



Private equity, public affair: Hydropower financing in the Mekong Basin



Vincent Merme^{a,e,*}, Rhodante Ahlers^b, Joyeeta Gupta^{c,d,e}

^aIndependent Researcher, France

^bIndependent Researcher, The Netherlands

^cUniversity of Amsterdam, The Netherlands

^dAmsterdam Institute for Social Science Research, University of Amsterdam, Delft, The Netherlands

^eUNESCO-IHE, Institute for Water Education, Delft, The Netherlands

ARTICLE INFO

Article history:

Received 30 May 2013

Received in revised form 13 September 2013

Accepted 3 November 2013

Keywords:

Hydropower

Finance

Mekong

Water

Accountability

E&S impacts

ABSTRACT

Large-scale hydropower development is increasingly popular. Although international finance is a significant driver of hydropower market expansion, financial data is relatively obscure and literature remains scarce. This article tracks the financial process in hydropower development in the Mekong River Basin. It shows a shift in influence from traditional public international financial institutions to a diverse mix of private actors, who are enticed with attractive terms of trade and complete decision making power over water resource management. Traditional players have now taken on a more facilitating and regulatory role by providing guarantees and mitigating social and environmental impacts partly releasing the new global and regional private actors from these responsibilities. Because hydropower financing involves opaque processes and confidential documents public accountability is severely limited. While the private sector benefits from relatively short term returns, the public sector is left responsible for long term impacts.

© 2013 Elsevier Ltd. All rights reserved.

1. Introduction

Increasing global energy demand and the need to shift away from fossil fuels contribute to the current renaissance of hydropower development. Proponents commonly present hydropower as a straightforward way to exploit the power potential trapped in uncontrolled rivers, thereby supplying electricity, reducing greenhouse gases and attracting foreign currency, for sustainable regional development. Both the International Energy Agency and the World Bank (WB) argue that seventy percent of economically feasible hydropower potential (1330 GW) is still unexploited, of which most lies in Africa, followed closely by the Asia-Pacific region (IEA, 2010; WB, 2009). This potential far exceeds existing production capacity. A study commissioned by the WB (corroborated by our own research) reveals that large-scale hydropower investment costs between US\$ 1000 and 4000 per kW capacity, depending on the unique nature of each project (IEA, 2010; MRC Database, 2009; WB, 2000). Consequently, exploiting

the energy confined in those undammed rivers appropriate for hydropower development would require roughly between US\$ 1.33 and 5.32 trillion. The average returns on investment for equity investors depend on several factors but sits between seven and twenty percent (and around two to three percent over the cost of capital for debt lenders) (Ljung, 2001). Such a prospective market makes investment in hydropower financially quite attractive in general and in particular in the Mekong River Basin – the case study in this paper.

The current increased interest in large dam development and its financial opportunities is not accompanied by increasing literature on hydropower financing dynamics and the mechanisms that bring (private) financial actors together to finance a single dam project. Much literature is available on the social and environmental impacts of large dams (in general, see Gupta, 2002; Khagram, 2003; Klingensmith, 2007; Scudder, 2005; WCD, 2000 and for the Mekong, see Fergusson et al., 2010; Grumbine and Xu, 2011; Hoa et al., 2007; Kummur and Varis, 2007; Stone, 2011; Vaidyanathan, 2011; Virtanen, 2006); challenges facing dam hydropower development since the World Commission on Dams came out with its influential report on sustainable dam building (in general, see Baghel and Nüsser, 2010; Bosshard, 2010; Kaika, 2006; Karki et al., 2005; Nüsser, 2003; Shah and Kumar, 2008; and for the Mekong, see Grumbine et al., 2012; Smits and Bush, 2010); and the

* Corresponding author at: Archimedesstraat, 37 III, 2517 RR The Hague, The Netherlands. Tel.: +31 645 511 954.

E-mail addresses: vincent.merme@gmail.com (V. Merme), rhodanteahlers@gmail.com (R. Ahlers), j.gupta@uva.nl (J. Gupta).

history and geopolitics of dam development, including trans-boundary governance and institutional regimes (in general, see Goldsmith and Hildyard, 1984; Klingensmith, 2007; McCully, 1996; Swyngedouw, 1999; and for the Mekong, see Bakker, 1999; Friesen, 1999; Hirsch, 2001, 2010; Krongkaew, 2004; Li et al., 2011; Liebman, 2005; Magee, 2006; Makim, 2002; Sneddon and Fox, 2006; Sneddon, 2012; Yu, 2002). More recently, the emerging concept of water grabbing through infrastructure building is gaining attention (in general, see Hildyard, 2012; Islar, 2012; and for the Mekong, see Matthews, 2012). Several studies discuss lending policy and conditionality (in general, see Dreher, 2006; Kilby, 2008; Sklar and McCully, 1994; Strickland and Sturm, 1998; Temple, 2010; Usher, 1997), power sector deregulation (in general, see Ingco, 1996; Williams and Ghanadan, 2006) and privatization (in general, see Barnett, 1992; Ramamurti and Doh, 2004; Ward, 2010). A few studies focus on the shifting roles of financiers, the rising private sector, and new hydropower financing instruments (in general, see Briscoe, 1999; Ljung, 2001; WB, 2000, 2012; and for the Mekong, see Molle et al., 2009; Wong, 2010); the role of international bodies, such as the Clean Development Mechanism under the Kyoto Protocol to the Climate Change Convention, and regional financial institutions in dam building (in general, see Erlewein and Nüsser, 2011; Usher, 1997; WWF, 2003; and for the Mekong, see Glassman, 2010; Kaisti and Käkönen, 2012; Käkönen and Kaisti, 2012; Middleton, 2009, 2011) and finally sustainable hydropower financing (in general, see WCD, 2000; UNEP, 2004; and for the Mekong, see MRC, 2010c).

