationalists and the urban middle class, and are also known as the People's Alliance for Democracy (PAD). The red-shirt supporters are a mixed bag including rural workers from outside Bangkok, the electorates of the northern and northeastern parts of Thailand, students, left-wing activists and some business people (BBC Profile: Thailand's reds and yellows, July 13, 2012).

rivers' faded in the face of the negative trade-offs that were projected to affect the delta significantly (primarily through the loss of sediments necessary to sustain the delta). Combined with the felt impacts of climate change, assets of vital importance to the national economy are seen as being under threat (climate change impacts are rises in sea level, coastal erosion and saline intrusion; see Lange and Jensen 2013). This has increased Vietnam's stake in upstream developments on the Mekong and has positively influenced the Vietnamese commitment to MRC. Despite the compromise on Xayaburi, the Vietnamese government is likely to use the MRC to influence the development strategies of upstream countries in the coming years, particularly with regard to hydropower. Vietnam's recent call for riparian country governments to sign the 1997 UN Convention on Non-navigational Uses of International Watercourses also signals an interest in strengthening the legal foundations for cooperation on the river. Finally, Vietnam's unilateral study of the social and environmental consequences of upstream hydropower for the Mekong Delta (the 'Delta Study') is another expression of Vietnam's effort to secure its national interest in the river. At the same time, the Delta Study also challenges the ownership and relevance of the MRC's 'Council Study' working on a longer-term horizon (Ministry of Natural Resources and Environment 2012).

Vietnam's national development strategy makes its forceful opposition to upstream hydropower dams somewhat ambiguous: Vietnam has developed hydropower on its Mekong tributaries to near maximum, including controversial dams in the Sesan–Srepok–Sekong (3S) system that rises in the Central Highlands (Hirsch 2010). The Vietnamese government has largely neglected the negative effect of these dams on both downstream Vietnamese and Cambodian communities. Furthermore, two decades of spectacular economic growth in Vietnam has taken its toll on Vietnam's ecosystems and the environment. Urbanization and the delta's food industry are increasingly degrading the natural resource base. Impacts are being felt through depleted groundwater resources, saline intrusion,²⁵ pollution from fertilizer and pesticides, mining and deforestation. Moreover, sand extraction by Vietnamese companies on the Cambodian stretches of the Mekong mainstream is presumably influencing sediment flows to the delta.

Vietnam's own development efforts are therefore important ingredients in the cocktail of threats to the delta. The Vietnamese government's approach to the Xayaburi and

²⁵ The extent to which increasing ground water salinity in the delta is caused by climate-induced rises in sea level or overdrawing of ground water for irrigation is being discussed. Most likely both factors are playing a role.

mainstream dams in general becomes even more blurred because of the involvement of Vietnamese SOEs in hydropower projects in Cambodia and Laos (Middleton, Garcia et al. 2009; Ministry of Energy and Mines 2012). Vietnam's own energy demand even motivates power purchases from Laos and ultimately Cambodia (*ibid.*). The status of these agreements is not available to the public. However, Vietnam's increasing environmental problems have created new opportunities for its civil society to engage in national and transboundary water governance. During the Xayaburi controversy, Vietnam's otherwise tightly controlled civil society received a window of opportunity, as environmental NGOs were allowed to criticise hydropower development in Laos (and China).²⁶ When negotiations became controversial, the window closed (interview with stakeholders from the region).²⁷

The regional political economy of water is strongly influenced by the conflicting energy and food security interests of China, Thailand and Vietnam. The three countries have harnessed the Mekong's water resources to fuel domestic development, including hydropower on the mainstream and tributaries. However, the riparian states with the stronger economies have different levels of commitment to the MRC, with Vietnam being the only real champion of Mekong cooperation because of its vulnerability to upstream developments. Being a rising power in the region, Vietnam also does not refrain from unilateral action outside the MRC to advance its interests in the Mekong. China and Thailand both face strong economic incentives for hydropower investments and power purchases in neighbouring countries, as the domestic social and environmental consequences are limited. This embeds the developments in Laos and Cambodia – situated in the Mekong heartlands – in the economic and geopolitical struggle between China, Vietnam and Thailand. In the following sections on Laos and Cambodia, we discuss how this regional economic and geopolitical context increasingly defines their development space.

5.3 Laos: the hydropower Klondike

The hydropower potential in Laos is huge, amounting to an estimated 18,000 MW on the Mekong. Only a handful of larger dams have been developed so far along the tributaries, but the Laotian government wants to plug more than ninety hydropower projects into the regional electricity grid over the next twenty years (Ministry of

²⁶ The extent to which the widened space for Vietnam's environmental NGOs will extend to Vietnam's own hydropower projects in the Sesan–Sekong–Srepok tributary system of the Mekong remains to be seen.

²⁷ Vietnam is following in the footsteps of China, where environmental NGOs also have been allowed to operate for some time.

Energy and Mines 2012). According to the National Socio-Economic Development Plan, the government intends to turn Laos into a middle-income country by 2020 (Ministry of Planning and Investment 2011). The national political economy of water is largely structured around this ambition for growth. Hydropower is seen as one of the few development options available for Laos (Ministry of Energy and Mines 2008). The aim is to make Laos the ‘the battery of South East Asia’, providing energy for the growing Thai and Vietnamese economies, but extractive industries also figure prominently in the development strategy (World Bank 2010a).²⁸

Formulation of the national interest in the Mekong’s water resources is the prerogative of the ruling communist party in Laos. Civil-society organizations are virtually non-existent, and criticism of government policy is rarely tolerated. Criticism of hydropower projects is particularly sensitive, as it is vital to Laos’s economic growth strategy (interview with stakeholders from the region, Middleton, Garcia et al. 2009). In spite of the majority of the population being dependent on Mekong-related agriculture and fisheries, their voice in national political processes is weak.²⁹

Financial support from international partners is a core determinant of the Laotian government’s development space. Laos is the poorest country in the basin in terms of GDP, the smallest in terms of population and territory, and its human development index is low.³⁰ DAC donors and multilateral development banks have been heavily involved in the country since the beginning of the 1990s. In 2011, Laos received USD 397 million in ODA from traditional donors, a slight drop compared to 2001. While this constituted 5% of the gross national income and 43% of government budgets, it represents a remarkable drop in the relative importance of DAC donors’ ODA (World Bank 2013). Five years earlier, disbursements amounted to more than 100% of central government expenses and 11% of GNI.³¹ The decrease in ODA dependence is linked to strategic considerations in the NSDEP regarding the sovereign frontier: Laos’s government aims to ‘increase loans and grants from foreign countries, especially sources that offer untied and unconditional assistance’ (Ministry of Planning and Investment 2011).³²

²⁸ More than seventy potential mining concessions are currently being explored.

²⁹ As an example, the PNPFA consultations on Xayaburi in Laos primarily involved local government officials, not affected communities (see International Rivers 2011; Mekong River Commission Secretariat 2011b).

³⁰ No data on GDP in Myanmar exist, and the figure may be lower than for Laos.

³¹ ODA as a share of government budgets is not available for 2001 in the World Bank’s World Development Indicators dataset.

³² Information on eventual ODA disbursements from China, Thailand, Vietnam and other non-DAC sources has not been available for the study.

Foreign direct investment in Laos has also increased significantly. In 2011 private investment was more than twelve times higher than 2001 figures (USD 301 million). These figures most likely do not include Chinese FDI, which itself reached USD 316 million in 2010 (MOFCOM 2010). Public and private finance from Thailand, Vietnam and China increasingly flows into Laos. China recently announced a USD 7 billion concessional loan to Laos earmarked for the construction of a cross-country railway, and Chinese companies are reported to be investing in extractive industries, hydropower and agriculture in the northern part of the country (Hunt 2012, interview with stakeholders in the region).³³ Thai banks are sponsoring the USD 3.5 billion Xayaburi project, and Thai businesses are deeply involved in Laos's hydropower schemes (Ministry of Energy and Mines 2012). While Vietnamese companies also hold MoUs on hydropower development, Vietnam is focused on land and forest concessions in the southern part of Laos.

The surge in regional investments alters the national political economy of water and expands the government's development space. Capitalization of the country's natural resources has been a rather successful development strategy judging from the growth figures in the last decade. From 2007-2010 extractive industries and hydropower alone contributed 2.5% to GDP growth (World Bank 2010a). However, the World Bank has recently questioned the sustainability of this rapid economic development: 'natural resource projects are being developed too fast to qualify as carefully planned and thoroughly assessed long term investments' (ibid.).

Poor governance is a weakness in the realization of Laos's economic development strategy. There is little overall planning of hydropower and mining development, and there are no consistent criteria for project selection (interview, World Bank). Multiple DAC donors have poured money into capacity-building and establishing IWRM-inspired legal frameworks, but implementation and enforcement appear to be weak (interview with stakeholders in the region). Water and environmental authorities have backseat positions in the national administrative hierarchy and are excluded from key decisions on new investments. This is illustrated, for example, by the Ministry of Energy and Mines (MEM) calling the shots for Laos in MRC Council meetings and not the Ministry of Natural Resources and Environment (MONRE) which is responsible for water resources management.

Low accountability and a lack of transparency in decision-making are also important features of the political economy of water in Laos. The one-party state features in the

³³ This single development project amounts to 84% of Laos's 8.3 billion GDP.

lower margin of Transparency International's Corruption Perception Index, numbering 160 out of 176 countries (Transparency International 2012). Laos's economic growth strategy makes governments and corporate entities from the region important stakeholders in the national political economy of water in Laos. Decision-making on hydropower and mining concessions is not made public. It involves only the ruling elite and top bureaucrats in collusion with Chinese and other South East Asian investors and power purchasers. The rising importance of these stakeholders and their ability to influence the allocation and management of water resources represent an important alteration of the political economy of water both nationally and regionally.

According to the World Bank, the current approach to natural resources development is not necessary to achieving Laos's development goals (World Bank 2010a). Growth targets can be achieved even if less than one-sixth of the hydropower projects are realized and existing mines moderately expanded up until 2025.³⁴ The current pace of investments in natural resources may jeopardize economic growth, as the governance gap creates political, financial, social and environmental risks for the Laotian government, investors and local communities alike (ibid.). Paradoxically, the World Bank and other donor involvement in earlier hydropower projects in Laos have paved the way for the current development strategy (Middleton, Garcia et al. 2009). Laos and other riparian states have looked to the river for hydropower since the 1960s, but political conflicts in the region are effectively constraining these options (Hirsch 2010).³⁵

The initial hydropower projects on Mekong tributaries were financed by development banks and bilateral aid in the late 1980s, but when the Asian financial crisis shrank the regional power markets, western developers pulled out.³⁶ The global controversies over large-scale hydropower also infused the World Bank and AsDB's subsequent involvement in the Nam Theun 2 project with stronger social and environmental safeguards. The World Bank financed the dam in collaboration with other development and commercial banks with the aim of demonstrating sustainable hydropower and turning 'a private sector project into a development initiative' (Lawrence 2009). The Laotian government and the private developers agreed to a comprehensive process of revising legal frame-

³⁴ See World Bank 2010 for a detailed analysis of Laos's growth scenarios.

³⁵ The 155 MW Nam Gum 1 hydropower project was the only project realized under the auspices of the MRC's predecessor, the Mekong Committee. The dam was completed in 1971 with support from ten countries. It supplies power to Laos's domestic market and to Thailand.

³⁶ Smaller projects were meant for domestic energy supply owned and operated by the national energy utility *Electricité du Laos* (EdL). Larger energy export projects were developed using Build-Operate-Transfer (BOT) schemes, with the Laotian government holding equity in the project company. Concession royalties, taxes and power sale revenues would flow into government coffers and make domestic development possible.

works, stakeholder consultations, environmental safeguards, resettlement schemes and redistributive mechanisms feeding back revenues to communities (Goldman 2001). The project was inaugurated in 2010, but its sustainability in terms of social and environmental impacts remains contested. Nevertheless, the project opened up a space for further hydropower development by signalling to investors that the Laotian government could provide a stable and reliable investment climate (interview, World Bank). While the Laotian government has disengaged the development banks as direct sponsors of dams in the Mekong, the banks continue to play a key role in their development. The regional electricity grid being implemented under the GMS is crucial for the future energy market and trading system in the region, which is also being encouraged by the World Bank (Methonen 2008; Kaisti and Käkönen 2010).

Importantly, lessons from Nam Theun 2 do not seem to be guiding the implementation of new hydropower projects. Because of the closed decision-making, limited information is available regarding contracts and negotiations with investors and developers for new projects. However, the Laotian government does not appear keen

Box 5. The Xayaburi hydropower project

The Xayaburi dam is the first of nine planned dams on the Mekong River's mainstream in Laos. After much controversy in the MRC, construction officially started with a ground-breaking ceremony in November 2012.

The project site is located in the northwestern part of Laos in the Xayaburi Province 150 kilometers downstream of the former royal capital of Luang Prabang. The project is designed as a 'run of the river' dam, using the natural flow of the river for power generation. It will create a reservoir of 49 square kilometers stretching between 60 and 90 kilometers. The 820 meter wide and 48 meter high wall will have eight turbines installed with a total capacity of 1,285 MW. 95% of the power will be exported to Thailand while the remaining 5% will feed into the Laotian grid.

The Xayaburi is an excellent example of the public-private partnerships facilitated by the new development finance: the contractor for the USD 3.5 billion project is the Thai company CH Karnchang Public Company Limited through its subsidiary Xayaburi Power Company Limited. Laos's national energy utility, Electricité de Laos, holds an equity share in the project company together with other private Thai and Laotian companies. The dam is financed by four major Thai banks, including the state-owned Krung Thai Bank. The Xayaburi Power Company holds a BOT-agreement with the Laotian government giving concession ownership for 30 years. In 2011 the Xayaburi Power Company signed a power purchase agreement with Thailand's energy provider EGAT. The details of these agreements are unavailable to the public.

to enforce strong social and environmental safeguards, and its corporate and financial partners from the Mekong region do not have strong corporate social responsibility (CSR) policies (Middleton 2009; Foran, Wong et al. 2010; Hirsch 2010; Earth Rights 2012). This is particularly the case for Xayaburi (Box 5).

The controversial EIA of the Xayaburi dam provides some key lessons for developments and EIAs like it around the world and is therefore discussed in more detail in Box 6.

Laos's upstream position and the importance of hydropower for its development strategy have translated into a strong emphasis on national sovereignty in its interpretation of the MRC's governance provisions. After the Council meeting in January 2013, Mr Viraphonh Viravong, Vice-Minister for Energy and Mines in Laos, recaptured Laos's understanding of the MRC's PNPCA procedures as follows: 'After six months, all you can do is record the difference of opinion and that is the end of the process' (Chen 2013). This is a clear indication of Laos's low level of commitment to transboundary cooperation. It also highlights conflict between the mandate of the MRC agreement and Laos's national interests. Officially, Laos continues to work with the other MRC member states, and the cooperation compromise in relation to mainstream dams has been the so-called 'Council Study', which will assess the knowledge gaps left by the SEA, as well as analyse a number of additional development impacts on the river system (Mekong River Commission Secretariat 2012). Laos has strongly argued the need for a comprehensive study that includes the impact of other developments on the river (e.g. sand mining in Cambodia) and that does not focus exclusively on hydropower. While this is a valid concern, it also appears to be a strategic move, as the Council Study may take up to four years to complete and will most likely be too broad to measure properly the impacts of Lao hydropower projects in a detailed manner. In the meantime, Laos is likely to go ahead with more hydropower projects. The Xayaburi controversy has shown that Laos will not wait for more MRC studies. Rather, it will continue to utilize the development opportunities resulting from Thai, Chinese and other developments to finance mainstream hydropower in the Lower Mekong basin as a physical fact before the economic and geopolitical currents in the basin eventually shift. The most likely candidates are the Don Sahong Dam in southern Laos, two kilometres upstream of the Cambodian border, and the Pak Beng project upstream of the Xayaburi Dam. Whether or not the Laotian government will submit these projects to the PNPCA at all will be the litmus test for the MRC's future relevance in safeguarding the sustainable development of the Mekong River.

Box 6. Lessons from the Xayaburi EIA

Conducted by a Thai consultancy company, the Xayaburi EIA only examined impacts 10 km downstream. This has been widely criticized by NGOs, DAC donors and other MRC members as inadequate (Interview with stakeholders in the region, International Rivers 2011, Mekong River Commission Secretariat 2011a). Allegedly, the EIA builds on several assumptions that hide important knowledge gaps and it does not assess transboundary impacts. Of relevance is that the EIA was based on the assumption that the ‘run of the river’ design would ensure the natural flow of the river. The MRC review of the EIA found that impacts would be felt up to 200 km upstream as the dam would slow down the flow of the river, creating a reservoir and influencing sediment transport. The impacts on sediments were seen as particularly critical as knowledge on sediment transport is an important caveat in the MRC’s knowledge base (Mekong River Commission 2011, Interview with stakeholders in the region).

In contrast to the many tributary dams currently being developed, the PNPCHA notification of the Xayaburi to MRC member states in 2010 opened up a space for other riparian countries, civil society and DAC donors to comment and contest the project. The MRC’s SEA pointed to the considerable transboundary trade-offs associated with mainstream dams in the basin but this was rejected by the Laotian government. In the wake of the PNPCHA process, the Laotian Ministry of Mines and Energy contracted the Finnish consultancy company Pöyry to certify that Laos had complied with its obligations to other MRC countries in terms of the project’s human rights and environmental impacts. Pöyry’s assessment concluded that the project was ‘principally in compliance’ with MRC standards but also suggested design modifications to improve the sustainability of the project, and further impact studies (Pöyry 2011). The Laotian government reacted by hiring French company Compagnie Nationale du Rhône (CNR) to review Pöyry’s work after hearing Cambodia’s and Vietnam’s criticisms. The CNR assessment argued that the proposed changes were ‘conceptual’.

Laos persistently claims that necessary design changes (worth USD 100 million) have been made to accommodate the concerns of downstream countries. But at the time of writing the MRC Secretariat has been unable to access documentation on these modifications, in spite of the Laotian government’s promises to share the updated design with the MRC. Pöyry has subsequently been accused of violating OECD guidelines for the ethical conduct of multilateral companies, and the company’s involvement in legitimizing the Laotian government’s approach to MRC has been widely criticized by national and international constituencies (International Rivers 2012c; Fawthrop 2013).

