International and local benefit sharing in hydropower projects on shared rivers: the Ruzizi III and Rusumo Falls cases

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Abstract

It has been argued that dam projects on shared rivers may provide opportunities for cooperation and the sharing of benefits among co-riparian states (discourse on international benefit sharing). In parallel, a discourse on local benefit sharing emphasizes that the population affected by dams should benefit from the projects in the long term. This raises the question of how international and local benefit sharing can be combined and whether these concepts are taken up in recent hydropower projects (HPPs) on shared rivers. This question was studied using the cases of the Ruzizi III and Rusumo Falls border river HPPs in Africa’s Great Lakes region. The paper finds that the two projects indeed foresee both international and local benefit-sharing mechanisms, even if the actors involved hardly refer to international and local benefit sharing as concepts or link the two. At international level, the infrastructure will be jointly owned and electricity equally shared by the countries involved which can be considered good practice for border river projects. At local level, compensation processes are planned according to World Bank policies and various benefit-sharing mechanisms are envisioned. However, so far no revenue-based benefit sharing is foreseen that would ensure that the project-affected population will benefit in the long term.

Keywords: Compensation; Hydropower projects; International benefit sharing; International cooperation; Local benefit sharing; Resettlement; Rusumo Falls; Ruzizi III; Shared rivers; Social effects

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1. Introduction

Many countries in Sub-Saharan Africa are not able to meet their energy demands, while only a small portion of Africa’s hydropower potential has been developed (World Bank, 2013a). At the same time, most of Africa’s large rivers are international (Wolf et al., 1999) and hence many potential large hydropower projects (HPPs) are located on shared rivers. In the case of international rivers, unilateral dam projects by one state may entail negative effects on other states which might be a cause of interstate conflict. Such conflict can be avoided if HPPs on international rivers are planned jointly and it has been argued that dam projects may provide an opportunity for mutually beneficial cooperation and the realization and sharing of benefits stemming from shared rivers (discourse on international benefit sharing) (Phillips et al., 2006; Dombrowsky, 2009; Hensengerth et al., 2012). This notwithstanding, large dams remain controversial due to potential negative social and environmental effects. Yet, following the World Commission on Dams (WCD), international standards for sustainable dam development and a discourse on local benefit sharing related to dam projects have emerged (Skinner et al., 2009; Bazin et al., 2011; Wang, 2012). However, so far the two discourses on international benefit sharing on shared rivers and on local benefit sharing related to dam projects remain by and large unrelated, and much less is known about how both international as well as local benefit sharing can be combined and put into practice in the case of HPPs on shared rivers. This raises the question of how the benefits of HPPs on shared rivers can be shared among states on the one hand and within states on the other hand. These issues were studied using the cases of the Ruzizi III HPP on the Ruzizi River as well as the Rusumo Falls HPP on the Kagera River in Africa’s Great Lakes region.

This paper proceeds as follows: Section 2 outlines the discourses on international and local benefit sharing and ensuing research questions. Section 3 introduces the cases and the methodological approach. Section 4 presents the findings on international benefit sharing, as well as on compensation and local benefit sharing. Section 5 draws conclusions.

2. Two discourses: international and local benefit sharing related to HPPs

Benefit sharing related to HPPs is currently discussed in two separate strands of literature: the literature on conflict, cooperation and (international) benefit sharing on shared rivers (Section 2.1) and the literature on the compensation of social impacts and local benefit sharing related to dam projects (Section 2.2).