Underrepresented in the literature on dams in general and on the Mekong in particular is a discussion on hydropower financing dynamics and its implications for ownership, regulation, the right to water, community life and sustainable development. To address this gap, this paper focuses on the role and influence of financial actors in capital-intensive hydropower development. It aims to contribute to a better understanding of the financing and governance of large hydraulic infrastructures and how they are shaped by, and in turn shape, financial dynamics, given the scale of both the infrastructure and the capital involved. Using an integrated approach for analysing socio-ecological transformation and dynamics of large-water infrastructures (Ahlers, 2011), this research analyses the nexus between water, finance and development. Because the literature is scarce, and financing constructions are highly intricate, we focus on one particular case, the Nam Theun 2 (NT2) project in the Mekong River Basin (MRB). This case study is based on scientific literature, documentation available from non-governmental organizations and financial institutions, information provided publicly by the actors involved in the NT2, and the lower Mekong hydropower database from the Mekong River Commission (MRC Database, 2009). The results were cross-checked with key informants.

We begin our discussion by describing the context of the Mekong Basin and our case study, the NT2 diversion dam. From the case study we discern four new trends in hydropower development, which we subsequently link to the changing policy context that has facilitated the emergence of contemporary hydropower financing. In particular, we focus on the shifts that have taken place by discussing the emerging financial arrangements, the actors involved, and their motivations. The paper concludes by assessing the possible impact of commercial funds in shaping river basins and the consequences of the institutional shifts on the reallocation of waters and thereby the socio-ecological integrity of the river basin.

2. The Mekong River hydropower expansion

The MRB has seen extensive hydropower development over the past hundred years. Within a context of regional economic

integration, climate change awareness, alongside global restructuring of the power market, this development has attracted the interest of a variety of financial actors. Of the assemblage of dams proposed, planned, and constructed in the basin, we selected the Nam Theun 2 Power Company (NTPC) project as a case study. The NTPC is a milestone in shaping regional development and paves the way for more ambitious dams to be built in the future (Wong, 2010), especially in Lao PDR, where approximately seventy percent of the dams planned for the Mekong are located. With its complex financing scheme that includes 27 distinct parties, each with its own interest and conditions for loan disbursement, this case reveals important insights into contemporary financing dynamics of hydropower development. This section first discusses the Mekong Basin (see Section 2.1), the rise of dam building and the emerging actors in the Mekong Basin (see Section 2.2), in order to set the context for the case study of the NTPC (see Section 2.3).

2.1. The Mekong Basin

The Mekong River and its tributary system run through six riparian countries: China, Myanmar, Lao PDR, Thailand, Cambodia and Vietnam. The basin is divided into two parts: the mainly mountainous Lancang or Upper Mekong Basin, and the Lower Mekong Basin, which consists of lowlands and floodplains covering around 70 percent of the basin (Hirsch and Jensen, 2006; MRC, 2010a; UNEP, 2006). Of the approximately 70 million people who live in the MRB, 75 percent depends on two main economic activities: fishery and farming (UNEP, 2006). Within this largely rural population, 25 million people live within a 15 km corridor on either side of the Mekong mainstream. They depend largely on the provisioning, supporting and cultural ecosystem services provided by the river for their livelihoods, food security and source of income (MRC, 2010a; UNEP, 2006; Wong, 2010).

2.2. Emerging actors in financing dams in the Mekong

For the Mekong the move into the 21st century meant structural changes. In response to the Asian financial crisis which began in Thailand in 1997, the Mekong member countries had to implement the structural adjustment programmes promoted by the International Monetary Fund (IMF) (see Section 3.2), and restructured their power sector (Makim, 2002; Yu, 2002). But entering the twenty-first century, the regional commercial banks were accumulating sufficient capital and understanding of the hydropower sector to develop complex financing mechanisms to shape the financing of this sector. Emerging regional financiers from riparian robust economies (i.e. Thailand, Vietnam, Malaysia, and China) are now scaling up their activities, making ample funds available to stimulate the current increase in hydropower development in the basin.

The total hydropower capacity in 2012 installed in the MRB amounted to more than 14,600 MW. From 1990 to 2012, 36 hydropower dams were built in the Lower Mekong Basin and 5 mega dams in the Upper Mekong Basin (MRC Database, 2009; IR, 2013). Fig. 1 shows the scheduled hydropower development boom in the Lower Mekong Basin. The estimated hydropower potential according to the Mekong River Commission equals to 53,000 MW, of which 33,000 MW are identified for the lower Mekong. One hundred tributary and mainstream dams (85 in Lao PDR, 13 in Cambodia and 2 in Vietnam; MRC Database, 2009) are either under construction, licensed or planned in the Lower Mekong and 8 mainstream dams are underway in the Upper Mekong, all in China (MRC Database, 2009; IR, 2013). Only in Lao PDR, 22 dams are licensed and 60 planned, of which 9 are proposed in the Mekong mainstream (Matthews, 2012). The Government of Lao (GoL) has agreed to supply 7000 MW of hydroelectricity to Thailand by 2015.

Download English Version:

<https://daneshyari.com/en/article/7470613>

Download Persian Version:

<https://daneshyari.com/article/7470613>

[Daneshyari.com](https://daneshyari.com)