5.4 Cambodia: facing development dilemmas

Cambodia’s violent history continues to cast shadows over its development politics. The country is still deeply scarred by the Khmer Rouge’s reign of genocide between 1975 and 1979 and the subsequent civil war between the Vietnamese-installed Hun Sen government and Khmer Rouge guerillas. While the Paris Peace Agreement in

1991 put an end to the armed conflict, Cambodia is still a post-conflict society facing the challenges of weak governance and capacity, degraded infrastructure, widespread poverty and an economy struggling its way out of collapse. Achieving political stability and breaking international isolation has been a major priority in Cambodian politics since the first democratic election was held in 1993. Cambodia has been governed by Hun Sen, former Khmer Rouge member and leader of the communist Cambodian People's Party, for 28 years. His claim to power has become associated with recurring political violence, accusations of electoral manipulation, media control, and the intimidation of civil society and political opponents. Nevertheless, in the first decade after signing the peace treaty, Cambodia was effectively reintegrated into South East Asia and the global economy (Keskinen, Mehtonen et al. 2008).³⁷

Despite these odds, Cambodia's economy has been growing rapidly during the last two decades. An annual average growth rate of 8% since 2001 makes the Cambodian economy the second fastest growing in the Mekong basin (World Bank 2013). Whereas high growth rates during the 1990s were fuelled by forestry and fisheries, now the garment industry, construction, tourism, agriculture and the embryonic mining industry are the primary drivers of development (Guimbert 2010). Cambodia's development, political stability and governance became heavily dependent on DAC donors in the early years after the peace, and disbursements continue to rise (Keskinen, Mehtonen et al. 2008). However, the USD 792 million received by the ODA in 2011 only amounted to 6.5% of gross national income and 57% of government budgets, which is a remarkable shift from the earlier strong dependence on DAC donors. Since 2007, China has pledged development assistance to Cambodia as part of the OECD package, and the USD 257 million it has disbursed made the regional hegemon the largest donor (Hensengerth 2009). The 2009 national development strategy states that 'The total external development assistance to Cambodia has registered an increase due largely to inclusion of assistance from hitherto 'non-traditional' partners' (Government of Cambodia 2009: 27). According to Oliver Hensengerth, China has been Cambodia's largest investor since 2004 (USD 466 million in 2010), and the three emerging economies in the basin are increasingly important trade partners for the poor country (Hensengerth 2009; MOFCOM 2010; IMF 2012). Since 2007 foreign private investments have been more important to the economy than ODA (World Bank 2013). The USD 901 million invested in the country in 2011 represents more than six times the

³⁷ Cambodia is a member of the GMS, the MRC, and the ASEAN. It achieved membership of the World Trade Organization in 2004.

amount invested a decade ago and, according to UNTCAD, Cambodia attracted investments 'above expectations' in 2011 (UNCTAD 2012).

As a result, the Cambodian government's development space is expanding and shifting towards public and private finance from partners in the region rather than aid from DAC countries. Together with high growth rates, this is rapidly altering Cambodia's political economy of water. However, Cambodia is now facing a dilemma when it comes to the Mekong and its tributaries.

The health of the Tonle Sap Lake, which is defined by the annual flood pulse of the river, is of key importance for Cambodia's rich freshwater fisheries (see Box 7). More than 80% of the population's protein intake comes from aquatic sources, making it a vital resource for both livelihoods and the national economy (Hortle 2007). The floodplains around Tonle Sap and the Mekong mainstream also provide fertile agricultural land for large parts of the population. However, Cambodia has energy problems, as its energy supply relies on expensive diesel and power imports from Thailand and Vietnam, with the attendant risks of energy shortages and price shocks. Enhancing energy security and rural electrification has priority in the Cambodian government's National Strategic Development Plan (NSDP) (Government of Cambodia 2009). Consequently, the Cambodian government

Box 7. The Tonle Sap Lake in Cambodia

The Tonle Sap in north-western Cambodia is Asia's largest freshwater lake. It hosts a highly productive and unique ecosystem that depends on the Mekong's annual flood pulse. During the dry season, water runs from the lake through the Tonle Sap River to the Mekong mainstream in Phnom Penh. In the wet season the water is pushed from the Mekong into the lake, making it expand from a mere 2700 sq. km. to approximately 16000 sq. km.

Tonle Sap serves as natural flood protection and reservoir for Southern Cambodia and downstream Vietnam, and is a defining element of the Mekong river basins ecology and hydrology. It is the heart of the basins aquatic production and a vital source of income for large parts of the Cambodian population.

The lake is a Wetland of International Importance under the Ramsar Convention and in 1997 it was designated an ecological hot-spot by UNESCO in 1997. The Cambodian government has created 'Tonle Sap Biosphere Reserve' to conserve the lakes biodiversity and natural resources.

More than half the country's annual fish catch derives from the Tonle Sap.

is now looking at the hydropower potential of the Cambodian stretches of the Mekong and its tributaries.

The dilemma arises from this reconfiguration of the various national interests in the river, as hydropower creates major trade-offs for fisheries. The planned Lower Se San 2 dam in the Cambodian part of the Sesan–Srepok–Sekong river system alone may cause a 9.3% drop in fish biomass in the whole Mekong basin (Ziv, Baran et al. 2012). The effect on Cambodian and regional food security would be immense, as fisheries are not easily replaced by other animal resources (Orr, Pittock et al. 2012).

Two mainstream dams have been proposed in Cambodia (Table 2). When the MRC's SEA documented the negative impacts of mainstream dams, there was strong Cambodian government and civil-society criticism of the Xayaburi project during the PNPCA process (interviews with stakeholders in the region). The increased attention being given to the negative impacts of hydropower projects also appears to have made development of the domestic dams more controversial. Cambodia's food security and energy security are at odds with each other.

As in Laos, companies from the more developed riparian countries are key partners in the Cambodian government's energy policy. Vietnamese companies are involved in hydropower projects on Mekong tributaries and have agreed a MoU on the concession to the Strung Teng dam on Cambodia's Mekong mainstream. Chinese businesses have captured most of the market and are involved in nine dams in Cambodia, including the huge Sambor dam, which is planned on the mainstream, close to the Mekong delta (International Rivers 2012a). Chinese banks are providing at least USD 1.3 billion to finance these projects, but the details of the agreements (i.e. BOT conditions, royalties, tariffs, etc.) with the Cambodian government are largely unknown to the public.³⁸

At the same time, the agricultural sector is being transformed by foreign investors in collusion with national elites. Agriculture generates 30% of Cambodia's GDP and employs 60% of the population but has not reached its full potential (Government of Cambodia 2009). The sector is underdeveloped in terms of irrigation infrastructure and rice-processing plants, and productivity is low. The government's development strategy centers on productivity increases through investments allowing for exports

³⁸ This is the minimum amount. The financial arrangement is not known or has not been finalized for several of the dams, including Sambor.

of the 'white gold' to regional and global markets. This has opened up Chinese and Vietnamese investments in large-scale land concessions and irrigation infrastructure in the floodplains around Tonle Sap, which potentially undermines the lake's ecosystem and fisheries (interview with stakeholders in the region).

Large-scale land concessions and hydropower projects have become powerful but controversial features of the political economy of water in Cambodia. Land entitlements were destroyed during the Khmer Rouge's mass deportations, which has made land rights highly insecure. Government evictions of local communities for the sake of commercial agricultural investments, urban and infrastructural developments are common (interview with stakeholders in the region). This has caused considerable social unrest, NGO protests and media attention. To some extent the highly controversial land issue overshadows civil-society attempts to contest Cambodia's domestic hydropower projects. Cambodian communities downstream of the Vietnamese Yali Falls dam have experienced negative impacts, and opposition to Cambodia's own hydropower projects on the 3S tributaries is widespread among local and international NGOs (interview with Cambodian National Mekong Committee, Hirsch 2010; Worrell 2013). The Cambodian cabinet approved the 400 MW Lower Sesan 2 dam in November 2012, and forest clearing for the reservoir has begun (International Rivers 2013c). The project company holding the USD 816 million concession is a joint venture comprising Cambodia's Royal Group and the Chinese Hydrolancang International Energy Company. Finance is provided from the company's equity and undisclosed bank loans.

The conflicts over hydropower and land concessions illustrate the tension between Cambodia's political and economic elite and the wider population. The latter bear the cost of large-scale investments in hydropower and agriculture, but they experience few immediate benefits from the associated economic growth. Cambodia is exceeded only by Thailand in terms of income inequalities and only by Laos in terms of corruption. Cambodia ranks number 157 on Transparency International's Corruption Perception Index (Transparency International 2012). In spite of Cambodia's democratic tenets, decision-making on key development projects takes place in a closed forum of political elites and investors (Cronin and Hamlin 2012). Implementation of Cambodia's social and environmental legal frameworks is weak due to low capacity and weak bureaucratic coordination, and the water authorities are only marginally important to key development decisions made in the ministries responsible for agriculture, mining, energy and industries (Hirsch and Jensen 2006; Keskinen et al. 2008). Moreover, political backing for social and environmental safeguards is weak, as illustrated by the

law on the Lower Sesan 2 concession passed by the National Assembly in February 2012: while this reduces the compensation and environmental management costs for the developer, it provides government guarantees in the event that the national energy utility, Electricité du Cambodge, fails to honor the power purchasing agreement, as well as protecting investors against ‘political force majeure’ (International Rivers 2013a). At the ground-breaking ceremony of a Chinese-built dam in Ko Kong Province, Prime Minister Hun Sen commented that ‘environmental impacts of development are inevitable...’ (Rith and Sokha 2010). Keskinen and his colleagues conclude that the political economy of water in Cambodia is pervaded by ‘problems of corruption, mismanagement of the country’s natural resources and continuous violations of human rights’, all of which remain largely unresolved politically and by government development strategies (Keskinen et al. 2008: 100).

Cambodia’s commitment to transboundary collaboration in the MRC is influenced by its development dilemmas and elite dominance of the political economy of water. At the same time, Mekong cooperation has historically been a key political priority, as it has helped Cambodia break out of international isolation and secure international aid. Most particularly, the donor-sponsored MRC programs are also a source of funds for better fisheries management, knowledge generation and capacity-building in government agencies.

As in Vietnam, the MRC-sponsored SEA of mainstream dams has made the trade-offs from extensive hydropower development in the basin visible to the Hun Sen government. Fearing the impacts on downstream fisheries, the Cambodian water authorities and civil society have been the strongest critics of Laos’s Xayaburi project and continue to argue that the PNPCA process has not yet been finalized (see e.g. Chen 2013). On the other hand, Cambodia’s energy-security imperatives threaten the very same constituencies protesting against the Xayaburi project. As the Lower Sesan 2 case shows, criticisms of Laos’s hydropower plans have not led to the shelving of domestic hydropower projects. The focus on upstream hydropower development may be used as a scapegoat by the Cambodian government. Cambodia may now proceed with the Strung Teng and Sambor mainstream dams based on the argument that the fisheries will decline no matter how Cambodian hydropower develops (Cronin and Hamlin 2012). Most likely, this will produce a strong reaction not only in domestic constituencies but also in Vietnam.

Hence, Cambodia’s development dilemma is not only domestic. The government’s development space is strongly influenced by Cambodia’s geopolitical squeeze between

the food-security interests of downstream Vietnam and the alliance of upstream countries investing in hydropower. Thailand's role as a power purchaser in Cambodia is marginal compared to its position in Laos, as Cambodia's hydropower projects are being developed primarily for domestic purposes, and the influence of China is far stronger in Cambodia than in Laos. This allows both Laos and Thailand largely to neglect Cambodian opposition to the Xayaburi project. As a case in point, the Laotian government simply ignored a letter from Cambodia's Minister for Water Resources in March 2012 asking it not to proceed with the Xayaburi dam until appropriate impact studies had been undertaken and the MRC notification procedures completed (interview with Cambodia National Mekong Committee, Ministry for Water Resources and Meteorology 2012). In spite of an expanded sovereignty frontier towards DAC donors, regional powers and investors have stepped in to define the future of Cambodia in collaboration with its government and elite.

5.5 The Mekong at the crossroads

The Xayaburi conflict has placed the Mekong's water resources high on the political agenda in South East Asia. The controversies resulting from the MRC's knowledge production and governance (the Xayaburi notification process) have made it clear to regional governments that they face strong conflicts of interest regarding shared water resources. Some of the decision-makers in the region are realizing that the Mekong's ecosystem services are not immune from the large-scale hydropower projects. However, government rhetoric and actual investments are not necessarily congruent, and riparian development strategies are widely contested by civil society where they have the space to criticise them. The combined pressure of energy security, industrialization and economic growth is rapidly eroding the traditional sources of livelihood for large parts of the population in the basin, shifting the benefits towards national elites and foreign investors, especially in the poorer riparian countries, Laos and Cambodia.

This has created a political economy of water where a complex mosaic of bilateral and multilateral cooperation between governments, public and private investors is deeply embedded in geopolitical struggles. The most dominant of these is the conflict between Vietnam and China, which is increasingly being fought in the economic territories of Laos and Cambodia. The Xayaburi project has created a cleavage between the historical 'brothers in arms' in the communist regimes of Laos and Vietnam, where the upstream position and support of Thailand has enabled the little brother, Laos, to expand its development space in relation to the big brother downstream, Vietnam. Cambodia's development space is narrower due to both its domestic dilemmas and its

unfolding conflict with Laos and Vietnam over hydropower development. Cambodia appears to be compensating for this squeezed position by building stronger economic and political ties with China.³⁹

To a large degree, DAC donors in the region have been reduced to spectators in this distributional conflict between riparian states. Recurring (diplomatic) criticism, strategic support to downstream countries (i.e. the new US-Japanese initiative, 'Friends of the Lower Mekong') and civil society have not significantly been able to influence either MRC cooperation or Laos's position on the Xayaburi dam. Increasing regionalization of both ODA and investment flows has eroded the leverage that donors previously enjoyed as key sponsors of government budgets and regional cooperation. This is raising concerns for the future role of the MRC in the basin, as riparian governments have very different levels of commitment to transboundary cooperation, which severely hampers the effectiveness of the MRC.

³⁹ The recent agreement with China on military cooperation signals stronger political ties with China.

6. The Zambezi

The Zambezi has its source at an altitude of 1,450 meters in northern Zambia and flows in and out of the country all the way down to its delta in Mozambique. Zambia has 41% of the Zambezi basin within its borders. The river journeys into southeastern Angola and briefly touches the northern parts of Namibia and Botswana, before dropping over the edge of Mosi-oa-Tunya (Victoria Falls), shared by Zambia and Zimbabwe. It then expands into the massive Lake Kariba, the foundation of the large Kariba dam built in 1958 and shortly afterwards, and pools behind the huge Cahora Bassa dam built in 1978 in Mozambique before ending in the Indian Ocean. The river is fed by thirteen major tributaries, of which the Kafue and the Shire are the largest. The Kafue runs through Zambia's Copperbelt, and the Shire links the Zambezi to Lake Malawi and the two northeastern riparian countries of Malawi and Tanzania. Climate and rainfall vary considerably between the northern and southern parts of the basin, creating a diverse hydrology with considerable seasonal and ecological variations. The Zambezi and its tributaries are an important source of livelihood for large parts of the forty million people living in the rural and urban areas of the basin. More than 85% of the basin population lives in Malawi, Zambia and Zimbabwe. The basin is rich in natural resources. Subsistence fisheries and agriculture are traditionally the main economic uses of the Zambezi waters.

The Zambezi runs through a region that is often seen as underdeveloped. However, economic growth is picking up pace in some riparian countries. The basin hosts significant mineral resources. Angola's oil has been a magnet for western and Chinese investments for decades, Botswana has a thriving diamond industry, and the mining sector has a long history in countries like Zambia. However, the past decade has witnessed a boom in foreign investment in this sector, and Mozambique is the new hot-spot for extractive industries in the basin. Aspirations for agricultural development in the basin are also huge, and very little of the basin's arable land is irrigated. Based on government plans, a World Bank scenario from 2010 estimated that the irrigated area could increase by nearly 800% from the meager 259,000 hectares currently developed (World Bank 2010b). As 50 to 80% of the basin population lives in rural areas, expansion of irrigated agriculture will significantly affect their livelihoods and could even slow the high rates of urbanization in riparian countries.

Industrialization and urbanization claim energy in a region relying on the 5,000 MW generated from a few large hydropower schemes and power imports from South Africa.



Governments plan to develop eleven new hydropower projects on the mainstream and tributaries to increase energy security.

The increasing influx of companies and SOEs from Brazil, China and South Africa⁴⁰ is a defining characteristic of the shifting development context of the basin. The new development partners are challenging the historical role of western TNCs and DAC donors. While the ice was broken over mainstream hydropower dams more than fifty years ago, the ambitious nexus development plans of riparian governments, particularly hydropower in Zambia and Mozambique, could lead to hydro-political conflicts, as Zambezi water resources are likely to come under pressure if these plans are realized. Political leadership in the basin countries largely perceives the Zambezi to be an unlimited resource. This perception is supported by a recent World Bank study, which concluded that the 'Zambezi River Basin and its rich resources present ample opportunities for sustainable, cooperative investment in hydropower and irrigated agriculture' (World Bank 2010b). The spotlight, however, is now on the recently established Zambezi Watercourse Commission (ZAMCOM) and its ability to foster riparian commitment to transboundary cooperation.

6.1 A brief history of cooperation and conflict in the basin

For the Zambezi countries, the 1990s marked a shift towards democracy, the withdrawal of Cold War powers, improved relations with South Africa and increasing cooperation under the umbrella of the SADC.⁴¹ The transition from colonial rule to independence started with Tanzania in 1961 and ended when South Africa relinquished control of Namibia in 1990, before finally becoming a fully-fledged democracy itself in 1994. Post-colonial development has been quite different in the eight Zambezi countries, influenced by the geopolitical dynamics of the Cold War and conflicts with the South African apartheid state. South Africa destabilized the region through its support of factions in the civil wars in Angola and Mozambique that ravaged these countries for decades, ending only in 1992 and 2002 respectively. Malawi and Zambia turned into relatively stable single-party states after independ-

⁴⁰ South African involvement in the region is not new (for example, South Africa plays a part in the operation of the Cahora Bassa hydropower dam in Mozambique). The trajectory of South African investments in the region is somewhat different from those made more recently by the other BRICS. In Mozambique there is likely to be a competitive element, with increasing investments from China and Brazil.

⁴¹ The Southern African Development Coordination Conference (SADCC) was formed in 1980 to curb South Africa's political and economic dominance in the region and generate regional development. The organization was turned into the Southern African Development Community (SADC) during reforms in the 1990s when post-apartheid Namibia and South Africa joined.

ence in 1964, followed by transitions to multi-party democracy in the early 1990s. Zimbabwe is the most developed riparian country in the Zambezi Basin in terms of water resources, and commercial farmers originally drove this development. The conflicts over land reforms, the eviction of white farmers and political repression has thrown the country into turmoil and given it a low international standing during the last decade.⁴² The only countries experiencing direct and peaceful transformation into stable democracies have been Tanzania and Botswana, but with quite different trajectories in terms of economic development (see Table 4 below).

The first attempt to foster water cooperation between Zambezi countries was through the Zambezi Action Plan (ZACPLAN) in the mid-1980s under the auspices of UNEP and other international development institutions (Nakayama 1998). It included five of the eight Zambezi countries (Botswana, Tanzania, Mozambique, Zambia and Zimbabwe). Funded by the Nordic countries during the 1990s, ZACPLAN supported cooperation on environmental issues and water management. The success of ZACPLAN in terms of both implementation and its environmental consequences is contested, but it was instrumental in the establishment of the SADC Protocol on Shared Water Courses in 1995 and its revision in 2000 (SADC 2000). The Protocol is based on established principles of international water law, that is, the Helsinki Rules, the Dublin Principles and the UN Convention on the Law of Non-Navigational Uses of International Watercourses. It came into force in 2003 when it was ratified by two-thirds of the SADC member states. One of the key functions of the Protocol was to guide the establishment of river basin organizations (RBOs) in southern Africa's fourteen international river basins (basins shared by two or more countries). With donor assistance, the SADC Water Division has been instrumental in building the capacity of RBOs in the region based on many of the principles of IWRM.