2.1. Literature on cooperation and international benefit sharing on shared rivers

In the literature on conflict, cooperation and international benefit sharing on shared rivers, international benefit sharing on shared rivers has been proposed as a means of fostering their cooperative use (Sadoff & Grey, 2002, 2005; Klapheke, 2005; Phillips et al., 2006; Dombrowsky, 2009). The main idea is to move from sharing water to sharing the benefits the users gain from its use. Most of the relevant literature focuses on opportunities for the generation of net benefits from cooperation on shared rivers (Sadoff & Grey, 2002, 2005; Phillips et al., 2006; Phillips et al., undated; Southern African Development Community (SADC), undated).
In their exploration of benefit sharing related to dam projects on shared rivers, Hensengerth et al. (2012) argue that the underlying structure of the hydro-political problem is an important factor influencing whether benefit sharing related to dam projects on shared rivers can be expected and what the actual benefit-sharing mechanism may look like. More specifically, they argue that the incentives for cooperation differ fundamentally for transboundary and border rivers, respectively. In the case of border rivers, co-riparian countries sharing the river usually have to collaborate if they want to construct a dam since no country can use a border river unilaterally. In the case of transboundary rivers, incentives to cooperate on dams exist if: (i) cooperation will enable economic or financial limits to unilateral action to be overcome; (ii) altering the design of a dam planned upstream will increase aggregate net benefits; (iii) locating a dam upstream instead of downstream will increase aggregate net benefits; or (iv) compensating for negative externalities which are directed upstream will preclude conflict (see also Dombrowsky, 2009; Scheumann et al., 2014). Furthermore, a literature review on experiences with benefit sharing related to dam projects on shared rivers shows that when countries chose to jointly own HPPs on international rivers, the costs of the HPP were shared in proportion to the benefits each participating state received from the project (Hensengerth et al., 2012; Scheumann et al., 2014).

Next to problem structure and incentives for cooperation, the literature on conflict and cooperation on international rivers has also identified a number of additional factors that may promote or inhibit cooperation—and therefore arguably also international benefit sharing. Important factors include the presence of regional organizations and donors, as well as national capacities and the power relations among the riparian states. In terms of regional organizations, it is being argued that they can build trust and reliability among the respective states and therefore provide an institutionalized response to collective action problems. Compared to countries acting alone, they can provide credibility, neutrality, information, financial means and broader perspectives on regional challenges (Wolf et al., 2003; Dombrowsky, 2007; Schmeier, 2013). Cooperation can also be promoted by the presence of donors, who may provide access to financial resources and sometimes also act as facilitators, supporting riparian countries in exploring mutually acceptable solutions (Alam, 1998; Zawahri, 2009; Houdret et al., 2010). Furthermore, power relations between riparian countries can play an important role in fostering or hindering cooperation. It has been shown in large-N studies on international river cooperation that symmetrical power relations are more conducive to cooperation than asymmetrical relations (Song & Whittington, 2004). Following a realist way of thinking, the concept of hydro-hegemony underlines the water resource control by the hydro-hegemon through strategies such as resource capture, integration and containment (Zeitoun & Warner, 2006). Finally, domestic political characteristics such as national institutional and administrative capacities and national policies are influencing factors on international cooperation on shared rivers (Waterbury, 1997; Hensel et al., 2006; Lindemann, 2008; Qaddumi, 2008; Dinar, 2009; Scheumann et al., 2011).

2.2. Literature on compensation and local benefit sharing related to dam projects

The literature on local benefit sharing in dam projects has emerged from the debate on involuntary resettlement related to dam projects building upon the work of the WCD (Van Wicklin, 1999; World Commission on Dams, 2000a). In order to reduce the impoverishment risks associated with the negative social effects of the dam construction, comprehensive social impact analyses and resettlement action plans (RAPs) became mandatory (Égré & Senécal, 2003). It is argued that compensation and resettlement should be planned in a participatory manner and that the affected population should have choice
options (Roberts, 2003: 276). Furthermore, it became clear that designing appropriate compensation procedures involves a number of challenges including that of how to evaluate material and non-material assets, the timing of the asset evaluation and the form of compensation (Caspari, 2007; Tilt et al., 2009). With regard to the latter it is argued that rural populations often do not have experience in handling large sums of cash which is why it is quickly used up for repaying debt or excessive consumption. Hence, land based-compensation is usually considered the preferable option (Cernea, 2004).

However, it is also argued that compensation alone cannot avoid impoverishment of the affected population. Even if compensation were planned and implemented perfectly, all it could do is replace assets lost, but it is not made to facilitate a catch-up to the level of development a community might have reached in the absence of the resettlement disruption (Cernea, 2003). If the project is truly supposed to contribute towards development, it is necessary not only to mitigate and compensate for the negative effects of dams but also to pro-actively promote the sustainable development of those negatively affected by them. These considerations gave rise to a discourse on local benefit sharing.