Negotiations over the establishment of ZAMCOM were initiated in the late 1980s, but the ZAMCOM agreement was first signed in 2004 after the ratification of the SADC Water Protocol (ZAMCOM 2004). However, some riparian states continue to be reluctant to ratify the agreement. It came into force only recently, in 2011, when six of the eight riparian states ratified the agreement, excluding Zambia and Malawi. Like the MRC, ZAMCOM is mandated to facilitate sustainable development and efficient water management in the basin in order 'to promote the equitable and reasonable utilization of the water resources' (ibid.) and to develop a holistic strategic

⁴² This has affected water resources significantly as Chinese investments in Zimbabwe's agriculture have increased water demand once again. Moreover, once the country stabilises, the corresponding increase in land-owners in Zimbabwe will also have a huge impact on water demand.

plan for the Zambezi. It establishes a three-tier governance structure with a technical Secretariat (ZAMCOMS) responsible for building capacity and decision-making support to the Technical Committee (ZAMTECH) and the Council of Ministers. The agreement is fostered in the SADC's 'spirit of brotherhood', a reference to common development challenges in the region. Consensus-building underpins the expectations of the ZAMCOM decision-making process. However, the ZAMCOM agreement is far more explicit in its governance provisions than the equivalent MRC agreement. Firstly, notification procedures are described directly in the agreement, providing a stronger – albeit still 'soft' – legal foundation for transboundary consultations. Secondly, it positions the ZAMCOM Secretariat as a conflict mediator mandated to evaluate the transboundary effects of proposed development projects and to facilitate negotiations on compromise or compensation. Thirdly, it prescribes the involvement of the public and affected communities in decision-making on shared water resources by member states. ZAMCOM was nested in the SADC framework because the SADC Tribunal was a recourse mechanism for it. However, the Tribunal was suspended in 2010, thus removing this recourse mechanism for external mediation.⁴³ The SADC Water Protocol still provides an umbrella for cooperation on the river, effectively adding a fourth tier of governance to the ZAMCOM agreement.

Being relatively newly established, ZAMCOM has yet to be put to the same litmus test as the MRC, and the ZAMCOM Agreement's ability to facilitate cooperation remains to be demonstrated. However, the difficulties in getting all countries to the agreement table suggest disparities in commitment to ZAMCOM. The recent turnaround in the Zambian government's ZAMCOM policy signals that the Zambezi could avoid some of the challenges of unilateral upstream development and non-cooperation created by China in the Mekong (ZAMCOM 2013). With Zambia a party to ZAMCOM, the soft-law governance framework will cover a far larger share of the river basin. This represents a significant change in the political economy of water in the basin, although it may take some time for ZAMCOM to 'get its house in order'. The recent decision to place the ZAMCOM Secretariat in Zimbabwe's capital Harare is a first step in that direction.

It is important to note that the absence (until recently) of a functional basin-wide cooperation framework in the Zambezi has not implied the absence of water coop-

⁴³ The Tribunal was abolished due to several verdicts it issued against Zimbabwe. The 2012 SADC Summit resolved that a new Tribunal should be negotiated and that its mandate should be confined to interpretation of the 4 and Protocols relating to disputes between Member States. See <http://www.sadc.int/about-sadc/sadc-institutions/tribun/>. Namibia is the only Zambezi riparian state that has not ratified the SADC Water Protocol.

eration in the basin. There are a number of bilateral water commissions in the basin, and South Africa is also involved in bilateral collaborative arrangements with some Zambezi states. The Zambezi River Authority (ZRA), uniting Zambia and Zimbabwe in the management of the Kariba dam, has been an important institutional feature of transboundary water governance in the basin since the late 1980s. South Africa continues to be an important player in the Zambezi basin, not least through its huge demand for energy.

Finally, the development strategies of Zambezi states remain unchallenged by a wider basin development perspective. There is a considerable knowledge caveat on the Zambezi, which may conceal potential upstream–downstream conflicts. With development investments roaring ahead in riparian countries, ZAMCOM faces huge challenges.

6.2 The regional political economy of water

‘Southern Africa is subject to a political economy of underdevelopment creating a primordial cleavage between the “have and have not’s” (Swatuk 2008), as national elites have a firm grip on power in the riparian countries, despite the presence of democratic constitutions. Most Zambezi countries are not in a position to finance development strategies through government budgets. Contrary to the Mekong, the regional political economy features a fairly equal ‘playing field’ marked by low levels of human and economic development and high levels of inequality (Table 4). However, mid-income Botswana and Namibia are exceptions, both with HDI indexes that rival South Africa’s, while the poorer Angola, Mozambique, Tanzania and Zambia have had growth rates above the average 5% for low-income countries during the last decade (UNDP 2013). Political conflicts in Zimbabwe have crippled the economy since 2000, but since the political compromise in 2009, growth rates have been the highest in the basin. During the last twenty years, the SADC has risen to become the main cooperative framework in the region. Apart from the establishment of cooperation on international rivers through RBOs, the SADC has fostered regional economic integration through, for example, free trade zones, the Southern African Power Pool (SAPP) and the various development corridors under establishment in the region, such as the three development corridors in Mozambique. The SADC is also an important hub for donor funds for regional development projects in southern Africa. The SADC enjoys considerable political attention and commitment, and has demonstrated its considerable convening power through regular summits and ministerial meetings. Importantly, it also includes South Africa.

Table 4. Development indicators for the Zambezi countries 2001-2011

| Variable | GDP | | GDP growth | | GNI/capita | | HDI | | Gini-coefficient | | Foreign direct investments, net inflows | | Official development assistance (DAC) | | | |
|--------------|-----------------------------|---------|------------|-----------------|-----------------------------|-------|-------|-------------|------------------|-------|---|-------|---------------------------------------|---------------------|-------|-------|
| | Constant (2005) USD million | 2001 | 2011 | Percentage (%) | Constant (2005) USD million | 2001 | 2011 | Index Value | 2001 | 2011 | Current USD million | 2001 | 2011 | Current USD million | 2001 | 2011 |
| Year | | 2001 | 2011 | Average 2001-11 | | 2001 | 2011 | 2002 | 2012 | Value | Year | 2001 | 2011 | 2001 | 2011 | 2011 |
| Angola | 18,154 | 52,345 | | 10.7 | | N/A | N/A | 0.375 | 0.508 | 42.66 | 2009 | 2,145 | -3,024 | 283 | 200 | 200 |
| Botswana | 8,218 | 13,098 | | 4.8 | | 4,502 | N/A | 0.587 | 0.634 | N/A | N/A | -70 | 414 | 29 | 126 | 126 |
| Malawi | 2,381 | 4,043 | | 4.5 | | N/A | 255 | 0.352 | 0.418 | 43.91 | 2010 | 19 | 92 | 409 | 798 | 798 |
| Mozambique | 4,824 | 9,796 | | 7.8 | | 237 | 392 | 0.247 | 0.327 | 45.66 | 2008 | 255 | 2,079 | 961 | 2,047 | 2,047 |
| Namibia | 5,775 | 9,315 | | 4.6 | | 2,991 | 4,248 | 0.564 | 0.608 | 63.9 | 2004 | 36 | 969 | 112 | 285 | 285 |
| South Africa | 210,302 | 299,676 | | 3.5 | | 4,538 | 5,781 | 0.622 | 0.629 | 63.14 | 2009 | 7,270 | 5,889 | 425 | 1,274 | 1,274 |
| Tanzania | 10,664 | 20,992 | | 6.9 | | 311 | 461 | 0.369 | 0.476 | 37.6 | 2007 | 389 | 1,095 | 1,274 | 2,445 | 2,445 |
| Zambia | 5,952 | 10,470 | | 5.7 | | 575 | 713 | 0.376 | 0.448 | 57.5 | 2010 | 145 | 1,982 | 571 | 1,073 | 1,073 |
| Zimbabwe | 8,569 | 5,600 | | -3.3 | | N/A | N/A | 0.376 | 0.397 | N/A | N/A | 4 | 387 | 161 | 718 | 718 |

(Source: UNDP 2013; World Bank 2013)

South Africa has considerable political, economic and water footprints in the region. In 2011, South Africa's GDP was more than twice that of all the eight Zambezi countries put together. South Africa is an important trade partner for Zambezi countries, far more important than their immediate neighbors. Trade relations with South Africa include water, agriculture and energy (IMF 2012). South Africa's post-apartheid government has encouraged investments in the region (Hentz 2005). In 2000, 85% of FDI to the other SADC countries came from South African companies.

South Africa has 10% of the region's water resources and one third of the region's population but consumes 80% of southern Africa's water, making inter-basin transfers an important feature of the water security of regional powers (Furlong 2006). While this does not affect the Zambezi directly, water demand scenarios for South Africa show increasing water scarcity, not least due to water demands from its fast-growing urban and industrial centers (interview with South African consulting companies and South Africa's Department of Water Affairs). This creates a strong South African interest in the water resources of neighboring countries, particularly water-rich Lesotho and Mozambique. South Africa's water-security strategy not only relies on the better management of domestic water resources, but also on increasing supply through direct transfers from Lesotho and virtual water transfers from other river basins. Virtual water transfers include both investments in land concessions and imports of agricultural products from Zambezi countries.⁴⁴ While there is a chronic regional power shortage, South Africa is the only real power market in the region, and its energy requirements are continuously growing. As highlighted in recent years, and notably in South Africa's energy crisis, continuity of energy supply is at risk. South Africa is by far the largest energy consumer and producer (Economic Consulting Agents 2009). It exports thermal power to most of its neighboring countries and imports hydropower from the northern parts of the region. South Africa's national energy utility Eskom operates most of the SAPP network, except in Zimbabwe, Zambia, the DRC and northern Mozambique. Eskom has a direct stake in the Zambezi through the PPA on the Cahora Bassa and most likely will also benefit from the planned Mphanda Nkuwa dam, both in Mozambique (see Table 5 and Box 8). South Africa looks as far north as the Congo River to secure electricity supply from the 3,500 MW Inga 3 hydropower project (International Rivers 2013b).

As a demonstration of South Africa's important regional position, countries in the region agreed to deliver power to South Africa for the illumination of the stadiums

⁴⁴ In the wake of the post-apartheid land reforms, white South African farmers have begun migrating to other African countries, including the Zambezi basin countries, where access to land is easier.

during the World Cup in 2010 by taking non-vital blocks off the grid, although SADC solidarity may also have played an important role here. Despite integration into the SADC after apartheid, South Africa's role in the region remains controversial. South Africa's cooperation in the SADC is sometimes referred to as 'dominance disguised as cooperation', providing legitimacy to South Africa's projection of power in the region. However, South Africa is somewhat constrained by its domestic political economy that conditions it toward being a 'benevolent regional hegemon' (Hentz 2005). This is also illustrated by South Africa's ODA to the region, which, although insignificant compared to that of DAC donors, focuses on regional stability and economic development, as well as sharing experiences of democratization and post-conflict resolution (see Table 1 and Kragelund 2011).

The Kariba and the Cahora Bassa hydropower schemes are important for the regional political economy of water. Plans for these projects were hatched by British and Portuguese colonial administrations, and planning for the Kariba dam began in 1946. The purpose of the dam was to provide electricity to the Northern Rhodesian Copperbelt (Zambia) and the urban industrial centers of Southern Rhodesia (Zimbabwe). Construction of the Cahora Bassa dam was initiated in the late 1960s in the Portuguese province of Mozambique, and today a considerable proportion of the energy the dam generates is sold to augment South Africa's energy generation capacity. Since these large hydropower dams have been an infrastructure and governance reality on the Zambezi for decades, mainstream dams are somewhat less controversial on the Zambezi than on the Mekong. The river has had its flow regulated (e.g. less minimum and maximum variation) downstream of Kariba for more than fifty years. The large reservoirs of both dams are now considered 'ecological facts on the ground' that are well integrated into the economies of Zambia, Zimbabwe, Mozambique and South Africa (through the PPA on Cahora Bassa). It is noteworthy that these two important dams are among a substantial network of water storage facilities, particularly in Zimbabwe and South Africa, supporting most of the irrigation infrastructure that does exist in the region.⁴⁵

The Zambezi has three UNESCO World Heritage Sites protected by the World Heritage Convention, most notably the Victoria Falls in Zambia and Zimbabwe, and five Ramsar sites protected by the Convention on Wetlands of International

⁴⁵ Water storage dams for irrigation of different sizes are a common phenomenon in South Africa and Zimbabwe. There are hundreds if not thousands of smaller dams supporting irrigation in these two countries. The historical success of white farmers and agriculture in South Africa and Zimbabwe is closely linked to the prevalence of water storage and dams.

Importance, including the Zambezi delta.⁴⁶ The sites are important for tourism, which is gaining importance for the national economies. UN organizations, international and national NGOs and sometimes DAC donors constitute a group of 'eco-centric' stakeholders in the Zambezi focusing on environmental conservation (Swatuk 2008). This makes the impacts of development interventions on biodiversity and fragile ecosystems controversial, and some iconic heritage sites are considered untouchable, such as the Victoria Falls.

Table 5 lists the current hydropower plans and refurbishments of existing projects occupying the desks of riparian governments. These will nearly double the number of dams and amount of installed capacity in the river system. The most significant projects are in Zambia, Zimbabwe, Malawi and Mozambique, including the two mainstream dams at Batoka Gorge and Mphanda Nkuwa (see the next sections). The global shifts in the development context have been important for opening up new development spaces for riparian countries: Chinese SOEs and development banks are strongly involved these projects, and in some cases Russian, Indian, Brazilian and South African investors are also partners for national governments. As in the Mekong, the role of bilateral donors, the World Bank and development banks as direct sponsors of hydropower projects is balanced by alternative sources of development finance. However, they continue to be involved in some projects, and the World Bank operates as an investment facilitator through the 'Cooperation in International Waters' (CIWA) program. The World Bank also sponsors national and regional electricity grids (interview, World Bank; Musaba 2010).

At the same time, some riparian countries are experiencing large influxes of foreign investment in the energy-intensive mining industry, much of which is located within the Zambezi basin, primarily in the 'Copperbelt' in the Kafue sub-basin in Zambia and the coal mining-intensive Tete province in Mozambique. Expansion of investment in the mining industry leaves significant water footprints, especially in terms of negative impacts on water quality. Foreign investments in new discoveries of fossil fuels in Lake Malawi also figure on the agenda of the Tanzanian and Malawian governments, with equally strong social and environmental concerns, as fisheries in the lake are important (Curnow and Eastwood 2012). Southern Africa's extractive industries have historically been dominated by western TNCs with a dubious track

⁴⁶ Mana Pools National Park, Sapi and Chewore Safari Areas in Zimbabwe, and Lake Malawi National Park in Malawi, an evolutionary fish hot-spot, are designated as World Heritage Sites. The Marrromeu Complex in the Zambezi delta in Mozambique and the Kafue Flats, Lukanga Swamps, Luangwa Floodplains and Zambezi Floodplains in Zambia are Ramsar sites.

record in terms of social and environmental responsibility. But western TNCs now face competition from SOEs from the BRICS and from those TNCs that are deeply involved in the current surge in mining investments (Alden and Davies 2006; Haglund 2008; Brautigam 2009).

Increasing investments in large-scale land concessions from both Western multinationals and BRICS are responsible for the pace of agricultural development in the basin. Aspirations for productivity increases in the agricultural sector are huge in most riparian states, including in the dry states of Botswana and Namibia, and these aspirations look to the Zambezi for inter-basin water transfers (IBT) to urban centers. Likewise, Zimbabwe has started construction of the Gwayi-Shangani Dam on tributaries as the first phase of the USD 1.2 billion Matabeleland Zambezi Water Project funded by China's Exim Bank to transport water from the Zambezi and end the perennial water shortages of Zimbabwe's second city of Bulawayo and elsewhere in Matabeleland (Mukarati 2013).

The investment plans of riparian governments clearly demonstrate that the Zambezi waters are an important input for national development plans aimed at achieving food, energy and water security through foreign investments. These development ambitions are not entirely new. Governments who were highly dependent on ODA and investments from DAC economies now see their development space expanding as investors from China and the other BRICS countries provide additional development finance along with South Africa, a long-standing development financier in the region. The associated surge in large-scale investments across the nexus sectors in the basin has the potential to significantly alter the regional political economy of water. Over the next decade it is likely to establish important water infrastructure, generate contractual obligations and bring large (corporate) water users into the basin. This development is a challenge for the embryonic ZAMCOM and for national governments, as it will significantly affect basin livelihoods and ecosystems. In coping with the economic transformation of productive sectors in the basin, balancing transboundary and national interests in the basin will not be an easy task.

In the following chapters we hone in on the national political economies of water and the commitment to transboundary cooperation in the Zambezi's heartland. Here, Zambia and Mozambique are part of a political landscape in the basin marked by unilateral development decisions and latent conflicts.

Table 5. Planned hydropower dams on the Zambezi and tributaries

| Country | Project | River | Power (MW) | Project Cost (USD million) | Developer | Financiers | Market |
|------------------|-------------------------|-----------------------------------|------------|----------------------------|---|---|--------------------------------------|
| Malawi | Kapichira II | Shire River | 64 | 58 | China Gzuba | China Exim Bank | Malawi |
| Malawi | Kholombidzo | Shire River | 240 | 312 | N/A | Feasibility study sponsored by AfDB | Malawi |
| Malawi | Lower Fufu | S. Ruhuru | 100 | N/A | N/A | N/A | Malawi |
| Malawi | Tedzani I & 2 | Shire River | 40 | N/A | N/A | N/A | Malawi |
| Malawi, Tanzania | Songwe I, II and III | Songwe River | 340 | N/A | N/A | N/A | Malawi/Tanzania |
| Mozambique | Mphanda Nkuwa | Zambezi River | 1,500 | 2,000 | EDM (Moz), Easytech (Moz), Camarco (Brazil) | Standard Bank (SA), Development Bank of South Africa, Brazil Development Bank, EU Investment Bank (not finalized) | Mozambique (10%), South Africa (85%) |
| Mozambique | Cahora Bassa North Bank | Zambezi River | 850 | N/A | Hidroeléctrica de Cahora Bassa | N/A | N/A |
| Mozambique | Lupata | Zambezi River | 600 | N/A | N/A | N/A | N/A |
| Mozambique | Boroma | Zambezi River | 200 | N/A | N/A | N/A | N/A |
| Tanzania | Rumakali | Rumakali | 222 | 700 | Zarubezhstroy Corporation (Russia) | N/A | Tanzania |
| Zambia | Kafue Upper Gorge | Kafue River | 150 | N/A | N/A | N/A | Zambia |
| Zambia | Kafue Lower Gorge | Kafue River | 750 | 2,000 | SinoZam | Zesco, Sinohydro China Development Bank | Zambia |
| Zambia | Irezhi-Tezhi | Kafue River | 120 | 240 | ZESCO Tata Africa Holdings (India) | European Development Bank, AfDB, South African Development Bank (not finalized) | Zambia |
| Zambia | Lumangwe Falls | Kalung-wishi River | 210 | N/A | ZESCO; unnamed Chinese firm | N/A | Zambia |
| Zambia | Batoka Gorge | Zambezi River | 1,600 | 5,000 | N/A | N/A | Zambia |
| Zambia | Kariba North Bank | Zambezi River | 120 | 430 | ZESCO | China Exim Bank (85%), Development Bank of Southern Africa (15%) | Zambia |
| Zimbabwe | Gwayi-Shangani Dam | Gwayi-Shangani Rivers (diversion) | N/A | 1,200 | China International Water and Electric | China Exim Bank | N/A |
| Zimbabwe | Kariba South Bank | Zambezi River | 300 | | ZESA | China Exim Bank | Zimbabwe |

Source: (World Bank 2010b; EDM 2012; International Rivers 2012a; Interview with Hidroeléctrica de Mphanda Nkuwa and EDM, Mozambique, Ministry of Mines, Energy and Water, Zambia)

6.3 Zambia: a hydro-hegemon on the rise?

The sense of ownership of the Zambezi is strong in Zambian politics. Zambia covers nearly half the basin and hosts more than 60% of its population and 75% of Zambian territory lies within the river's catchments (World Bank 2010b; 2013). This includes the Kafue sub-basin, which contributes nearly 10% of annual discharge and is the only tributary that does not cross an international boundary. The Kafue basin is vital to the Zambian economy, not so much through its water as through the mineral resources of the Copperbelt. The mining industry occupies a strong position in the Zambian political economy of water, with a legacy that dates back to the colonial period. While the then government-owned sector was in peril by the end of the 1990s, privatization and rising copper prices have recently rejuvenated the industry. Zambia is now Africa's largest copper producer, and the contribution of extractive industries to GDP has more than doubled during the last decade (African Development Bank 2012). Copper exports, primarily to Switzerland, China and South Africa, accounted for more than half the country's exports in 2009. The industry's water footprint is significant both directly in terms of water abstractions for production and indirectly in terms of polluted wastewater. Water quality is potentially one of the biggest issues along the Zambezi, especially the poor water quality resulting from poor regulations and illegal mining. The energy-hungry mines consume at least 60% of the power generated in the country, and as the industry expands, so does the demand for power (interview, Ministry for Mines, Energy, and Water Development, November 2012). Additionally, more than 80% of the population is not on the electricity grid, and Zambia's existing energy supply infrastructure, which is 99% hydropower and primarily linked to the Kariba dam, is insufficient to meet current energy demand (Economic Consulting Agents 2009; World Bank 2013). This makes Zambia dependent on imported power from South Africa in critical situations, and there are examples of mining companies investing in local small-scale hydropower to secure their own power supplies. Domestic energy security imperatives are thus making increased hydropower development on the Zambezi River the key to the Zambian government's development strategy.

The poor performance of the Zambian economy has constituted a barrier to the government's ambitions, and over the last two decades Zambia has been seen as 'an emblematic case of a country dominated by its donors' (Fraser 2008: 299). This is rapidly changing: in 2001, DAC donors' ODA constituted nearly 100% of government budgets and 16% of GNI (World Bank 2013), but since the successful privatization of the mining industry the country has regained investor confidence, and the overarching growth strategy has sought to capitalize on the country's rich natural resources through foreign investments. Along with the growing mining industry, long-term land

concessions to agricultural TNCs and investors from the BRICS are increasingly being granted by the government, which is planning to increase irrigated agriculture by 82% in the coming years (World Bank 2010b). In 2011, FDI to the country nearly equaled the USD 2 billion in ODA disbursed by the DAC donors, which is more than thirteen times the 2001 FDI figure, and while absolute ODA levels more than doubled during this period, they now only amount to 33% of government budgets and half the FDI value. The strategy appears to have been moderately successful, as Zambian growth rates have been among the highest of the countries in the Zambezi basin. Zambia's recent National Development Plans (fifth and sixth in particular) demonstrate this country's vision in growing its economy.

China provides a substantial proportion of the development finance going to the Zambian government. Cooperation between the two countries dates back to 1965, when Zambia was one of the first African countries to establish diplomatic relations with China (Haglund 2008). A few years later, the Chinese government provided more than USD 450 million in loans to Zambia, earmarked for the construction of the then geopolitically important TAZARA Railway linking Zambia to Tanzania's capital, Dar-es-Salaam, and the Indian Ocean (Chileshe 2010).⁴⁷ Up until 2006, Chinese aid to the country was estimated at a modest USD 372 million (*ibid.*). However, since then there has been a significant shift in Chinese involvement. While it is difficult to assess the exact amount of Chinese development finance or to draw clear lines between ODA disbursements and investments, Chinese development agencies, companies and the Exim Bank have become important partners for the Zambian government. Chinese money has financed the construction of hospitals, rural schools and the Ndola sports stadium, as well as scholarships for Zambian students (*ibid.*). Zambia has been the number one Chinese investment magnet in the Zambezi basin for several years (MOFCOM 2010). In 2009, Chinese FDI in the country rose to USD 1 billion, making the emerging economy the largest investor in Zambia (Chileshe 2010). Chinese 'special economic zones' around Lusaka and in the Copperbelt allow Chinese businesses to operate under favorable conditions (e.g. tax exemptions), and the Chambishi industrial zone initiative alone involves a USD 800 million investment from the Exim Bank, starting in 2003 (interview with WWF consultant, Lusaka, November 2012, Haglund 2008). Table 5 above shows the significance of Chinese development finance and know-how for hydropower development.

⁴⁷ The TAZARA railway was meant to ease landlocked Zambia's dependence on Rhodesia and South Africa, which were ruled by white minority governments. The railway was constructed between 1970 and 1976.

Chinese and South African development banks and hydropower developers from India and China have been instrumental in breaking the financing deadlock in the energy sector. In 2010, the Chinese Exim Bank and the Development Bank of South Africa (DBSA) agreed to finance the Kariba North Extension, which will also be developed by Sinohydro (Kragelund, forthcoming). The next year, ZESCO, Sinohydro and the China–Africa Development Fund signed a USD 2 billion contract on the Kafue Lower Gorge that circumvented the initial cooperation with the IFC on the feasibility study (interview, World Bank). The multilateral development banks continue to be involved in the project development and financing of new projects – for example, the European Development Bank in the minor Itezue-Tezue dam and possibly AfDB in the USD 5 billion mainstream dam at the Batoka Gorge – but they face strong competition from BRICS development banks (Namutowe 2013).

Through collaboration, especially with China and private investors, changing Zambian governments have experienced a considerable expansion of the development space.⁴⁸ The sense of empowerment and the shift in the sovereign frontier was clearly expressed by the former President Rupiah Banda in 2010: ‘if somebody is fed up with us, they should pack their bags and go’, a reference to DAC donors’ interference in Zambia’s internal affairs (Kragelund, forthcoming). There appears to be an outspoken sentiment in the Zambian government and among DAC donors that the sun is setting over decades of western aid dependency in Zambia.

Nevertheless, the modalities of the new development finance are having repercussions on the political economy of development in the country. Agreements on hydropower projects and other large natural resource concessions are typically negotiated in opaque circles involving only high-level politicians and bureaucrats from key ministries. Where Chinese development finance is involved, agreements are confidential by default, public scrutiny is at a minimum, and even parliament and government institutions may not receive information until disbursements are made (*ibid.*; see also Chileshe 2010). The country ranks among the better ones in terms of corruption in the basin (number 88 on the CPI in Transparency International 2012), but important caveats in terms of transparency obviously remain (see also Transparency International Zambia 2012). Furthermore, Zambia’s political economy of water puts the formal water authorities in the lower echelons of the administrative hierarchy and often outside decision-making on water-related developments (interview, Ministry for Mines, Energy and Water Development). It would appear that Zambia’s Ministry of Mines, Energy and Water

⁴⁸ According to P. Kragelund and G. Hampwaye, India is also an important partner for the Zambian government; see Kragelund and Hampwaye (forthcoming).

has been established to ensure coordination and increase administrative capacity in developing the country's natural resources. However, the mining and energy divisions are the 'big brothers' in the ministry, with larger budgets, important contributions to the national economy and the support of politicians and their partners in the private sector. Decentralization has weakened the position of the water authorities at the national level. Problems of mandates also influence the strength of the water division. The Ministry of Agriculture, in dialogue with local administrations and local chiefs, handles the land concessions (interview, Ministry for Land and Natural Resources, Lusaka, 2012). Until recently, the National Water Board had no authority to regulate water abstractions from the Zambezi mainstream or the Western Province, and groundwater has also been outside its mandate. A full overview of the important mining industry's total water footprint on the Zambia's water resources does not exist. Although some civil society and media attention is being given to the environmental damage being caused by the mining industry, the industry appears to have fairly free rein in its operations, and its compliance with Zambia's environmental legislation remains questionable. In reality, Zambia's water authorities do not have the full picture of water abstractions, and as one official exclaimed, 'if you can't measure it, you can't manage it' (interview, Ministry for Mines, Energy and Water Development). The new water law, approved in 2011, is designed to reduce some of these problems. Although Zambia has also established a water authority with significant powers under the water law, its capacity to implement the grand ambitions set out in the law, including the IWRM approach, remains weak, not least due to the low political priority it has received from the government leadership (Government of Zambia 2011).

The large-scale natural resource concessions are central to Zambia's development strategy, as they facilitate investments and spell out the distribution of future costs, risks and benefits between the Zambian government and investors in the long term. They are important and controversial forces in Zambia's political economy of water. The mining industry's contribution to the national economy, the engagement of Chinese investors and some of the hydropower projects have been debated in Zambian electoral campaigns and media. However, the windfall tax controversy over the mining industry's increasing profits and limited contribution to the Zambian economy is the best example of the strength of foreign investors in Zambia (Box 7). The TNC's successful campaign against the current president (2011) Michael Sata's electoral promise to reinstate the tax illustrates their privileged position, which encompasses contractually protected rights, access to high-level decision-makers and not least the fear of losing investor confidence in the Zambian government. Consequently, the interests of the mining industry continue to prevail in the face of civil-society cam-

Box 8. The Zambian Windfall Tax controversy

Former Zambian president, Frederick Chiluba, privatized Zambia's dysfunctional mining industry by the end of the 90s when copper prices were low. Critics argue that the process was ill-managed and the TNCs negotiated very favorable contracts, which later resulted in corruption charges against Chiluba.

Global copper prices have quadrupled since the foreign mining companies took over but the Zambian government's revenues have been limited. Chiluba's successor, Levy Mwanawasa, introduced a 25% 'Windfall Tax' on the mining industry in 2007 to be activated when global prices reached a certain level. However, the government later decided to cancel the tax after heavy lobbying, mine closures and lay-offs by mining companies in the wake of the global financial crisis.

The Windfall Tax was a major theme in the 2011 elections, where Michael Sata from the winning Patriotic Front became popular by promising to enforce the tax. No later than six months after taking office, the new Minister of Finance claimed that supporters of this tax were 'lunatics' and held that 'we don't want to tax the mines out of business' (Chanda 2012). The Windfall Tax has been strongly debated by the Zambian public, and championed by miner unions and civil society who now push the agenda. Proponents argue that '... it is an injustice for the Zambian government to only collect USD 77.6 million from copper exports valued at USD 2.9 billion' (Kaunda & Sinyangwe 2010). Critics, including the government, claim that the tax will overburden the mining companies, dishonor concession agreements, and eventually scare away new investors.

The mining concession agreements negotiated by Chiluba's government include 'stabilization clauses'. These clauses contractually bind the Zambian government not to amend its laws in a way that adversely affects the economic rights of the investor. They aimed to guarantee political stability and raise investor confidence. However, negotiated from a weak bargaining position of low copper prices and political insecurity around investments (i.e. fear of renationalization), they also tied the hands of future governments in terms of major fiscal changes and introducing new social and environmental regulation, of which the abolition of the Windfall Tax is a good example.

(Kaunda and Sinyangwe 2010; Ng'ambi 2010; Chanda 2012)

paigns, media and DAC donors' criticism. The windfall tax controversy illustrates how agreements with mining companies, hydropower developers and agricultural investors tie the hands of the government. If not carefully negotiated, the Zambian government may end up facing the majority of the associated risks, while investors reap most of the benefits and acquire huge influence over the management of the country's natural resources, including the Zambezi waters.

The main barrier to Zambian commitment to the ZAMCOM agreement has historically been shifting Zambian governments' perceptions of the Zambezi river as a 'national' river which Zambia enjoys the sovereign right to utilize as it prefers, without consulting or

involving the other riparian countries. However, Zambia has not been able to exercise river hegemony due to: i) the lack of any infrastructure enabling the country to control the river; ii) the lack of the institutional and organizational capacity to manage existing assets and pursue new infrastructural development; and iii) the lack of funds to finance desired development projects. The most notable example of the development of the Zambezi's water resources, the Kariba dam, was built by the colonial administration. This also involves bilateral cooperation with Zimbabwe, institutionalized in the ZRA in 1987. While collaboration has not been devoid of conflicts, the ZRA's control of the Lake Kariba reservoir and downstream water flow makes it one of the most important management institutions in the basin, creating tangible benefits for the two riparian states. The ZRA is also playing an important role in the development of the 1,600 MW Batoka Gorge project upstream of Kariba, and is reported to be negotiating a data-sharing agreement with downstream Mozambique (interview, Hidroeléctrica de Mphanda Nkuwa and National Directorate of Water). Hence, the ZRA's importance to the management of the river is only set to increase, posing a challenge for the emerging ZAMCOM in terms of institutional integration. At the same time, the ZRA presents as an important, regional benchmark as a more successful bilateral institution that not only enjoys a clear mandate, but is generally able to exercise it.

As the above analysis shows, new development finance and the associated expansion of the government's development space has somewhat altered the financial weaknesses of the country's development strategy, enabling the government to develop the Zambezi's water resources further. In this context, the country's growing acceptance of the ZAMCOM agreement announced by the Zambian Deputy Minister for Mines, Energy and Water Development, Charles Zulu, at the first ZAMCOM Council meeting in Luanda, Angola, in May 2013 is a remarkable turnaround (Lusaka Voice 2013). Some observers argue that the Zambian government is concerned about the other riparian countries' rapid development of the river (interview, World Bank, Pretoria and Lusaka, November 2012). However, the agreement's principles of equitable use of the river's water resources and its procedures for notification have long been perceived as threats to national sovereignty⁴⁹ (interview, Ministry for Mines, Energy and Water Development). This is paradoxical, as Zambia is a signatory to the SADC Water Protocol, which institutes the very same principles. While other Zambezi countries have followed the Protocol's notification procedures, Zambia has so far refrained from using them in connection with hydropower developments in

⁴⁹ Another Zambian concern has been the issue of sharing responsibility and costs for looking after the Zambezi's headwaters.

the Kafue sub-basin, claiming that tributary dams have no transboundary impacts.⁵⁰ Zambia's inclusion in ZAMCOM is a significant improvement to the RBO's political relevance in the basin, but it remains an open question how the country will interpret and implement the agreement's governance provisions. Political change in the historically weak commitment to transboundary cooperation in the Zambian government needs to be made manifest through notification and regional consultation on core water development projects such as the Batoka Gorge, whether through the SADC or ZAMCOM.

6.4 Mozambique: industrial revolution

Mozambique is a country in economic transition. The peace agreement that ended the civil war between FRELIMO and RENAMO was brokered in 1992, and Mozambique became a democracy with a constitution providing for a multi-party political system, a market-based economy and free elections. But the tensions in Mozambican politics remain between FRELIMO and RENAMO and several smaller political parties. As FRELIMO holds a comfortable political majority, Mozambique includes many of the features of an authoritarian one-party state where 'the winner takes it all'. Also, the shadows of conflict have only recently started to fade in terms of economic development. Mozambique has been second only to Angola in terms of average annual growth rates among the Zambezi countries during the last decade. Discoveries of oil, gas, coal and other mineral resources have created a wave of foreign investment into the country, which is set to rise from extremely low levels of human and economic development, assuming that this new-found economic wealth is distributed.

The Zambezi is a strategic economic resource for Mozambique. The Zambezi provides half of Mozambique's water resources and runs through Tete Province, which is fast becoming the engine of the current boom in Mozambique's extractive industries. Tete also hosts the massive 2,000 MW Cahora Bassa dam, a source of power in the region, and several new hydropower schemes are intended to generate foreign capital for Mozambique (EDM 2012). Downstream of the dam, the Zambezi delta provides livelihoods for 350,000 people and habitat for abundant wildlife (World Bank 2010b). Like Zambia, Mozambique's government has embraced a natural resource-driven development strategy that is financed by FDI. Aluminum, electricity and natural gas are the key exports (African Development Bank 2012). An exponential growth

⁵⁰ The procedures have been applied in connection with the Mphanda Nkuwa dam in Mozambique and with Botswana's plans to transfer water from the Zambezi for irrigation and domestic supply to its capital, Gaborone.

in extractive industries, primarily coal, is expected in the coming years when some of the large mining concessions handed out the last decade start operating (Ambisys and Haskoning 2012). Also, tourism and agriculture are flourishing. Annual foreign visitors have quadrupled in five years to reach 2.2 million in 2009, agricultural production has risen 70% in less than ten years, and there are plans to increase irrigation in the Zambezi basin sixteen-fold (up to 137,410 ha) over the coming years, still far below the potential 0.5 million ha (World Bank 2010b; African Development Bank 2012). Unaffected by the global financial crisis, FDI to the country has risen from virtually nothing at the end of the civil war to USD 2.1 billion now. This is slightly more than the total of ODA disbursements by DAC donors in the same year. This support is still important to the country, as it contributed 16% to its GDP in 2011, but its significance has decreased remarkably since the 1990s, indicating a strong shift in the government's development space (World Bank 2013).⁵¹

Mozambique's economic growth has been driven primarily by mega-projects involving investments of more than USD 0.5 billion (SNC-Lavalin 2012). Building an attractive investment climate is a government priority, and the country attracted investments above UNCTAD's expectations in 2011 (UNCTAD 2012). In contrast to the situation in Zambia, China is not a lead investor (MOFCOM 2010). Investments from DAC economies continue to be important to Mozambique, but investors from Brazil, South Africa and India also figure prominently in the large-scale natural-resource concessions being pursued by the government, including the hydropower sector (see Table 5). Mozambique is second only to Congo in sub-Saharan Africa in terms of hydropower potential. The northwestern Tete Province upstream of the Zambezi delta hosts most of this potential. The planned 850 MW North Bank extension of the Cahora Bassa dam will make it the largest hydropower plant on the river. With the other new hydropower schemes in Mozambique, including the 1,500 MW Mphanda Nkuwa dam, the country will tap more than 5000 MW hydropower from the Zambezi, making it unrivalled in the basin.

Like Zambia, domestic energy security imperatives are influencing the strong interest in hydropower development. 91% of the generating capacity of the national energy utility, Electricidade de Moçambique (EDM), is hydro-based, and energy demand is projected to increase 15% annually due to industrial growth and general electrification (approximately only 18% of the population is on the grid) (SAPP 2010; EDM 2012).

⁵¹ No data on ODA as a share of government budgets is available in the World Bank's World Development Indicators.

However, Tete Province also houses one of the largest coal reserves on the planet. Together with new discoveries of natural gas in other parts of the country, these fossil fuel reserves will significantly alter the current hydropower energy system. British and Brazilian companies plan to construct thermal power plants with a generating capacity of 4,400 MW in Tete (Ambisys and Haskoning 2012). According to Salvador Namburente, Mozambique's Minister for Mineral Resources and Energy, the huge expansion of supply infrastructure seeks to address the regional deficit because 'we have received requests from several countries in the region to increase our available electricity' (Machauhub 2009). Consequently, Mozambique is pursuing a power energy export strategy aimed at regional power markets. South Africa, Zimbabwe, Botswana, Swaziland, Malawi and Lesotho are among the possible power purchasers, and South Africa's Eskom is already the Hidroeléctrica de Cahora Bassa's main customer. Eskom also operates transmission lines in the southern part of the country and is negotiating a PPA with the developer of the Mphanda Nkuwa dam (interview, Hidroeléctrica de Mphanda Nkuwa). This makes the South African energy utility a key partner in Mozambique's development strategy. The Mphanda Nkuwa project provides a good example of the regional dimension, as only 10% of its energy production is expected to benefit Mozambican consumers; the remaining 90% will flow to urban and industrial centers in South Africa.⁵² Investments in Tete Province also involve a considerable upgrading of transmission lines to facilitate the export of the more than 9,500 MW expected to be generated in the province (EDM 2012).