According to Wang (2012: 4), local benefit sharing in HPPs can be defined as ‘the systematic efforts by project proponents to sustainably benefit local communities affected by hydropower investments’. It can be argued that benefit sharing means that all affected persons are better off with the dam than without it. Benefit sharing differs from compensation in various aspects including beneficiaries, source of funding and time horizon. With regard to the beneficiaries, it is recommended that both those directly affected as well as those indirectly affected by the project, such as communities hosting resettled populations, should benefit (Wang, 2012). Furthermore, benefit sharing can be categorized into different monetary and non-monetary mechanisms (e.g. Van Wicklin, 1999; Cernea, 2007; UNEP, 2007; Bazin et al., 2011; Wang, 2012). It is argued that ideally local benefit sharing should be financed from the operating income of the HPP so that communities benefit throughout the lifetime of the dam project; in contrast to compensation which is usually paid from the investment budget (Skinner et al., 2009; Bazin et al., 2011).

Following UNEP (2007), monetary benefit sharing may pursue three different objectives. First, monetary benefit sharing may provide additional long-term compensation to the project-affected population by tapping the stream of benefits created by the project, thus complementing traditional compensation measures. Second, a long-term regional economic development fund may be provided for the communities in the project area which integrates the respective HPP into an overall regional development plan with part of the funds provided from the dam project. Third, monetary benefit sharing may aim at establishing a long-term partnership in the form of a partnership agreement between developers and local communities. The aim of such a partnership agreement would be to recognize the community’s entitlement to a share of the economic rent generated by the project during the operational phase of the project and thus to foster the acceptance of the project by local communities.

Building upon these debates, in recent years many multilateral and bilateral development banks have further developed or revised their safeguards, policies and guidelines in order to ensure that the negative impacts of dams and HPPs are minimized and their development impacts are enhanced (e.g. World Bank, 2001, 2004; African Development Bank, 2003). The debate on international standards for environmental and resettlement planning related to dams has also influenced policy making in many countries (Schaeumann & Hensengerth, 2014).

Case studies show that many dams and HPPs in developing countries that were implemented before the WCD report paid little attention to local benefit sharing (e.g World Commission on Dams, 2000b; Skinner et al., 2009; Bazin et al., 2011). While the majority of these case studies refer to projects on
rivers within a single country, experiences with dam projects on international rivers also confirm the neglect of local benefit sharing. As Hensengerth et al. (2012) show, the defiance of negative environmental and social concerns in a number of international dam projects led to conflicts and impoverishment as well as lengthy renegotiations at a later stage. Hence, when studying international benefit sharing, it is also important to take the social impacts of the projects – and in particular compensation processes and local benefit sharing – into account if projects are meant to truly contribute towards sustainable development.

From a conceptual perspective the above raises the question of how international and local benefit sharing can be applied and combined in the case of dam projects on shared rivers. From an empirical point of view it raises the question of whether and, if so, how the discourses on international and local benefit sharing are starting to influence the design of recent HPPs on international rivers. These issues will be explored for the Ruzizi III and the Rusumo Falls cases.

3. Cases and methodological approach

The paper examines the cases of the Ruzizi III and the Rusumo Falls HPPs in Africa’s Great Lakes region (see Figure 1), two cases that to our knowledge have not been analyzed in the academic literature so far. Ruzizi III, which will be located on the Ruzizi River on the border between Rwanda and the DR Congo, is being developed by Burundi, the DR Congo and Rwanda. It was first pursued in the early 1990s but due to the conflicts in the region, project preparation came to a halt. It was subsequently resumed in 2007 and its development is supported by the Organisation de la CEPGL pour l’Énergie des Pays des Grands Lacs (EGL). As a first step, EGL issued a feasibility study in 2011. Subsequently, a bankability report was finalized in 2011 (SOFRECO et al., 2011), and a pre-final Environmental and Social Impact Assessment (ESIA) and RAP in 2012 (SOFRECO et al., 2012). Ruzizi III, which will have a capacity of 147 MW, is the first international HPP for which a public–private partnership is envisioned. Negotiations between the preferred investor consortium and the negotiation teams of the

Fig. 1. Location of the projects. Source: Own compilation.
countries concerned have been ongoing since late 2012. Project development is supported by a range of bilateral and multilateral development banks, including the European Investment Bank and the KfW Development Bank.