The upstream position of Tete Province presents a challenge for Mozambique's water authorities. If not carefully handled, the cumulative environmental effects of mining and hydropower development in the province may threaten the Zambezi delta, its ecosystem and the livelihoods of its population. But like Laos, Cambodia and Zambia, water and environment authorities appear to be in a back-seat position in Mozambique's political economy of water (interview, National Directorate of Water). In October 2012, the prime minister was sacked by the president and replaced by the former governor of Tete, signaling the importance of the province for the country's development strategy. Furthermore, hydropower development and mining concessions are handled by the powerful Ministry of Mineral Resources and Energy (including the national energy utility, EDM) and approved by the cabinet. Though the country has sound environmental legislation, including mandatory EIAs of large-scale concessions, application and enforcement are weak due to the lack of capacity and political support. The Mphanda Nkuwa hydropower project is an illustrative example (see Box

⁵² The government of Mozambique can increase its share to 20% inside the contract timeframe.

8): The quality of the EIA has been contested by civil-society groups,⁵³ and while the project has been approved by the cabinet, the final EIA outcomes have not been disclosed to the public (interview, Mozambican and international NGO, Maputo and Pretoria, November 2012; Sneddon and Fox 2008). Decentralization has also vested considerable regulatory responsibilities in local water authorities, which are most often not properly equipped in terms of staffing, competencies or hardware to monitor and police the conduct of large mining or hydropower TNCs (interview with DAC donor, Maputo, November 2012). As a recent consultancy report phrased it, 'ARA Zambezi [the water authority responsible for the Zambezi basin in Mozambique] faces the interesting challenge of being the first regional water administration trying to set the pace for water resources management when an industrial revolution is taking place' (Ambisys and Haskoning 2012).

Water authorities do not gain much leverage from public debates. Environmental issues do not occupy a prominent place in national media coverage, and opposing mining and hydropower development is controversial. There have been cases of NGOs being intimidated and allegedly of self-censorship among journalists (interview with stakeholders in the region). Like Zambia, the main controversy concerns whether or not Mozambique is receiving sufficient economic benefits from the influx of FDI. Consequently, the energy and mining authorities in collusion with top-tier politicians and investors retain control of the natural resource mega-concessions that are crucial for the country's development strategy. National elite networks are gaining in strength from the frequent circulation between businesses, consultancies, ministries and political positions, which is a significant feature of the political economy in the country (Africa Intelligence 2012). This also includes the companies in the developer consortium on the Mphanda Nkuwa, which are reportedly connected to the president of Mozambique (Isaacman and Morton 2012). The country ranks number 123 among 176 countries on Transparency International's Corruption Perception Index. In 2006, a USAID report stated that: "The scale and scope of corruption in Mozambique are cause for alarm. This corruption is a symptom of democratic and governance weaknesses in the country, and these structural weaknesses amplify a threat that has the potential to undermine Mozambique's future development progress." (Management Systems International 2005)

⁵³ Particularly through advocacy and knowledge work by the Maputo-based NGO *Justicia Ambiental*. International Rivers has also been active in putting a spotlight on the social and environmental impacts of the Mphanda Nkuwa hydropower project. International Rivers commissioned an eye-opening scientific study on the impacts of climate change on hydropower development: <http://www.internationalrivers.org/resources/a-risky-climate-for-southern-african-hydro-7673>

The report also points to the weakness of Mozambique's civil society as a key governance problem, as it leaves the question of accountability to the donors. In short, the low degree of transparency is resulting in a situation in which the decisions of national elites over large-scale concessions remain uncontested and the distribution

Box 9. The Mphanda Nkuwa hydropower project

The Mphanda Nkuwa scheme is situated on the Zambezi, 70 kilometers downstream of Cahora Bassa, and will presumably become the last mainstream dam before the delta. The 1,500 MW hydropower project is designed as a 'run of the river' dam that uses the natural flow of the river for power generation. The storage capacity of the dam will be low but the reservoir is set to reach the walls of Cahora Bassa.

The project is developed by a consortium involving the national energy utility, EDM, a Mozambican company, Easytech, and the Brazilian construction firm Camarco. The project company, Hidroeléctrica de Mphanda Nkuwa (HNM), holds a BOT agreement with Mozambique's government on a 35-year concession period. Neither the financial structures nor the PPA have been finalized. HNM reports that South Africa is the most likely power market and negotiations with ESKOM are ongoing. This may involve export of 90% of the energy generated by Mphanda Nkuwa. The remaining 10% is reserved for domestic supply and this share may increase to 20% as Mozambique's power demand grows. The project is likely to be financed by the South African Standard Bank (noting that the Industrial and Commercial Bank of China owns 20% of Standard Bank, South Africa), the Brazilian Development Bank, the DBSA and the European Investment Bank. According to the HNM, a PPA with ESKOM will be instrumental in acquiring the finance. With South African as a reliable customer, loans become cheaper due to the higher security of investments.

Most Zambezi countries have approved the project after being notified through the SADC Water Protocol's procedures, although Zambia and Malawi did not react. However, Mphanda Nkuwa has been controversial at a domestic level. The project is the primary priority in the government's energy strategy and HNM claims international best practices have been applied to the EIA of the project, including consultations with local communities and civil society organizations. However, national and international NGOs remain critical of the project. Critics claim: i) the dam will operate according to peak demand that will create an artificial flood pulse detrimental to ecosystems and livelihoods in the delta; ii) that sediments from the mountainous stretch between Cahora Bassa and Mphanda Nkuwa will be trapped in the reservoir; and iii) that compensation schemes are insufficient and nontransparent. HNM conducted consultations with local stakeholders and NGOs on the draft EIA but the final version has not been disclosed despite repeated attempts from national and international NGOs to retrieve the information.

(Hidroeléctrica de Mphanda Nkuwa 2011; interviews with stakeholders in the region)

of risks and benefits in concession agreements are hidden from the wider public.⁵⁴ This leaves the social and environmental impacts on the Zambezi waters and the population downstream of the industrial revolution in Tete in the shadows.

Despite the internal trade-offs, the strong position of the Zambezi River in Mozambique's development strategy is increasing the country's stake in what upstream riparian countries draw from the shared water resources. As investments materialize in mines, power plants and dams, stable flows across borders are becoming more important for the country. Not surprisingly, Mozambique appears committed to transboundary cooperation through SADC, ZAMCOM and bi- and trilateral cooperation with other riparians. The country has emerged as one of ZAMCOM's key champions, but in the absence of a functional RBO, the government notified riparians of Mphanda Nkuwa through the SADC Water Protocol's procedures to obtain the requisite consent of neighboring states (interview, SADC Water Division). There is considerable concern about Zambia and Zimbabwe's hydropower plans in the Mozambican government, which argues for the need for major development projects to be notified, including those on the Kafue tributary, and to assess the aggregated effect on Zambezi's water resources derived from mining, land and hydropower concessions upstream (interview, National Directorate of Water). Bilateral water commissions with several of its neighbors are also part of the government's strategy to secure its interests as a downstream country in multiple international river basins (e.g. the Zambezi, Limpopo and Pungwe rivers). Most significantly, a recent information-sharing agreement with Zambia and Zimbabwe on the Kariba dam will be vital to existing and new hydropower developments. Mozambique's regional approach to energy development is important not only as a way of making hydropower profitable and acquiring finance, but also to create mutual interests in stable river flows into Tete Province with upstream power purchasers, not least the regional power, South Africa. PPAs with Eskom on Cahora Bassa and possibly the Mphanda Nkuwa dam are making the South African energy utility an important stakeholder in the political economy of water in Mozambique and the Zambezi region.

6.5 The Zambezi at the crossroads

Governments in the basin are currently experiencing a significant expansion of their development spaces. The prospects for economic growth are providing unprecedent-

⁵⁴ The lack of transparency and public disclosure may illustrate how the extensive civil war in the 1980s and 1990s continues to play a huge role in how the Government of Mozambique exercises trust.

ed opportunities to break the spell of underdevelopment in the region. The present generation of African leaders could pass into the history books as those who lifted their populations out of poverty. Whether the large influx of development finance from Western TNCs and the BRICS will be able to address the low human development indicators in the Zambezi countries or will merely benefit their economic and political elites remains an open question. However, current attempts to produce economic transformation in Zambia and Mozambique may not provide the basis for an optimistic outlook. Despite being democracies formally speaking, the national political economies of water are characterized by a significant lack of transparency in decision-making, elite capture of resources and the increasing influence of foreign corporations, not unlike major economic developments in colonial and then apartheid South Africa. As in the Mekong, large-scale natural resources concessions have the potential to alter the traditional sources of livelihood for millions of people in the basin with little real influence on national political processes. With Chinese investments becoming increasingly important for hydropower development in the basin, especially in Zambia, it appears relevant to ask Mr Chilufya Chileshe's question: 'Does Zambia [and the other riparian countries] have a policy on China?' (Chileshe 2010).

With Zambia committing itself to ZAMCOM, riparian countries are better off than the MRC member states, at least on paper. Zambia's membership is opening up new options for dialogue on basin development. Moreover, national development plans in the Zambezi are not embedded in a geopolitical context of strong animosity as in the Mekong. Zambia's upstream position may squeeze downstream Mozambique, but Mozambique is developing its (hydropower) assets much faster than Zambia and in close alliance with South Africa. This creates 'facts on the ground' that may strengthen Mozambique's bargaining position in the future.

ZAMCOM's water governance framework and the SADC Water Protocol provide strong notification procedures, consultation mechanisms, and transparency and conflict-mediation tools. The challenge for ZAMCOM will be to implement the ZAMCOM Agreement, particularly with regard to the willingness of member states to allow transboundary scrutiny of development projects. Zambia's willingness to engage fully in ZAMCOM remains to be seen. Transboundary consultations on the Batoka Gorge project could be a first test case for ZAMCOM. Better options for benefit sharing in the Zambezi and the regulated character of the river downstream of Kariba would make mainstream dams less controversial. Also, South Africa's strong energy interests in the region make the regional power a possible broker in the background of ZAMCOM negotiations. The major conflict potential lies hidden in

the knowledge caveat on the aggregated effects of hydropower, irrigation and mining developments on the water resources of the Zambezi; ZAMCOM was established precisely to advise riparian countries on how to manage challenges such as these. The pledge by ZAMCOM ministers to focus cooperation on ‘climate change and variability adaptation’ is being driven to some extent by ODA, where there has been a strong emphasis on climate change spending in recent years. However, although the regional focus on climate change may seem an easy escape from the real problems in the basin being created by the rapid economic development by individual countries in collaboration with international investors (ZAMCOM 2013), an important driver at play is extreme climate-related events. For many politicians, floods mean deaths and droughts mean hunger. Whatever the motivations for the interest in climate change, its real pressures (assuming the projected scenarios come to pass) could contribute to a shared realization that the Zambezi cannot forever supply unlimited water resources.

7. Polycentric realities in the Mekong and the Zambezi

The analysis in the previous chapters points to different cooperative modalities and frameworks for transboundary water governance in the two river basins. They constitute a polycentric water governance reality comprising:

- unilateral water development interventions by a single riparian country, including hydropower dams on the tributaries and large-scale mining or land concessions
- bilateral cooperation on large-scale hydropower projects on the mainstream and tributaries of the rivers between riparian countries or other regional stakeholders such as Laotian-Thai cooperation on the Xayaburi project, the Kariba and the planned Batoka Gorge shared by Zambia and Zimbabwe, and the Mphanda Nkuwa in Mozambique (cooperation with South Africa)
- bilateral water agreements between neighboring riparian countries and bilateral water commissions, particularly on the Zambezi, such as the Zambezi River Authority Act (which established the ZRA)
- multilateral water agreements between three or more countries in the basin, particularly on the Mekong
- regional cooperative frameworks encompassing the majority of riparians, for example, the MRC, ASEAN and GMS in the Mekong basin, and the ZAMCOM and SADC in the Zambezi basin.

We have shown how national economic growth imperatives are largely defined by ruling elites in collusion with foreign investors. These national imperatives have consequences for cooperation on transboundary waters. Cooperation is dominated by unilateral and bilateral development projects involving strong political and economic stakeholders, which are driven by commercial and national economic interests in the river rather than holistic goals for water development and water governance. Hydropower is the best example.

Energy security figures prominently in the development strategies of most riparian countries, whether in response to domestic demand or for exports to neighboring countries or regional markets. Hydropower projects deliver tangible benefits for governments in efforts to realize ambitions for economic growth. This is also the case for large-scale mining or land concessions, which are increasingly controversial in the Zambezi. Here government development partners (e.g. western TNCs, Chinese

SOEs, DAC donors, South Africa's Eskom, BRICS development banks, etc.) are most often external to the basin. Development in the Mekong is increasingly driven by intra-basin cooperation between a more developed country (Thailand, Vietnam, China) and a poorer country (Laos, Cambodia) involving SOEs, development and private banks, companies and government agencies.

Outright unilateralism in the basins is rare. Most governments depend on investment partners from outside their national borders. The main exception is China's massive hydropower program on the Lancang, which, in spite of its transboundary impact, is entirely in the hands of Chinese finance and Chinese institutions. However, the extensive damming of Mekong tributaries by Thailand and Vietnam in past decades and more recently in Laos and Cambodia are also unilateral, and their transboundary impacts have not yet been brought into the transboundary water governance equation.⁵⁵ While this does not resonate with the provisions in the MRC agreement, the MRC member states appear to have a common interpretation of the notification procedures as excluding tributary projects.⁵⁶ The Zambezi is mostly void of unilateralism, but the prevalence of Zambia's hydropower projects in the Kafue sub-basin also seems to exclude tributaries from transboundary cooperation.

The development interventions by riparian countries differ in scale and impact. Mainstream dams may affect the entire river system upstream and downstream of the project site. Some tributary dams may also have transboundary impacts, as in the case of the Lower Sesan 2 in Cambodia and the Zambian dams on the Kafue River. Smaller hydropower schemes and land and mining concessions on tributaries may appear more local in terms of social and environmental impacts, for which reason they are not considered subject to transboundary cooperation. However, the aggregated effect of developments on tributary dams, mining and land concessions is a huge issue kept below the transboundary water governance radar. It strikes at the heart of the natural resource-driven development strategies of riparian countries and carries considerable potential for conflict. Ideally, developments on the tributaries would be an essential aspect of the *raison d'être* of RBOs with holistic development and governance mandates such as the MRC and ZAMCOM agreements. But different

⁵⁵ However, NGOs and donors are knocking on the door of the MRC to direct more attention to the cumulative transboundary impact of tributary dams. See Joint Development Partner Statement for the MRC Informal Donor Meeting on 28 June, 2013, <http://www.mrcmekong.org/>

⁵⁶ The 1995 Mekong Agreement refers to 'the basin' and never to the mainstream only. Hence the MRC has a basin-wide mandate (i.e. including tributaries). Moreover, Art. 5-8 (on which the PNPCA is based) refers to alterations of the mainstream, independently of whether they come from projects on the mainstream or elsewhere. Hence, even tributary projects that alter the mainstream (as expected for Lower Sesan 2) fall under the Agreement.

national interests, notions of sovereignty and levels of commitment to the MRC and ZAMCOM make a holistic and inclusive RBO mandates politically controversial.

RBOs are not the only multilateral frameworks in the river basins. In the Zambezi, the SADC regional framework not only facilitates water cooperation, it is also the strongest driver of regional economic integration and infrastructure investments. The COMESA (Common Markets for Eastern and Southern Africa) also provides an important multilateral framework through its focus on regional trade. Although the COMESA is weak on water, a number of issues that it does drive (climate-smart agriculture, trade agreements, etc.) are having a significant impact on water resources in the region. The Southern African Power Pool (SAPP) is instrumental in the establishment of a regional power market and regional grids, and thus enables the creation of national hydropower plans. Somewhat similar functions are performed on the Mekong by the GMS program of the AsDB and by ASEAN. The GMS includes all riparian countries, but water is excluded from the program due to the conflict potential of shared water resources. These multilateral frameworks enjoy high political attention by governments in the basins as they resonate with their development priorities.

The regional political economy of water in the basins also features several minor bilateral and multilateral agreements mirroring national interests in the river. Bilateral water commissions with broad mandates and varying degrees of legal status are manifold on the Zambezi. South Africa has bilateral agreements and/or commissions with all its neighbors, three of which are within the Zambezi basin. On the Mekong, the Agreement on Commercial Navigation on the Lancang-Mekong River unites China, Laos, Myanmar and Thailand, and the Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy incorporates Cambodia Laos, Myanmar, Thailand and Vietnam. Lastly, the US-supported Lower Mekong Initiative and AsDB-facilitated cooperation on the S3 tributaries shared by Cambodia, Laos and Vietnam are creating alternative water cooperation forums.

Unilateral and bilateral water developments and the political priority vested in regional economic integration and infrastructural development are impacting on cooperation in the basins. First, water-related developments are creating physical 'facts on the ground' representing benefits and costs in economic, social and environmental terms. Regional trade and investment programs under the SADC/SAPP and ASEAN/GMS are opening up new markets, making many development projects more profitable. This moves the main economic interest in the river away from local communities (historically dependent on fishery and agriculture) to national governments and cor-

porations as the decisive stakeholders in transboundary water governance processes. This leads to the second impact: unilateral and bilateral developments are creating a *de facto* management regime in the river basins by establishing social and economic structures, as well as political and economic relationships founded in legal contracts involving some riparian governments and/or external partners. Thus a plethora of forums in which water-relevant decisions are made is being created.

How the Chinese mainstream dams are developed and how the ZRA functions are among the examples of the different types of decision-making forums that operate in the two basins. Both created a regulated flow of the respective rivers, and the ZRA remains the main transboundary water governance framework in the Zambezi basin, even though it is bilateral in nature. The ZRA is an institutionalized mechanism controlling river flows and delivering tangible benefits to both the Zambian and Zimbabwean governments. Eskom is a strong stakeholder in Mozambique's hydropower schemes, with direct influence on the Zambezi's flow downstream of Mphanda Nkuwa, making the power utility a strong role player in decision-making over regional water flows. An equally strong interest in coordinating the operations of the Kariba dam and the irrigation and water diversion plans of upstream countries may affect water inflow to the downstream hydropower dams in Mozambique. Likewise, EGAT, Thai, Vietnamese and Chinese investors will have a considerable say in management of the Mekong through BOT and PPA agreements with the Lao government and possibly with Cambodia.

The MRC and the ZAMCOM are sandwiched between the strong economic imperatives of unilateralism and bilateral cooperation on the one hand, and the equally strong economic imperatives of regional cooperation frameworks on the other. This is a challenging position, as the sustainability objectives and holistic governance aims of the RBOs are not easily reconciled with the unilateral development strategies of riparian governments. While these RBOs struggle to demonstrate their political and economic relevance, polycentrism thrives in the basins.

7.1 Hydro-politics and hegemony

The Mekong

The hydro-political development dynamics in the basins are embedded in regional geopolitics. In the Mekong, the recent controversy between Laos and Vietnam over the Xayaburi dam is merely a shadow image of the more serious but less outspoken

conflict between Vietnam and China over the Chinese Lancang dams. China enjoys a hydro-hegemonic position, which, together with the country's economic muscle, has allowed it to pursue unilateral development on the river, much to the dismay of downstream Vietnam. The hydro-political clash of interests between China and Vietnam surfaces through the Chinese non-membership of MRC and non-cooperation between China and downstream countries on information-sharing on, for example, water and sediment releases from its mainstream dams. While Myanmar's membership of the MRC appears closer than ever before, Chinese membership in the near future seems unlikely, although the historical record points to a scenario in which China will eventually join after completing the construction of all its dams on the Lancang (interviews in the region). Domestic controversies with environmentalists and national policy changes appear to exercise a greater influence over the Chinese development strategy than transboundary negotiations. Furthermore, the historical cleavage between China and Vietnam is reflected in both countries' efforts to gain political and economic 'territory' in Laos and Cambodia through investments in hydropower, extractive industries, land and forest concessions and in the territorial disputes over the South China Sea. Conflicts over the Mekong waters are therefore also about political and economic influence in the region. The increasing support being given to Vietnam from the US and Japan, the US-led 'Friends of the Lower Mekong Initiative' and finance for the Vietnamese government's 'Delta Study' are elements of a larger geopolitical equation aiming at curbing Chinese influence in the region. A second, geopolitically smaller axis is evident in Thailand, whose hydro-political position allows it to pursue national energy and commercial interests in Laos without much attention to downstream concerns. Laos's strategic involvement of developers and power purchasers from many countries in its hydropower projects is no coincidence. From a geopolitical point of view, it represents a clever navigation of the political economies of water in the region on the part of the Laotian government. From the MRC's point of view, the intense geopolitical power plays in the Mekong are narrowing the space for conflict mediation and transboundary negotiations and threatening to further its position as RBO.

The Zambezi

In relation to the Zambezi, geopolitical tensions are less pronounced. Zambia has been an impotent hegemon so far, and the usual Zambian position appears to be that Zambezi waters are plentiful, providing considerable support for development. Furthermore, as the river flow is already regulated and as ecosystems have already been altered by the Kariba and Cahora Bassa dams, the steam is taken out of Xaya-buri-like conflicts in the Zambezi region. Although World Bank studies and climate

scenarios project water shortages if all national development ambitions are realized, governments still consider the Zambezi a 'freebee', at least for the time being (World Bank 2010b; Beilfuss 2012). Plans for the expansion of hydropower in Zambia and Mozambique are therefore far less contentious, and some of the major projects feature strong bilateral benefit-sharing (e.g. the Batoka Gorge), possibly involving more riparian countries through power exports. Also, the spirit of cooperation on the Zambezi is rooted in the liberation struggles of the 1970s, leading to regional solidarity.⁵⁷ However, the less tense hydro-political situation on the Zambezi may also be related to the huge knowledge gap on environmental flows and the basin-wide impact assessments of new hydropower dams, mining projects and irrigation for large-scale land concessions. Conflicts may erupt as Zambezi water demands increase when riparian countries realize their development projects and investments over the next decades and the competition for water between sectors, where energy typically takes precedence, increases.

South Africa's economic hegemony in the region and its role as a purchaser of power also represents a strong interest for the Zambezi region. The same is the case for the Chinese, Indian and Brazilian investors that are partnering riparian governments on a number of water-related projects. While the investments are significantly shifting the benefits of the river away from local communities on its banks, they are also bringing in investors as geopolitical stakeholders with an interest in transboundary cooperation as governance arrangements to protect investments or national energy security (e.g. synchronizing dam operations (SADC 2011)). The potential upstream–downstream clash of interests between Zambia and Mozambique may therefore unfold in a complex geopolitical landscape. This is where ZAMCOM could play a key role in terms of mediation and knowledge provision.

7.2 RBOs in a messy world

Although the MRC and ZAMCOM may appear weak institutions in the political economies of water discussed in this report, they have important roles to play, and they make a difference.

The two RBOs are at very different stages of establishment, and the longer-established MRC can pave the way for ZAMCOM, as this very recently established RBO

⁵⁷ This is also evident in other ways, such as the recent regional approach to dealing with the Zimbabwe crisis and a tendency to build peace rather than allow degeneration into conflict.

navigates its way through a polycentric landscape and more established institutional structures (i.e. the ZRA and the PPA on Cahora Bassa) and the SADC water umbrella. The MRC's governance mandate is threatened by disparities in levels of riparian commitment, while the Xayaburi controversy was dealt with politically outside the MRC. The task ahead for ZAMCOM appears to be more in crafting the right institutional *bricolage* rather than applying standard IWRM thinking and aiming to be a monolithic RBO. However, there are important lessons for the embryonic RBO to take home from the MRC experience with the Mekong.

While the MRC struggles to salvage its governance mandate in the conflicting hydro-political landscape surrounding hydropower development, it is important to recognize that this RBO has been instrumental in directing increased political attention paid to water and environmental issues in the basin resulting from the Xayaburi controversy. The MRC's knowledge generation regarding, for example, fisheries, environmental flows and basin development scenarios achieved its moment of glory through the SEA of mainstream dams that landed the Xayaburi case on the desks of prime ministers. Similarly, the first attempt to implement the PNCPA procedures in connection with the Xayaburi project has been important for creating more – if not absolute – transparency on core water development decisions in the basin. Consensus on the Xayaburi could not be reached due to the strong interests and non-cooperative attitudes of Laos and Thailand, but the SEA and the PNCPA procedures made clear what was at stake for the countries involved. It highlighted their respective national interests and how the Mekong features in their respective political economies of water. And, perhaps most importantly, it added realism to water governance in the Mekong as it became obvious that the interests of the stakeholders involved (investors, developers, governments, impacted communities and civil society) were opposed and antagonistic. The SEA of mainstream dams was a game changer for water governance in the Mekong.

The SEA punctured the myth of transboundary water governance designed by a normative IWRM formula, as well as the Mekong spirit of consensus. It opened the door to the political realities of water development in the basin. This is in itself a big achievement, which may create new opportunities to discuss the essential distributional conflicts of hydropower development built into the current upstream–downstream animosities. It may also induce acknowledgement among IWRM proponents, including the DAC donors, that governance of water resources is always contentious and politically difficult. It involves negotiated agreements and political compromise over specific investments and projects that rarely suit normative IWRM ideals.

The road to political relevance for the MRC and for RBOs in general is evident through more proactive engagement in the geopolitical dynamics of transboundary water governance. Conflicts over water developments cannot be avoided, but lessons from the Xayaburi conflict show that, if the RBO wants to retain its decision-making forum and achieve more political relevance as a conflict mediator, it needs to be able to present knowledge on development trade-offs, options for benefit-sharing and compromises over conflicts. These RBOs also play an important role in setting the regional agenda, and even though political realities are frequently very different from the ideals embodied by IWRM and others, these ideals are important in setting the right agenda and raising expectation levels of delivery and decision-making in multi-country river basins. While governments cannot be expected to negotiate issues of national importance publicly, more transparent water-related solutions may be possible than that seen in the compromise between Laos and Vietnam on the Xayaburi, where the MRC was completely sidetracked. The MRC and ZAMCOM specifically need to gear up their capacity to deal effectively with the evolving water governance challenges in the basins, and the Xayaburi challenge is a case in point. In their future governance efforts, the RBOs also need to address the polycentric realities, geopolitics and interests of individual governments, investors and civil-society stakeholders. Opposing interests may increasingly turn into tension and conflicts in both river basins as their water regimes close.

In both river basins there is the added risk of climate change, which may present additional challenges to transboundary cooperation, although more so in the case of the Zambezi. The Zambezi is more prone to droughts than the Mekong, and because development has been slower, the capacity to adapt to or cope with the impacts of climate change and variability is lower in the Zambezi region. This is not aided by the fact that, although SADC Water has developed a climate change adaptation strategy for the region, ZAMCOM is behind the knowledge curve and as yet still has to adopt comprehensive scenarios for the basin's development in the light of climate change. However, vulnerability, including a robust hazard layer, has been assessed in the Zambezi and the most vulnerable 'hot spots' are now known, including through consideration of the different levels of adaptive capacity across the basin (adapted from OneWorld, Pegasys and Habitat Info 2011 and 2012).⁵⁸ Fearing that a drier and hotter climate may undermine hydropower investments and ultimately regional energy security, the SAPP is currently assessing the impacts of climate change and

⁵⁸ See the Transboundary assessment of climate impacts in Southern African Basins, OneWorld 2010 and the Risk and Vulnerability Assessment of the Zambezi River Basin, OneWorld 2012.

upstream development impacts on hydropower in the Zambezi. The critical focus is on how to enhance the risk management of new hydropower projects and avoid stranded assets for SAPP utilities. The extent to which these assessments, when completed, will influence SAPP and ZRA hydropower plans and investments remains to be seen. (OneWorld and UCT, forthcoming).

Pertinent issues for the RBOs will include relevant knowledge production, the capacity to engage in development diplomacy and the conflict-resolution skills needed in political discussions over water developments. Also, RBOs need to engage more directly with civil-society groups engaged in knowledge production (e.g. WWF) or advocacy (e.g. TERRA, Justicia Ambiental, International Rivers), as well as private investors. We address these issues in the next chapters of the report. While we suggest a reorientation of focus by the RBOs, we are also well aware that the level of ambition of their multilateral water-governance mandates need to be carefully considered in the face of the already existing reality of polycentric governance. Overall, ZAMCOM may be in a fortunate position, as the Zambezi basin countries still have a way to go before they reach a level of development comparable to the Mekong. The Zambezi has fewer geopolitical tensions and a stronger regional water framework comprising both ZAMCOM and the wider SADC water mandate.

8. Conclusions

In our conclusions, we concentrate on the opportunities and challenges created by the national and regional political economies of water. New development finance is expanding the economic development space of many riparian governments. Politically, the expanded development space is reflected in a stronger sense of national sovereignty, which raises questions about the commitment of riparian countries to river basin cooperation. The reality of polycentric water governance in the two river basins is the result of: i) cooperation frameworks linked to new development finance; and ii) established multilateral arrangements for economic cooperation, which challenge the *raison d'être* and relevance of the river basin organizations in both basins.

8.1 Opportunities and challenges in the political economies of water

New development finance has supported outstanding national growth rates in the least developed countries in the Mekong and Zambezi basins during the last decade. Development strategies by riparian governments involve hydraulic missions to harness the water resources of international rivers in the interests of economic transformation, poverty alleviation and industrialization. Capitalization of water, land, forest and mineral resources through FDI and trade agreements from the BRICS and other emerging economies are central to the development strategies of riparian governments today.

The economic growth imperative is the main national development driver in both river basins. This is most clearly expressed in the Laotian government's recognition that hydropower development along the Mekong will facilitate the country's graduation from the group of least developed countries by 2020. National development strategies are built on a foundation of political and financial interests among national political, economic, and bureaucratic elites and investors, rather than simply being about human development. This gives almost explicit priority to certain stakeholder interests and narrows the circuits of political decision-making.

Multilateral cooperation over water resources is typically weak, and upstream–downstream conflicts are either a political reality (Mekong) or a latent risk (Zambezi). This is because the political economies of water in both basins are characterized by decoupled national and basin-wide sustainability frameworks on the one hand and

the imperatives of national economic growth strategies on the other. Hence, the accelerated pace of investment in water and other natural resources and the current growth adventures in Zambia, Mozambique, Laos and Cambodia questions long-term sustainability as well as basin-wide cooperation.

Most countries in the two basins have fairly sound water and environmental regulatory environments for natural resource investments, but implementation is weak. One country, Laos, is in the process of revising its Law on Water Resources to include state-of-the art elements such as ecosystem services and the financing of water resources management. Generally, in many least developed countries, regulatory frameworks for water resources are based on IWRM thinking, particularly where they have been designed with support from DAC donors. However, these are weak in implementation, as the Xayaburi and Mphanda Nkuwa EIAs illustrate. Capacity problems may partly explain the weaknesses in implementation, but the mandates of water and environmental administrations also tend to be limited, circumvented, manipulated or excluded outright from strategic decisions on economic investments. The ministries governing the productive sectors that are central to realizing national development strategies make these decisions, and these are frequently influenced by narrow circles of national elites and investors. Water is an essential nexus development input and therefore essential for the industrial revolutions in some basin countries. Yet water bureaucracies end up in the back seat. This situation will prevail as long as water as a commodity continues to enjoy low, or almost no, direct economic value.

Strategic environmental and social impact assessments demonstrate that the immediate economic benefits of large hydropower projects may be outweighed by the long-term environmental, social and ultimately economic costs of replacing ecosystem services. The assessments are typically conducted by independent entities (consultants, academia, NGOs), and in the Mekong case to some extent also by the MRC. Governments largely perceive the assessments as obstructing the realization of their development strategies, and government ownership of recommendations made is often weak. In the downstream basin countries of Mozambique, Cambodia and Vietnam, the ambiguities of domestic development strategies are surfacing, not least because of the perceived threats from upstream development (see below).

Civil society and communities affected by investments in natural resources continue to exert low, if any influence, probably because they persistently question transparency and accountability as well as environmental and social impacts and are therefore

seen as obstructive to development. Some international NGOs such as the WWF and the IUCN⁵⁹ have been instrumental mainly in knowledge production, information-sharing, lobbying and capacity-building in some riparian countries and may be labeled ‘knowledge NGOs.’ Other NGOs active in the two river basins such as Justicia Ambiental (Mozambique), TERRA (Thailand) and International Rivers (International, US-based) focus primarily on environmental and social justice campaigns and may be labeled ‘advocacy NGOs.’⁶⁰ As a knowledge-based NGO, the WWF has contributed significantly to the scientific knowledge base in the two river basins. In the Zambezi case, the WWF has been engaged (with other partners) in the ‘Joint Zambezi River Basin Environmental Flows Programme’ (interview, WWF in Lusaka, November 2012), while in the Mekong case it has undertaken a scientific study of sand and gravel mining in the Mekong mainstream (interview, WWF in Vientiane, May 2012).

The enabling environment for civil society and capacity varies between regions and countries. In the more autocratic political systems of Laos and Vietnam (and to some extent Cambodia) civil society is tightly controlled and therefore not able to generate any significant advocacy. The Zambezi countries have somewhat better enabling environments for civil society, and although there have been reports of NGO intimidation (Zimbabwe and Mozambique), lack of capacity appears to be the major constraint on effective advocacy in this region. International networks are also far weaker in the Zambezi than in the Mekong, and NGO workers sometimes face personal risks, especially in Mozambique. The most significant testimony to the strength of the corporate–government alliance comes from Thailand, where a favorable enabling environment and an otherwise strong and vibrant civil society has so far not been able to influence EGAT’s power purchasing agreement with the Laotian government and the investments of Thai banks in the Xayaburi dam. In reality, civil society and local communities affected by hydropower development have been excluded from decisions on

⁵⁹ The IUCN is not strictly speaking an NGO but an international umbrella union of 900+ NGOs and 200+ government organizations world-wide.

⁶⁰ The distinction between ‘knowledge-based’ and ‘advocacy-based’ NGOs is for clarity only. Both NGO categories have elements of both knowledge production and advocacy. Generally, knowledge-based NGOs prioritize knowledge production of scientific value, knowledge-sharing and capacity-building. Typically, advocacy-based NGOs have as their main objective advocating social and environmental justice and are therefore critical of all major infrastructure developments, including hydropower dams disrupting human livelihoods and ecosystems. At the same time, some advocacy NGOs also develop or help in developing new knowledge on the social and environmental impacts of development. Such knowledge is typically used to support campaigns against unwanted infrastructural developments where hydropower dams are prominent targets. Knowledge-based NGOs often have a more pragmatic approach that accepts some degree of compromise between economic development and the preservation of the environment and livelihoods.

natural resource-driven development at both the national and transboundary levels. Nevertheless, Thailand's civil society, with its regional and international NGO partners, still has the strongest potential for influencing transboundary water governance and development outcomes in the Mekong. Civil society in the Zambezi has a longer way to go in building capacity and constituencies before it can have voice in transboundary water governance.

Large-scale hydropower projects typically result in centralized benefits for national elites and urban and industrial centers, often at some distance from the actual project. The power from mega projects such as Xayaburi and Mphanda Nkuwa will illuminate the malls in Bangkok and Johannesburg. Zambia's hydropower projects will power the Copperbelt's rejuvenation. Yet the costs of hydropower by contrast are decentralized in that the trade-offs are mostly more localized, for example, loss of fisheries, which is particularly serious in the Mekong case. Hydropower also has broader set of trade-offs impacting local communities that are dependent on natural ecosystems and river flows for their livelihood. Despite compensation and resettlement schemes, local groups tend to bear the brunt not least due to the substantial difficulties in providing alternative livelihoods, as the mega-projects rarely provide significant numbers of jobs or subcontracts to local businesses. Tackling trade-offs to reduce or eradicate the negative impacts on local communities is very difficult, as illustrated by the Nam Theun 2 project in Laos, where the World Bank engaged top rural development experts in the design of mitigation arrangements, including resettlement schemes.

The industrial revolutions of the Mekong and Zambezi countries have initiated a painful process, as illustrated by the economic history of OECD and BRICS countries. In the developed world, industrialization and its related economic transformation has involved many political and economic struggles over the redistribution of resources that has uprooted age-old productive systems and altered ecosystems. Social and environmental concerns were not at the forefront when these transformations happened. Sustainable development measures such as good governance, IWRM, climate change adaptation, stakeholder inclusion and environmental impact assessments largely emerged retrospectively. The current economic transformations in the riparian countries are taking place in a global development context in which multiple demands are being leveraged against government conduct by both internal and external stakeholders, although economic growth remains the most important imperative.

The political economies of water in the least developed countries are largely a legacy left by DAC donors, western companies and development banks. Colonialism left deep footprints on southern Africa's water resources, as manifested by the Kariba and the Cahora Bassa dams on the Zambezi's mainstream. Similarly, US government agencies hatched Laos as the 'battery-of-Southeast-Asia' during the Cold War. During the 1980s and 1990s structural reforms driven by the World Bank and the IMF were aimed at privatizing and opening up the economies of developing countries to foreign investors. The success of the reforms has minimized the role of the Bretton Woods institutions, although the World Bank, for example, continues to facilitate hydropower investments and sponsor regional power grids. At a deeper level, the political economies of water in the two basins express considerable continuity in terms of development goals, but with decreasing dependence on OECD countries.

The expanded development space in riparian countries is contrasted by the risks of inadequately managed investments. The controversy over Zambia's privatization of its mining industry and the windfall tax illustrate how the Zambian government's development space has been constrained by its contracts with the multinational mining companies, resulting in the contribution to the domestic economy from mining revenues being less than expected. This case provides an important lesson for the governments of Laos, Mozambique and Cambodia, who are eager to engage public and private investors. Negotiating the right terms of investment is crucial not only for future development spaces and social and environmental impacts, but also for the long-term economic sustainability of the industrial revolutions. The Laotian government's preference for Chinese and Thai investors with weak CSR standards over the World Bank's complex and time-consuming social and environmental safeguards underlines the importance of short-term economic benefits. An interesting question remains as to how public and private investors will handle their operations in these weak regulatory contexts. International CSR standards are strongest among western TNCs, and investors face considerable pressure from home constituencies for more sustainable practices (e.g. Equator Principles). However, recent policy changes in China and domestic learning on the externalities of economic investments in the two basins may signal increased attention to the social, economic and environmental risks of investments in natural resources.⁶¹

⁶¹ Driven by domestic concerns over the negative social and environmental impacts of China's economic miracle during the last two decades, the Chinese government's policy now does officially focus on mitigating the negative impacts of industrialization and economic growth. This policy change appears to have spilled over into China's overseas development assistance and has also led to a higher CSR profile for Chinese SOEs abroad such as Sinohydro, the world's largest hydropower developer. Criticism of the poor business ethics of Chinese investors abroad, particularly in Africa, may also have influenced and led companies to raise their CSR standards.