The Rusumo Falls project will be located on the Kagera River on the border between Rwanda and Tanzania and is being developed by Burundi, Rwanda and Tanzania. It was first conceived in the 1980s in the context of the Kagera Basin Organization (KBO); however, during the conflicts in the 1990s, KBO became non-operational. In 2005, Rwanda, Burundi and Tanzania signed a Joint Project Development Agreement and the Rusumo Falls project was further explored under the Nile Equatorial Lakes Subsidiary Action Program (NELSAP) within the Nile Basin Initiative. A feasibility study for the Rusumo Falls project pursuing a reservoir project, the so-called ‘full development scheme (FDS)’, was finalized in 2008 (SNC Lavalin Intl, 2008) and an ESIA was prepared in 2010. Due to the high social and environmental costs of the project, the countries decided in 2011 to move away from a full to an intermediate development schemes (IDS), and finally, in 2012, to a run-of-river (ROR) scheme (RO 57)1. In 2012 the countries signed a tripartite agreement to mandate NELSAP to carry out further feasibility and pre-implementation activities for the ROR scheme (Regional Rusumo Hydroelectric Project, undated). In the first half of 2013 the technical design, the ESIA and RAP for the 80 MW ROR were finalized and draft implementation, shareholder and power purchase agreements were prepared. The project was appraised and financial closure was reached in August 2013. It is envisioned that the Rusumo Falls project will be publicly developed but privately managed.

The case study analysis is based on an in-depth document analysis as well as qualitative content analysis of semi-structured interviews. Relevant documents include primary literature, such as legal documents, policy documents, project documents, international agreements and contracts. In particular the respective bankability reports, ESIA and RAPs were scrutinized in depth regarding information on international and local benefit sharing.

Additional information, as well as actor perceptions on international and local benefit sharing, was solicited in a total of 98 semi-structured interviews which were conducted over the period January to April 2013; of these, 95 interviews were relevant for this paper. Interviewees included representatives of regional organizations, donor representatives, members of the national negotiation teams2, representatives of the government ministries or agencies involved, environmental and social experts, representatives of sub-national and local administration, as well as representatives of the affected communities, civil society and non-governmental organizations (NGOs). Table 1 provides an overview of the number of interviews conducted per actor group and project. For each actor group a separate interview guide was prepared. Representatives of regional organizations and national negotiation teams were interviewed about their perceptions regarding the factors driving or inhibiting the international negotiations process as well as on international and local benefit sharing in the projects. Representatives of sub-national administrations, affected communities, civil society and NGOs were interviewed regarding their perceptions, aspirations

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1 In this paper, interviews are quoted by providing the actor group (for abbreviations used see Table 1) and the interview number. The interviews conducted were numbered chronologically from 1 to 98. In interviews with representatives from sub-national administration or civil societies, the countries of origin are indicated as follows: Burundi: BDI, DR Congo: DRC, Rwanda: RWA, Tanzania: TZA.

2 For Ruzizi III each country set up a negotiation team. For Rusumo Falls, a Project Implementation Committee (PIC) and a Technical Advisory Committee (TAC) consisting of representatives of the three countries involved were established. For the sake of anonymity, PIC and TAC members will also be referred to in this analysis as negotiation team members.
and concerns in relation to the compensation process and local benefit sharing. The interviews were transcribed, coded and analyzed using atlas.ti content analysis software.