The increasing amount and diversification of the sources of development finance are having visible impacts on development spaces and on the national interests of governments, as seen in the analysis of the four case-countries in the Mekong and Zambezi basins. The core development challenge appears to be the establishment of stronger links between this development reality of economic growth and the legal and policy frameworks for natural resources management at the national and transboundary levels.⁶² This is easier said than done. A turnaround, or at least a shift in the political economy of natural-resource-based development in the two basins, is at stake. Here we are entering the domain of power and politics, where normative policies for sustainability and even legislation are often bypassed in the interests of short-term economic gains.

8.2 Transboundary governance: riparian commitment and polycentric realities

New development finance widens the national development space in riparian countries and translates into a stronger sense of national sovereignty, which in turn influences the commitment to the RBO as a transboundary water governance framework. In the least developed countries in both basins, governments are using the widened development space to accelerate their involvement in hydropower and other natural resource developments to support further economic growth and economic transformation. At the same time, the transboundary development space is narrowing, as the hands of governments are increasingly tied by the conditions of unilateral and bilateral project agreements, particularly hydropower, while at the same time the transboundary water regime is closing as the water demands of individual countries increase.

The RBOs in both basins face the reality of polycentric governance. From our political economy analysis, we conclude that new development finance is the main driver, increasing the polycentric nature of the water governance landscape in both river basins. Strong national government commitments to public–private partnerships, large-scale concessions and bilateral and multilateral economic cooperation are threatening to undermine the holistic governance mission of the RBOs. The Kariba and Cahora Bassa hydropower schemes in the Zambezi are infrastructure ‘facts on the ground’ with well-established bilateral cooperation frameworks between Zambia

⁶² The EU Water Directive Framework (WDF) is one of the only examples of transboundary water cooperation where member states under the legal framework of the WDF have agreed to give away part of their national sovereignty in the common interests of the union of member states. However, the establishment of and agreement on the WDF was a lengthy and cumbersome affair, and its implementation is not a matter of ‘smooth sailing’.

and Zimbabwe (the Kariba) and Mozambique and South Africa (the Cahora Bassa). Other bilateralisms in the Zambezi basin include bilateral water commissions and memoranda of understanding, with wider, longer-term development objectives. There is evidence that bilateral agreements are more effective in the Zambezi case. The ZRA, for example, has recently solved the Kariba assets issue between Zambia and Zimbabwe, critical to discussions over the new Batoka Gorge dam, and Mozambique and Zambia are currently in discussions on establishing a bilateral agreement for joint water resource management. Bilateralism and multilateralism in the Mekong area is a more recent phenomenon related to cooperation around developments on the 3S tributaries involving Vietnam, Laos and Cambodia, river navigation on the Upper Mekong between China, Myanmar and Thailand, and hydropower dams on the Mekong mainstream, of which the Xayaburi dam in Laos is the first. While RBOs struggle to demonstrate their *raison d'être*, polycentrism thrives in the basins.

There are challenges to basin-wide cooperation from within the constituencies of the RBOs. Disparities in riparian countries' commitments to the MRC and ZAMCOM are questioning the RBO's future role and relevance. The classic upstream–downstream cleavage kicks in as developments unfold in the river systems. In the Mekong case, the basic cleavage, which surfaced in the Xayaburi controversy, is between upstream Laos and Thailand and downstream Cambodia and Vietnam. In the Zambezi case, there is a potential clash of interests between upstream Zambia and downstream Mozambique. Not surprisingly we see stronger RBO commitment among the downstream countries of Mozambique, Cambodia and Vietnam.

The RBOs are sandwiched between the strong economic imperatives of unilateral action and bilateral cooperation on the one hand, and the equally strong imperatives of regional economic cooperation frameworks delivering tangible national infrastructure and economic benefits on the other. This is a challenging position, as the environmental and sustainable development objectives of the RBOs do not easily compete with national economic imperatives.

8.3 Navigating chaos: RBOs on the edge of relevance

The strong focus on rapid economic development in riparian countries exposes the asymmetrical ownership structure of the RBO projects, particularly in the Mekong. Sustainability concerns and the IWRM vision of the 'good water governance' of the RBOs are normative agendas driven by DAC donor support. The

principles of basin-wide planning, consultative or consensual decision-making and the sustainable development of shared water resources do not resonate with either the perception of the national interests of riparian governments or the commercial profit motives that drive public and private financiers, contractors and power purchasers from emerging economies and OECD countries. This dissonance exposes the different interests and power positions of riparian states in the political economy of water in the basins. As a consequence, it challenges the RBO vision of shared responsibility for transboundary waters. The question is, what does the future hold for RBOs, given the shifting hydro-political context characterized by expanding national development spaces, increasing economic regionalization and powerful regional hegemons? Two possible scenarios suggest themselves.

Scenario 1: From collapse to revitalization

In the first 10-20-year scenario, the distributional conflicts and national hydraulic missions in the basins undermine deepened basin-wide cooperation. Harnessing water resources for the sake of economic growth and transformation by individual riparian countries will bypass the MRC and ZAMCOM or make them political or knowledge theatres devoid of any real governance role as credible forums for deliberation and negotiation on development projects with transboundary impacts. This would make them largely irrelevant for transboundary water governance. Ineffective RBOs may increase upstream–downstream antagonisms, and donors may withdraw their support. Ultimately, this may lead to the collapse of these organizations.

However, this scenario does not mean a total lack of transboundary cooperation. Bilateral and multilateral collaboration built around development projects with tangible national benefits and mutual interests will create a web of contractual obligations in the basins. This will translate into *de facto* management regimes in the basins and possibly alter the existing hydro-political balances, whereby, for example, upstream Laos and Zambia will be empowered at the expense of Vietnam and Mozambique.

Multilateral water cooperation will only be revitalized when: i) social, environmental and climate change externalities put pressure on governments (e.g. water scarcity or loss of fisheries and livelihoods); ii) the economic costs of non-cooperation become visible (e.g. coordination of hydropower dams and reservoir management); iii) the river regimes close down and water development options become exhausted (e.g. large hydropower projects); and iv) the national interests of downstream countries (Viet-

nam and Cambodia) succeed through political bargains⁶³ in gaining acceptance by upstream countries for strengthened RBO functions. Whether transboundary water cooperation in the Mekong will then take the form of an RBO or evolve under the auspices of the ASEAN framework remains an open question. In the case of the Zambezi, the situation is somewhat different, as ZAMCOM has already evolved from the SADC Water Protocol, which remains a safety net for transboundary cooperation.⁶⁴

In this scenario of collapse and revitalization, it is likely that national commitments to cooperation in both basins will be strong in the revitalization phase, as cooperation will address tangible economic problems that negatively affect energy, food and water security in each riparian country. In this situation, endogenous experiences and social learning in and between riparian governments may initiate a process of ecological recovery and a balanced use of river resources. This scenario would resemble current attempts to create more sustainable management of European and North American river basins, such as the Rhine, Danube and Columbia.

Scenario 2: The bumpy road to relevance

In the second 10-20-year scenario, the MRC and ZAMCOM manage to demonstrate their relevance to the national interests of riparian states and to transboundary water governance by navigating the political economies of water in the basins.

In the Mekong, the MRC's main achievement in generating knowledge regarding development scenarios and trade-offs has led to the politicization of national development strategies. The SEA of mainstream dams that has made water high politics in the Mekong case has demonstrated this. The resulting cleavage has threatened to undermine the organization. But the SEA also made the social, environmental and economic costs visible to the downstream countries, compelling them to strengthen their interests and roles in transboundary cooperation. While acknowledging the geopolitical vectors determining the outcome of the Xayaburi conflict, this represents major progress for the RBO. The Xayaburi dam may not open the sluice gates for mainstream dams on the Lower Mekong, as Vietnam and Cambodia are likely to use the MRC framework to oppose further mainstream dams in Laos. The MRC's PNCPA procedures are up for revision, and other basin knowledge gaps are being addressed by the MRC Secretariat, although slowly and with reluctance from upstream Laos and Thailand.

⁶³ Such political bargains could be geopolitically motivated or ASEAN-inspired.

⁶⁴ However, the lessons learned from applying the Protocol's notification procedures are mixed, as they have been used by Mozambique and Botswana, but never by Zambia.

The recently established ZAMCOM can significantly benefit from the lessons learned from the Mekong case. If trade-offs are exposed through strategic knowledge generation by the RBO, water resources in the Zambezi could also turn into high politics, creating opportunities for more sustainable outcomes and benefit sharing.

Other progress towards stronger RBO cooperation in the Mekong depends on the MRC Secretariat's ability to work directly with national governments and investors to implement international sustainability standards in hydropower development. A strategic focus on demonstrating wider venues for benefit-sharing and direct conflict mediation within the perimeters of the soft-law frameworks of both the MRC and ZAMCOM agreements could also strengthen the role of the RBOs.⁶⁵ The history of violent conflict in the Mekong region may act as a bottom line for cooperation between riparian countries. Moreover, it appears unlikely that even upstream countries will allow the MRC to move into disarray, as too much political capital and prestige has been vested in it. Furthermore, there are stakeholders other than governments supporting multilateral water cooperation and more sustainable practices along the Mekong. Possible shifts in the political economies of water may come from international investors facing demands from peers and home constituencies to implement sustainability safeguards in their investments. Also, civil-society advocacy in support of the implementation of national water and environment laws along with their champions in national bureaucracies should not be underestimated. However, the road to political relevance for the RBOs remains very bumpy in this scenario.

Toward realistic revitalization

The recommendations in the next chapter aim to enhance the likelihood of the second, preferred scenario. The intention is to demonstrate how increased commitment to transboundary cooperation and sustainable development can be achieved through the strategic engagement of riparian governments, investors and civil society in the basins. The recommendations depart from our analysis of the political economies of water in the basins. The dream of basin-wide development planning guiding national development strategies has been shipwrecked by the economic growth aspirations of riparian governments. The gap between the normative vision of the IWRM principles and the realities of development is simply too large. At a deeper

⁶⁵ As a step in this direction, the MRC's Basin Development Plan (BDP) Programme is currently undertaking a regional distributional analysis of the transboundary benefits and costs of existing and planned development in the Mekong Basin. The aim is to see how benefits could be increased and costs reduced, for example, through coordination and adaptation of national plans, joint projects or transaction mechanisms (e-mail correspondence with the MRC's BDP Programme, 26 July 2013).

level, this also illustrates the limitations of the attempts by donors and development experts to demonstrate the right governance mechanisms in support of much desired economic growth in developed countries. As a Chinese policy researcher explained at a seminar in Copenhagen, ‘you [Denmark and its like-minded donors] focus on the preconditions for economic development. We [China] focus on economic development’. The widespread perception among national elites in riparian countries is that holistic governance and sustainable development constitute an agenda driven by donors and western NGOs, which only serves to constrain national development. Furthermore, we need to remind ourselves that sustainability safeguards were not part of the industrial revolutions in the OECD and the BRICS economies. Rather, they evolved when environmental problems surfaced and knowledge of and public pressure for more sustainable practices increased. Even then, sustainability goals remain contested in most developed countries, which are currently preoccupied with economic recovery from the financial and Euro-zone crises. This narrative is mirrored in the pessimistic statement by an official from one of the multilateral development banks addressing the pace of economic growth in the Mekong region: ‘What we can do here is to retro-fit development’.

The cross-cutting issue in the two scenarios is how riparian countries handle the trade-offs and economic transformations incurred by the shifting context of development in the Mekong and Zambezi basins. The expanding national development spaces are strong determinants for the future of transboundary water governance. The challenge is to address the decoupling between weak sustainability frameworks across multiple levels of governance and the powerful investor-driven economic maelstrom.

Finally, our analysis of the political economies of water in the two basins also leads us to question the moral high ground of the normative policies for sustainable development and IWRM promoted by donors and water experts. We believe that these policies need a serious overhaul and reality check in order to gain relevance when put into practice. Idealized best-practice examples of ‘good water management’ infused with idealistic thinking do not address the development concerns of riparian governments, nor do they present solutions to the development dilemmas we have highlighted in the Mekong and the Zambezi. We will address this in the next chapter.

9. Recommendations: increasing commitment to RBOs

Based on the conclusions in the previous chapter, the objective is to provide policy recommendations relevant to riparian governments, RBOs, investors, civil society and donors for how a stronger commitment to realistic levels of transboundary cooperation and sustainable development can be achieved. We focus on the RBOs in the two basins: the MRC and ZAMCOM, and the avenues to increasing riparian commitment and ownership of cooperation in these institutions. We also recognize that the economic growth imperative is the main driver and that diversification of the development space is enabling the outstanding national growth rates experienced in many riparian countries in the basins.

It is important to note that ZAMCOM is newly established (2012), while the MRC has almost twenty years of experience, including a Mekong history of cooperation that dates back to the 1950s. ZAMCOM is still embryonic and has far less operational experience than the MRC. Our analysis shows that ZAMCOM and the MRC are likely to face similar challenges in terms of riparian commitment, polycentric governance and upstream–downstream development conflicts. The fact that the MRC is immersed in some of these challenges provides an opportunity for cross-basin learning. In order to learn lessons from current events in the Mekong region, Zambezi riparian governments, the ZAMCOM Secretariat and donors should all carefully review and assess how the situation in the Mekong is evolving, as there is evidence that ZAMCOM is likely to face similar governance challenges.

Strategically realizing the preferred Scenario 2: the bumpy road to relevance (Chapter 8) requires change. We propose three strategic changes in the approach to RBOs in the Mekong and Zambezi basins to enhance these multilateral institutions' adaption to shifting development contexts: i) conflict mediation; ii) strategic knowledge generation; and iii) sustainable investments. RBOs could improve their value for transboundary water governance by centering efforts on these three roles and tasks. These are not necessarily new. However, lessons learned during the MRC's almost twenty years of history demonstrate the value of focusing on these three areas and provide a basis for understanding how these functions could be carried out more constructively.

Our analysis has informed the recommendations, which build on the eleven challenges and opportunities identified in the previous chapter. The widened national

development space and related polycentric realities in the basins lead us to identify possible ‘next steps’ in realizing stronger riparian commitment to the RBOs. These steps will also assist in raising the emphasis on sustainability in current and future developments in the two basins. As such, we propose alternatives to the idealistic formulae for transboundary water management.

9.1 Conflict mediation: the central governance mechanism

Recognize that national sovereignty is the strongest element in the MRC and ZAMCOM agreements and appreciate that national sovereignty and the geopolitical environment are not conducive to shifting from ‘soft law’ to ‘hard law’. Both cooperative institutions fall in the category of ‘soft international law’, where decisions are made by consensus (Hirsch and Jensen 2006). Countries agree to cooperate, support and coordinate the economic development of shared water resources, they agree to certain principles for management of the river (i.e. sustainability and equitable use), and they agree to establish a common governance framework built around notification and consultation procedures on the development and management of the rivers. Critics from academia, DAC donors and civil society often point to the weaknesses of such agreements and argue the need for more ‘hard law’, that is, stricter rules, recourse mechanisms, or even supranational authority in transboundary cooperation to focus riparian countries on the task.

The hard-law argument resurfaced after the Xayaburi conflict in the Mekong region with the IUCN’s recent presentation of a proposal for a revised 1995 MRC Agreement with, amongst other things, a legal recourse mechanism in cases of disagreement between riparian countries (Mather and Brunner 2013). No matter how desirable, experiences in implementing the MRC Agreement in the Mekong case and agreeing on ZAMCOM in the Zambezi case illustrate how unrealistic this recommendation is for either basin. The current political economies of water simply make harder law politically unrealistic. It is also likely that renegotiation of the agreements and their procedures will paralyze the RBOs for years to come, while economic development of the river basins roars ahead.

Embrace polycentrism, as it is increasing in both basins, and there are strong signals that this trend will continue. We have seen that polycentrism is increasing through public–private partnerships, bilateral agreements and BRICS partners. Polycentrism further accentuates the difficulties of introducing ‘hard law’, and even with their soft-law foundation, the RBOs are struggling to acquire political relevance in constantly

shifting development contexts. In the Mekong, the MRC's basin development planning is contrasted by the rapid expansion of hydropower on its tributaries, which illustrates the shortcomings of the IWRM vision of holistic basin planning as rooted in the MRC Agreement. Hydropower development in the Mekong system clearly demonstrates that a 'grand resolution' of basin development is unlikely. A similar development is underway in the Zambezi system. National interests in the sovereign development of the river are simply too high, especially in upstream countries.

Enable the RBOs to regularly engage the ministries that are positioned to influence political change. The RBOs are still too water-centric, meaning that they are not engaging effectively with ministries that are in a position to take important water governance issues to a political level, such as ministries of foreign affairs, energy and finance. Thus, a widening of the RBOs governance space beyond the water ministries is recommended in order to address water resources in both its wider nexus context and to resolve conflicts. There are signs of developments in this direction in both the Mekong and Zambezi cases. Laos is now represented in the MRC through its energy authorities, and Thai delegations to the MRC frequently include officials from its foreign ministry. Similarly, Mozambique is represented in ZAMCOM by non-water sectors, including mining and energy. Also, the discussions on the Xayaburi dam between Vietnam, Laos and Thailand in the corridors of ASEAN meetings were not between water officials but between other high-level officials (from, e.g., foreign affairs) and prime ministers. Engagement processes with foreign affairs and defense ministries on water governance issues that have taken place in the Zambezi region outside of the RBOs (particularly on the issue of Zambia not signing the ZAMCOM agreement) demonstrates that bringing the appropriate players into the discussion can bring an important, different perspective to what we have seen in the 'water box'.⁶⁶

Strengthen the RBOs as effective conflict managers to unlock basin cooperation. The upstream–downstream disparities in riparian countries' levels of commitment to multilateral cooperation threaten the ability of the MRC and ZAMCOM to function as transboundary water governance mechanisms. The growth and development of water

⁶⁶ The British Peace Keeping Team, for example, has been running a seminar series on key security threats in Africa in the southern Africa region each year for the past four years. Zambia has been one of the four participant countries, with the audience being made up of defense and foreign affairs strategic advisory staff and diplomats. In the last three years the seminar series has included climate change as one of the four key threats facing this region, and here the papers presented included a significant focus on water as being a climate threat multiplier. The seminar audiences engaged extensively on the water governance issues raised and expressed concern that the ZAMCOM agreement was not being fully maintained, demonstrating how perspectives change with different players in the room (interview with OneWorld, 2013).

resources is likely to generate disputes among governments in the two basins both now (Xayaburi and the next mainstream dams) and in the future (similar development strategies in Zambia and Mozambique) as transboundary externalities surface. The changing contexts of development have resulted in a situation of increasing demand for 'development conflict' mediation, as well as for methods to handle controversial water or nexus development projects. It is possible that the MRC and ZAMCOM could become important forums for constructive negotiations between riparian countries on national projects and strategies, but this would necessitate changes in the strategies and approaches of member states, donors and other stakeholders in the basin.

Create the space for the application of different conflict management tools. The tools needed for the two RBOs to perform as effective conflict mediators are somewhat different. The governance provisions of the 1995 MRC Agreement are weaker than those in the ZAMCOM Agreement. Contrary to ZAMCOM, the MRC Agreement does not provide legally binding rules for notification and consultations (Mekong River Commission 1995; ZAMCOM 2004; Hirsch and Jensen 2006). The PNPCA are procedures agreed upon by the riparian countries, and their open-ended nature was exposed through the first test of the MRC governance framework, notification of Laos's Xayaburi project. The ZAMCOM framework has yet to be tested; however, Mozambique used the SADC Water Protocol to notify the Mphanda Nkuwa dam, which did not spur much controversy due to its downstream position. Despite these shortcomings, notification procedures are crucial mechanisms in the agreements as they couple the multilateral framework and possibly its decision-support systems with unilateral or bilateral development of the rivers' water resources by each riparian country. Notification procedures are conflict management tools, as they create a space for dialogue and the negotiation of transboundary impacts, trade-offs and possible benefit-sharing between governments and other stakeholders. Importantly, a precedence for notification has been established in both basins, making it more difficult for countries legitimately to avoid involving other countries in their development plans. Of course, the neglect of downstream concerns by countries such as Laos and Thailand erodes the effectiveness of the notification procedures on development outcomes. MRC member states appear to be well aware of this governance challenge. They have started a process of reviewing and possibly revising all the five procedures that evolved out of the 1995 Agreement.⁶⁷ It remains to be seen exactly how and in what direction a revision of the PNCPA procedures would proceed.

⁶⁷ MRC Council meeting in March 2012.

Make SEAs integral to project notification as a tool for more effective basin-wide RBO governance. It is not entirely clear exactly which projects in the river system should be notified. Formally, both RBO agreements include all development projects and management practices with transboundary impacts. Countries in the Mekong have chosen to interpret this narrowly. There is tacit agreement among governments that hydropower development on tributaries is exempt from notification. A similar interpretation is *de facto* practice in relation to the Zambezi. One of Zambia's concerns regarding ZAMCOM has been possible interference with developments on the Kafue tributary system. Nevertheless, single tributary dams (e.g. Cambodia's Lower Sesan 2) and aggregated effects of hydropower and mining in all tributary basins may prove even more detrimental to the river basin than mainstream dam development. Strategic environmental assessments (SEAs) by the technical Secretariats of the RBOs (or other stakeholders) that make this visible to riparian governments are an important tool in providing the necessary leverage to expand the practical coverage of notification procedures throughout the basins and to reactivate the governance role of the RBOs (see next section on knowledge). We recommend that SEAs become a requirement of any project that has narrow or wide transboundary implications and that these are coordinated by the RBOs. This recommendation is viable provided there is the political will, because the water and environmental regulatory environment is robust in both basins. This creates a strong foundation for SEAs in that they are not foreign concepts to the riparian countries. Political will is, however, likely to be a challenge, and the ZAMCOM agreement, for example, does not provide a clear mandate to ZAMCOM here. In reality in the Zambezi, countries tend to agree SEAs amongst themselves: for example, Mozambique and Malawi bilaterally agreed an SEA on the Shire–Zambezi waterway. A starting point for ZAMCOM, as it finds its place in the Zambezi arrangements, could be to establish agreed guidelines for these assessments and also to feed information into those that are conducted.

Maintain flexibility in establishing alternative forums for conflict resolution. Notification procedures are likely to generate different scales of disagreement between countries. A common denominator in the two RBO agreements is the weakness of mechanisms for conflict resolution. Negotiations in the MRC and ZAMCOM Councils are the primary mechanism for resolving disputes. As our Mekong case study illustrates, national sovereignty, combined with conflicting interests, makes consensus-based decision-making extremely difficult, and RBOs are easily sidelined in this process. The MRC agreement allows countries to call upon a third party to mediate in conflicts, but this option was not pursued in the Xayaburi case. Rather, this conflict was resolved through bilateral negotiations between Vietnam and Laos

against the backdrop of regional geopolitics and on the fringes of ASEAN summits. The ZAMCOM agreement posits the SADC Tribunal as a legal recourse option for conflicts between riparian countries, making ZAMCOM legally stronger than the MRC. However, the Tribunal has been abolished by SADC member states, removing this possibility of external mediation.⁶⁸ Nevertheless, ZAMCOM remains embedded in the SADC framework, where the Water Protocol continues to be the overall umbrella for cooperation over the international rivers in the region. Also, in the absence of the SADC Tribunal, the SADC Council, with its seats for heads of state, is a political body that could be activated to address any potential conflicts based on information developed and owned by riparian countries. The heads of state are in a position to respond with political solutions. However, accessing these conflict-resolution mechanisms would necessitate the involvement of sectors outside of water being involved in ZAMCOM processes, as this would assure the SADC Council that any measures adopted are cross-cutting. There are examples of this process already happening in the region, making this option viable: in Mozambique, Commission members include non-water sectors, while ZAMCOM includes representation from mining and energy.

This allows water to move up the ladder of political priorities (i.e. to prime ministers' discussions in SADC or ASEAN summits). On the other hand, complete decoupling of the RBOs' sustainability and decision-support mandates from political decision-making is a significant and undesirable erosion of their governance function. Without this, the MRC may retreat into just one among many providers of knowledge in the Mekong basin with very uncertain future donor funding. Also, maintaining the RBOs' governance roles will increase the chances that the MRC's and in the future ZAMCOM's decision-support systems will be politically relevant.

*Introduce or upscale development diplomacy and conflict resolution expertise in the RBO Secretariats.*⁶⁹ For the RBOs to gain credibility as forums for political negotiation, a significant scaling-up of expertise is required. Technical knowledge and management skills need to be supplemented with more strategic negotiating and

⁶⁸ The Tribunal was abolished due to several verdicts it issued against Zimbabwe. The 2012 SADC Summit resolved that a new Tribunal should be negotiated and that its mandate should be confined to interpretation of the SADC Treaty and Protocols relating to disputes between Member States. See <http://www.sadc.int/about-sadc/sadc-institutions/tribun/>

⁶⁹ The focus of this report is not on the composition, staffing and capacities of the technical secretariats of the MRC and ZAMCOM. In the case of the already large MRC secretariat, it is not the intention to signal that additional secretariat functions and staff are required. Scaling up negotiating and conflict-resolution skills could appropriately go hand in hand with downscaling and outsourcing of many functions and staff in the MRC Secretariat.

conflict-resolution skills. Negotiating solutions to development conflicts calls for skills in development economics and development diplomacy. As governments in both basins are not likely to call on third parties for conflict mediation, the RBOs and their sponsors should focus on building internal capacity in this field. We note, however, that national interests closely linked to strong development finance interests will only allow RBOs to mediate conflicts when they think it is in their interests to do so. Even so, it is highly likely that RBO engagement in some conflict-resolution processes (e.g. benefit-sharing and compensation linked to hydropower projects) will create win-win situations that provide tangible value for national governments, build RBO credibility and visibility, and strengthen their capacity. Ultimately, this could lead to the RBOs' decision-support systems becoming a tangible function, thus increasing riparian commitment to transboundary cooperation and ultimately supporting regional stability. It remains to be seen if this will result in more sustainable development outcomes.

9.2 Strategic knowledge for agenda setting

The critique of the MRC's weakness as a governance institution does not extend to the quality or quantity of its knowledge generation. The MRC's huge knowledge production is one of the main outcomes of many years of donor assistance. The resulting baselines, monitoring and 'decision-support system', although not perfect, are robust, and this is by and large viewed as a major achievement. Regional and international CSOs, NGOs and academia have also contributed significantly here, and to some extent the basin is well researched. Contrastingly, knowledge production in the Zambezi region is much less and more dispersed than in the Mekong case.⁷⁰ Basic knowledge of fisheries, basin-wide environmental flows and basin development scenarios are not available. Such knowledge is crucial, as development projects in hydropower, mining and irrigation will increasingly draw on the Zambezi's water resources. It is also crucial to mitigating the risks of inadequately designed or managed investments and project agreements. Industrial revolutions produce painful processes, and applied information is one way of dulling the pain of rapid growth and development, as seen in the diversified development landscape in the two basins. This knowledge lacuna is among the key issues to be addressed by ZAMCOM, not least when managing

⁷⁰ Scandinavian donors have supported Zambezi basin studies under the ZACPLAN and ZACPRO projects. The World Bank undertook a feasibility study of opportunities for Integrated Water Resource Management projects in the basin, while the German GIZ financed a study of dam synchronization on the Zambezi. Finally, the WWF is undertaking a study of environmental flows on the Zambezi stretches within Zambia, Zimbabwe and Mozambique.

notification of new projects and providing support to the development decisions of member states.

The Xayaburi controversy demonstrated the usefulness of an SEA that translates basin-generated knowledge into awareness of the implications of hydropower on the mainstream for broader development. It also illustrates how the MRC's PNCPA procedures were subsequently able to influence government positions and increase transparency in a previously closed context of governance. This is an important lesson for the MRC and possibly also for ZAMCOM: focusing on basin baselines, monitoring regimes and holistic development scenarios is not enough to gain the attention of decision-makers outside the water box. SEAs of this nature can also highlight the contrast between the centralized benefits of hydro developments and the localized trade-offs that typify these developments. Although we acknowledge that tackling these trade-offs is different in practice, understanding what they are from an SEA perspective can aid the management of the project's implementation.

The RBOs should package existing knowledge strategically for more effective governance and risk management. Assessments of social, environmental and economic trade-offs incurred by development projects are vital to RBOs' decision-support systems if these are to acquire political relevance and influence the development agenda in international river basins. Given the changing contexts of development, *strategically packaged knowledge* should also be expanded to include the short- and long-term risks that trade-offs may incur for public and private investors, as future environmental changes, the aggregated effects of multiple development projects or political conflicts may affect hydropower dam operations and therefore jeopardize the profitability of investments. If well packaged, better strategic knowledge could play an important role in pushing national governments towards more sustainable outcomes and increased commitment to cooperation. If smartly linked with notification procedures, this could *revitalize the governance mandate* of the MRC and strengthen that of ZAMCOM. For this to become a reality, the Secretariats, especially in the Mekong case, need to engage in the evolving political economies of water with their knowledge flagship. In essence, and as indicated earlier, strategically packaged knowledge is a *risk management tool*. However, strategic packaging cannot wait until a comprehensive knowledge base has been established (ZAMCOM) or all knowledge gaps have been filled (MRC). The RBOs have to work across more frontiers of knowledge management. Existing studies generated by governments, academia, civil society, consultants, development banks, donors and the RBO itself can be used as the foundation for strategic knowledge packaging and rapid assessments, while work on more holistic development scenarios,

better baselines and monitoring regimes continues. Basin-wide development planning is an ongoing process and should therefore be recognized as ‘work in progress’. It is therefore understandable that riparian governments are not inclined to postpone key water resource investments until the RBO can present an all-inclusive and conclusive basin development plan. For example, the MRC-sponsored SEA of mainstream dams recommended a ten-year moratorium on dam building on the Mekong mainstream. This has been ignored by Laos and Thailand, as witnessed by the work well under way with the Xayaburi dam. However, basin-level planning can evolve with these developments and aid in risk management and benefit-sharing by identifying the relevant mutual benefits and providing recommendations for realizing them.

RBOs should prioritize information that demonstrates benefit sharing avenues that will reconcile project development trade-offs. While the success story from the Mekong is the ability of strategic knowledge to position water resources as ‘high politics’ among riparian governments, the resulting political conflicts have made the MRC’s knowledge production controversial. When referring to the MRC’s proposed ‘Council Study’, the Laotian Vice-Minister for Energy and Mines explained: ‘Xayaburi is being built. Studies can go on in parallel’. In the wake of the Xayaburi conflict, the terms of reference for the MRC’s knowledge generation have become a battleground for riparian national interests in the Mekong basin. Upstream countries argue the need to include the full palette of economic activities affecting the river’s ecology (e.g. over-fishing, sand-extraction, urbanization, etc.) in the MRC’s Council Study to balance the criticism of mainstream hydropower projects by downstream countries. The implied time horizon of three to four years will probably make the study irrelevant for the next notifications of mainstream dams, although some of the information generated will still be useful. The long time horizon may be in the interests of some countries but not others. Meanwhile, Vietnam is launching its own ‘Delta Study’ to assess the effects of upstream dam developments on the Mekong Delta (defined as a larger delta covering both Vietnam and Cambodia). The politics surrounding these MRC studies demonstrate how the politicization of the RBOs’ knowledge production and the tendency to decouple transboundary studies from core development decisions are huge challenges for the MRC, and possibly also for ZAMCOM in the future, ones that are not easily dealt with. One answer could be to go beyond the focus on trade-offs (SEA, Council and Delta Studies) and demonstrate the tangible benefit-sharing options of specific hydropower projects, as indicated earlier. The *de facto* bilateral benefit-sharing between Laos and Thailand and compensation to Vietnam for the Xayaburi case are the results of political negotiations outside the auspices of the MRC, which does not incorporate downstream externalities. While

a total reconciliation of development strategies is not likely, context-sensitive and project-specific avenues for benefit-sharing to deal with trade-offs may propel the RBOs back on to the governance stage as key conflict mediators and move deliberations away from endless impact studies.

As a basin-wide knowledge provider, RBOs should form strategic partnerships with civil-society organizations and academia. As with the above recommendation to strengthen development diplomacy and conflict mediation skills, the RBOs' roles as knowledge providers call on their technical secretariats to engage more directly with civil society and academia in building strategic knowledge and communication. The scientific knowledge developed by the WWF stands out as a good example of relevant river basin knowledge that needs alignment with the knowledge production of the RBOs. The WWF produced environmental flow assessments in three of the Zambezi countries (Mozambique, Zambia and Zimbabwe) and analyzed the impacts of sand-mining on the Mekong. Although controversial, particularly in the Mekong case, there is scope for further civil-society involvement in relation to the more controversial hydropower projects. Civil-society positions and perspectives, whether through knowledge production or social and environmental advocacy, could provide new options for benefit-sharing. Also, the inclusion of civil society groups as legitimate river-basin stakeholders would serve to strengthen the RBOs' governance mandates. Ideally, this could ultimately demonstrate the RBOs' political relevance to riparian governments.

9.3 Engage in sustainable investments

Conflict mediation and strategic knowledge generation involves a more direct engagement in the investments made in both rivers' water resources and other parts of the nexus. More hydropower dams are going to be built on both the Mekong and the Zambezi in the coming decades, and investments in extractive industries and other natural resources will proliferate. The question is not how to stop dam-building or development, but rather how to make them more sustainable at the same time as improving benefit-sharing both in and between countries. This must also be communicated from the perspective of the RBO Secretariats. As a World Bank official phrased it, it is about 'doing the right dams' and 'doing the dams right' (interview, World Bank; see also World Bank 2010a). Facilitating more sustainable investments in both the Mekong and the Zambezi is a daunting task for ZAMCOM and the MRC given their rapidly changing development environments. However, it also provides an opportunity for the RBO Secretariats – and

their DAC donors – to demonstrate the tangible benefits from transboundary cooperation and produce basin-wide knowledge for the stakeholders behind the rudder of the industrial revolutions.

The RBOs should reposition themselves in the political economies of water and engage more directly with investors and civil society to help them navigate the thorny issues of transboundary water governance. A broad range of stakeholders contested the nationally executed EIA of the Xayaburi. As the EIA did not adequately reflect the MRC's knowledge assessment of planned hydropower development, nor consider the transboundary effects, it undermined the credibility of the Laotian government's reassurance that the dam would cause very little harm to downstream countries. A stronger EIA that drew on the MRC's knowledge reservoir would probably have shown that the Xayaburi would produce trade-offs, and the subsequent political conflict with Vietnam and Cambodia might have unfolded very differently. Ideally, the MRC member states involved could rather have negotiated compromises and even ultimately benefit-sharing based on a more legitimate, credible and shared understanding of the possible impacts. The transparent application of international standards and best practices in assessing the social and environmental impacts of development projects notified through the ZAMCOM and MRC agreements would be of huge benefit to riparian countries in developing a more equitable and sustainable use of the river, while still realizing economic growth. Possibly, involvement of the RBOs' expertise at the early stages of project development and feasibility studies (i.e. prior to notification) to identify cumulative impacts and economic trade-offs and to suggest design changes and benefit-sharing arrangements would minimize the associated investment risks through, for example, reducing the risk of political conflict and ultimately increasing the sustainability of the investments. This approach would also provide tangible benefits to the investors. Even the BRICS investors' home constituencies are slowly becoming concerned with environmental externalities, and recurring criticism from national and international stakeholders is creating reputational risks for companies engaged in large-scale development projects. In order to consider all aspects of the sustainable investment objectives on all fronts, stronger RBO involvement with civil-society groups will be necessary to include also their positions and perspectives on trade-offs and benefit-sharing (see recommendation on civil society above).

More RBO technical cooperation with investors is recommended, but there are challenges. The MRC Secretariat has already had interactions with private investors on more sustainable dam design and EIA methodology through the 'Initiative on Sustainable

Hydropower.⁷¹ The IFC and the World Bank are also important stakeholders in this field. The World Bank actively promotes hydropower development as part of a 'green growth' agenda and engages directly in investment facilitation in both basins (World Bank 2009; interviews, World Bank). The core challenges for this strategy are the willingness of member countries to invite the RBO to the table when investments are discussed, as well as the incentives for investors and contractors to draw on the RBO's technical expertise. Recent experiences with mainstream and tributary dams in both basins do not engender optimism. Klondike approaches to natural resources development, hydro-political power asymmetries and closed-door decision-making appear deeply embedded in the evolving political economy of water. These are hard barriers to sustainable development of the rivers' water resources, which are not easily transformed. However, a starting point for more RBO engagement in large-scale investment projects could be addressing the fear among upstream governments that more transparency and better social and environmental assessments of development projects will halt their capitalization of natural resources or impede their development strategies. Rather, transparency and quality assessments would provide avenues for more sustainable growth through defining trade-offs and benefit-sharing. Significantly, it would incur less risk for developers and downstream countries alike in the long term.

Strengthen communication between RBOs, investors and governments. If the RBOs are to become relevant partners for investors and governments alike, their technical secretariats need strong competencies (either in-house or with partners) in the key investment sectors of hydropower, mining and agriculture. As with the above recommendations on conflict mediation and strategic knowledge, a *build-up in communication and negotiating skills* would greatly enhance the RBOs' chances of successfully demonstrating tangible results for riparian governments through the facilitation of more sustainable investments and conflict prevention.

9.4 Managing conflict for enhanced economic transformation

Revitalizing the governance role of the RBOs depends on the enhanced ability of the MRC and ZAMCOM to engage in conflict mediation, provide strategic knowledge and facilitate sustainable investments in the basins. Enabling the RBOs to become effective development diplomats will demonstrate their political relevance in an increasingly complex development context in both river basins. The RBOs

⁷¹ The 'MRC Design Guidelines for Hydropower Development' draw on knowledge from the MRC Hydropower, Fisheries, Environment and Navigation Programmes.

may achieve this through also working closely with foreign affairs ministries in the riparian countries, particularly in situations that require political solutions. If the RBOs are successful in effective conflict mediation, starting by giving attention to development trade-offs and benefit-sharing, it may, assuming an optimistic scenario, generate trust between governments and increase riparian commitment to basin cooperation. As we have demonstrated, the shifting development context, widened national development spaces and strong notions of national sovereignty are the main challenges to this approach.

Balancing the various social, environmental and economic trade-offs is the ideal and logical outcome of holistic planning. It does, however, underestimate the politics of national interests, sovereignty and regional geopolitics in the river basins. Politics is the unruly, unpredictable and illogical element of the development equation, and power disparities are defining feature of development outcomes more often than not. However, neither can be ignored. Addressing these issues strategically is critical, and this means considering internal and external stakeholders, including civil society and communities that are adversely affected by development. A development approach that acknowledges the sometimes unpleasant realities of politics, power and conflict would be a good starting point in tackling transboundary water governance, and it may help riparian countries to avoid the turmoil of multiple Xayaburi-type conflicts. The drive for economic growth is the consistent and persistent theme in both basins. Everyone wants economic transformation, yet if anything is going to ravage economic development, it is multiple conflicts. More of what happened in the Xayaburi has the potential to isolate the MRC and ZAMCOM, positioning them at some distance from the economic maelstrom within which decisions are made.

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