4. Findings

4.1. International benefit sharing

In both projects, the infrastructure is envisioned to be jointly owned by the three respective countries involved, meaning that the countries will bring equal shares of equity to the projects. However, given that Ruzizi III is being developed as a public–private partnership, the countries will only have a minority share of 30%, while 70% will be owned by the private investor (Do 1, RO 2). Furthermore, in both projects, the electricity produced is to be shared equally among the three respective countries involved by providing access to one-third of the produced capacity to each of them (NT 17, 59, 92, 98; Do 1; inter alia). In both projects the delivery of the electricity will be made conditional on respective payments by the national utilities and a number of (slightly differing) default mechanisms will be put in place for the case of non-payment (RO 2, 21; NT 8, 21, 98; Do 62, 96).

As such, the two cases support the findings by Hensengerth et al. (2012) that (a) in the case of border rivers, infrastructure is usually jointly owned and (b) in the case of jointly owned dams, costs are usually shared in relation to the benefits received. However, while it was quite evident that the hydropower dams would be co-owned by the two respective border states, it is more remarkable that Burundi was included in both projects. We therefore asked why the two projects were being developed cooperatively, why electricity would be shared equally and why Burundi was included.

Interview partners first of all stressed that the two regional projects were needed given the huge energy deficit in the region (NT 6, 21, 59, 98; Do 62, 96; RO 2, 5, 19; inter alia). Alternatives to generate energy at national level were considered to be limited, not yet explored and too expensive (see also RSW inc. & Fichtner, 2011). The resulting pressure to develop additional sources of energy clearly allowed for cooperation to come about even under politically unfavorable conditions.

In both projects interview partners furthermore pointed out that donor preferences for regional projects also played an important role in the decision to pursue these projects and to pursue them
jointly. Interviewees considered it easier to receive funding for regional than for national projects (RO 2, 19, 57; Do 1; NT 6, 9, 97). Besides, the sharing of the loan repayment burden in a regional project also played a role (NT 17).

Furthermore, the interviews showed that considerations of economic integration and political stabilization positively influenced the decision to pursue these regional projects (RO 2, 57; Gov 41; NT 87, 98). Such considerations were also reinforced by Colin Bruce, the Director of Strategy, Operations and Regional Integration at the World Bank. According to him, the Rusumo Falls HPP ‘will help to catalyze growth and to encourage peace and stability in the sub-region’ (World Bank, 2013b). It can be argued that this is even more so the case for Ruzizi III given that the relations between DR Congo and Rwanda can be considered as more strained than those of Burundi, Rwanda, and Tanzania. The fact that the Ruzizi II HPP has always delivered electricity since it became operational in 1989, even during times of conflict, shows that HPPs are able to foster cooperation in the region (RO 18, 47; NT 98, 92).

However, all this does not yet necessarily explain the inclusion of Burundi. In this regard, many interviewees argued that shared water resources should be developed jointly and benefits equally shared (NT 6, 59, 92; RO 19). Some interviewees explicitly mentioned that given the fact that Burundi is downstream on the Ruzizi River, it could potentially be affected by the project and should therefore be included (Gov 7, 41; RO 5, 19). In the case of the Rusumo Falls, it was pointed out that Burundi as an upstream state would directly have been affected under the FDS as the reservoir would have flooded into Burundi (NT 6; RO 58, 63; Do 89). In addition, Burundi as the upstream country could potentially use the water unilaterally, for example for irrigation, and hence affect the output of the Rusumo plant; hence it was seen as advantageous to include Burundi in the scheme (Gov 94; NT 6). Thus the potential impacts of a border river HPP on Burundi and vice versa can be considered as one reason for its inclusion.

However, the main reason for trilateral cooperation was attributed to the presence of regional organizations in which Burundi was a member and to the history of multilateral energy cooperation in the Great Lakes region (Do 1, 96; NT 98). For both projects, the countries delegated certain responsibilities in the project development to a regional organization, namely to EGL as a trilateral organization in the case of Ruzizi III and to NELSAP as a multilateral organization in the case of Rusumo Falls. Furthermore, the two projects are also building upon previous collaborations among the respective countries on hydropower. On the Ruzizi River the three riparian had countries already cooperated in the development and construction of the Ruzizi II HPP under the auspices of EGL. Moreover, benefits are already being shared equally in the Ruzizi II HPP and it was argued that they should therefore be shared equally in the Ruzizi III HPP too (Do 1, 89, 96; RO 2, 5, 47; NT 6, 8; Gov 87). In the case of the Rusumo Falls HPP, the construction of a dam had already been discussed in the 1980s under the now defunct KBO, in which Burundi, Rwanda, Tanzania, and Uganda had been members. NELSAP, established in 1999, built on the work of its predecessor. However, Uganda chose not to participate in Rusumo Falls (NELSAP pers. comm., 2012), hence now Burundi, Rwanda, and Tanzania are collaborating on the project.

This means that the problem structure, the existence of multilateral regional organizations and the history of cooperation, donor preferences and regional stabilization are important explanatory variables for regional cooperation on hydropower and international benefit sharing. With regard to the integration of Burundi in the Ruzizi III project, the most frequently mentioned explanation was its membership in the responsible regional organizations; additional reasons were prior cooperation and potential impacts on Burundi and physical interdependencies. This, however, implies that the cases underline arguments in the literature that regional organizations matter for international river cooperation. Overall, the cases also demonstrate that–at least on border rivers–cooperation on hydropower is possible even under
unfavorable framework conditions such as low levels of development and political tensions, which exist between DR Congo and Rwanda.

4.2. Compensation and local benefit sharing

Negative social effects will unequally be distributed among the respective three countries involved in the two projects. Direct negative social effects, such as the loss of houses, agricultural land and business units which require to be compensated for, only occur in the respective two riparian states in which the HPP will be located; the DR Congo and Rwanda for Ruzizi III; and Rwanda and Tanzania for Rusumo Falls. In Burundi no compensation will be necessary as no Burundians are affected by the loss of assets through the dam construction (Burundians will, however, be affected by transmission lines).

For Ruzizi III, a total of 115 hectares of land of 648 households will be affected by the project. Roughly two-thirds of the affected households will be situated in the DR Congo, while about one-third of those affected will be Rwandan (SOFRECO et al., 2012). However, only eight to nine houses will have to be physically relocated (ibid.). Comparable to Ruzizi III, a similar number of 664 households will be affected in the case of the Rusumo Falls (ARTELIA, 2013a). In this project, two-thirds will be affected on Rwandan territory (ibid.). In this case, a total of 178 houses or business units will have to be physically relocated (ibid.).

The compensation processes of both projects were planned according to the World Bank’s Operational Policy (OP) 4.12 on Involuntary Resettlement and respective national laws. For that purpose, in both projects comprehensive information and consultation processes were carried out. The ESIAs and RAPs of both projects describe land-based or in-kind compensation as the preferable option in line with the international literature, but most of the project-affected population will be able to choose between cash and in-kind compensation (SOFRECO et al., 2012; ARTELIA, 2013b). However, in the case of Ruzizi III, those who lose 50–100% of agricultural land will be compensated in kind and those who lose less than 20% of their land will be compensated in cash. The latter also holds true for persons cultivating government-owned marshlands in the case of Rusumo Falls.

In the interviews, members of the project-affected communities and representatives of the local and regional administrations raised a number of issues related to the compensation processes (see Table 2 for country breakdown). First, despite the preference for land-based compensation in the literature, the majority of interviewees stated that they would prefer cash compensation in order to be able to look for new land on their own (CS DRC 32, 33, 36; CS RWA 52, 69; LA RWA 68, Reg TZA 75, 77; inter alia). There was a widespread concern in land-scarce Rwanda as well as in the DR Congo that land of an equal quality would not be found at a short distance (CS DRC 33; ESE 53). If they accepted land-based compensation, interviewees argued, it would be possible that they were given inferior land at a great distance from their home lands (CS RWA 52; ESE 53).

A further critical aspect aired in the interviews were uncertainties relating to the compensation process caused by rumors and insufficient, sometimes contradictory, information about project development and the compensation process. Many interviewees mentioned that they lacked information about when the

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3 In case of divergence between national laws and the World Bank policy, the higher standard will be applied (SOFRECO et al., 2012: 32–46; ARTELIA, 2013a, b: 8–24).
project would commence (LA TZA 73, 83; LA RWA 71, 78; CS DRC 32, 34). This induced a feeling of uncertainty, especially in terms of planning for the future. In some cases, in particular in the DR Congo and Tanzania, investments in housing were not made and the cultivation of fields was suspended because people were unsure whether they would be affected and would thus have to give up their property later on (LA RWA 68; LA TZA 73, 80, 83; Reg TZA 75; CS DRC 36, 37, 45). Besides, the affected population lacked information about the amount of compensation. Related to this, many interviewees doubted that the amount would be enough to buy new land because of the fast-rising land prices, particularly in Rwanda (CS RWA 50, 52).

In the case of Rusumo Falls, the change of project scheme from a full reservoir (FDS) to an intermediate reservoir (IDS) and finally to a ROR scheme caused uncertainty for the residents about the degree to which they were affected. In the FDS 17,450 households and in the IDS 7330 households would have been affected by flooding (ARTELIA, 2013a, b). After the change of scheme, many of the households affected under the previous scheme were not sufficiently informed that they were no longer affected and hence would not receive compensation. The information in the villages about who would and who would not be affected was sometimes contradictory (LA TZA 80, 82).

A critical point underlying many of the uncertainties and concerns raised in the interviews were experiences with other projects. In the case of the DR Congo, interviewees referred to massive problems which occurred in the compensation process of Ruzizi II. First, social effects were underestimated in the planning phase of the project (World Bank, 1992). Later on, irregularities in terms of paying out compensation occurred on the Congolese side. Furthermore, compensation rates paid in Rwanda had been higher than in the DR Congo as each country applied its own legislation (RO 5, 18).

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In the Rusumo area, constructions for a one-stop-border post between the two countries were ongoing when the study team visited the project area. The construction of the post influenced the way the project-affected population perceived the compensation process for the Rusumo Falls HPP. Interviewees reported that compensation amounts paid out within the framework of the one-stop-border post project were too low to buy land of equal quality at a short distance (LA RWA 68; CS RWA 69). Moreover, the project had some unforeseen effects due to construction errors: the project’s drainage system did not work as it was planned, resulting in the flooding of several farmers’ fields when rains started (Reg RWA 641). Therefore interviewees were concerned about underestimations of social effects and the potential miscalculation of compensation amounts. Moreover, some interviewees had difficulties in differentiating between the consultants of the two projects and the respective compensation processes.

Table 2. Issues raised in interviews related to compensation.

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<td>Preference for cash-based compensation</td>
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<td>Uncertainties regarding start of project, amount of compensation, responsibilities</td>
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<td>Abandoning of fields</td>
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<td>Negative experiences with other projects</td>
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Source: Own compilation.
The above findings show that managing compensation processes and information related to them remains a considerable challenge. There are several reasons for this; one important reason being the long planning periods of a HPP, particularly the long time-span between the initial assessment of potential project-affected people and the beginning of the construction. Another reason is the many actors involved and the danger of miscommunication along the various channels of communication.

Beyond compensation, a variety of monetary and non-monetary benefit-sharing mechanisms are envisioned for Ruzizi III and Rusumo Falls (SOFRECO et al., 2012; ARTELIA, 2013b). These are reflected in a number of plans for benefit sharing. The plans can partly be related to the three objectives of monetary benefit sharing referred to in the literature, that is: (1) to complement traditional compensation measures; (2) to provide for long-term development funds; and (3) to establish a partnership between developers and local communities (UNEP, 2007).

The Plan de Restauration et de Renforcement des Conditions de Vie (PRRV) in the Ruzizi III project has a budget of USD 1.1 million and foresees the strengthening of family agriculture, the development of alternative economic activities and the provision of employment opportunities for the directly affected population over a 5-year period (SOFRECO et al., 2012). The Livelihood Restoration Plan in the Rusumo Falls project with a budget of USD 2 million aims at capacity building, financial and business skills training as well as agricultural and livestock extension services for the directly affected population over a 2-plus 4-year period (ARTELIA, 2013a). As such these plans aim at restoring the livelihoods of the project-affected population by complementing compensation measures (see Objective 1 above). However, the measures foreseen in the two plans can be rather considered as the more traditional non-monetary benefit-sharing mechanisms and they are budgeted in the investment budget and not from the projects’ revenues.

Additionally, for both projects, community development plans aim at the communities in the project areas as a whole, independently of the degree to which they are affected. In consequence, in both cases Burundi is included as well. For the Ruzizi III Plan de Développement Local Communautaire (PDLC) a total of USD 5.5 million is envisioned. It is ear marked for small social infrastructure, equipment for rural electrification and micro projects (SOFRECO et al., 2012). It is currently limited to the 5-year construction phase; however its renewal as part of the investor’s Corporate Social Responsibility (CSR) has been suggested. Similarly, the 8-year Local Area Development Plan (LADP) of Rusumo Falls with a volume of USD 15.5 million envisions development projects on rural infrastructure, agricultural and livestock intensification, as well as extension and income-generating projects (ARTELIA, 2013a). It is envisioned to be funded externally by a grant from the Netherlands (RO 58). Thus, these two plans contribute to Objective 2; however, again, no co-financing from the project revenues is foreseen at this point.

Moreover, for Ruzizi III, it is proposed to set up a 5-year anti-erosion program (Programme de lutte antiérosive) in the order of USD 1.7 million (SOFRECO et al., 2012). In this context the consultants have also suggested to the project developer to consider setting up Payments for Ecosystem Services in the immediate project zone. If this proposal were taken up and if the project developer reimbursed the local population for watershed and erosion-control services in the immediate project zone, this could be considered as part of a revenue-based partnership (agreement) between the project developer and the local population (Objective 3).

With the exception of the Rusumo Falls Local Area Development Plan, all other funds will be funded out of the projects’ investment budgets. Hence, so far, the majority of the benefit-sharing mechanisms are non-monetary and no revenue-based benefit sharing is so far foreseen for the projects. This implies
that at this point benefit sharing would be limited to the initial years of the respective HPP. It should also be noted that, in the case of Ruzizi III, the envisioned plans still have to be negotiated with the project developer. Hence, there might still be the opportunity to include additional mechanisms, but there is also the possibility that the proposed mechanisms could be watered down.

During the field research, we also assessed the demands of the local population with respect to local benefit sharing. Almost all the community and civil society representatives interviewed asked for employment, physical infrastructure – such as electricity access, roads and water supply – as well as social infrastructure – such as schools, health centers, hospitals, dispensaries or markets (see Figures 2 and 3 for breakdown by country). Slight differences in demands in the various countries depicted in Figures 2 and 3 can mainly be explained by the fact that in Rwanda local communities are in general already better equipped with various services, such as water supply and schools, than in Burundi, DR Congo and Tanzania. Furthermore, erosion control is a particular problem in the Ruzizi valley but less so close to the site of Rusumo Falls on the Kagera River. All in all, it can be concluded that the population close to the project sites have high expectations with regard to benefit sharing, and hope that several of the social infrastructures asked for be constructed in their villages.

Fig. 2. Ruzizi III: benefits demanded in interviews by the project-affected population. Source: Own compilation.

Fig. 3. Rusumo Falls: benefits demanded in interviews by the project-affected population. Source: Own compilation.
Furthermore, employment and access to electricity were of special importance for most of the interviewees. Expectations that the workforce for the HPP should be recruited locally were high in both project areas (CS DRC 32, 33; CS RWA 50, 52, 55; Reg TZA 70; LA TZA 68; inter alia), however, most interviewees were not explicit on what kind of employment they expected. At the same time, people were unaware of how the recruiting would take place as this was to be decided at a later stage of the project preparation processes. Moreover, rumors of a large influx of ‘foreigners’ from other regions of the countries were spreading and concerns were raised that the participation of Burundians in the workforce was only implicitly addressed in the case of Ruzizi III (Reg BDI 25, 26). In how far their participation will also be possible in the case of the Rusumo Falls project remains to be seen.

At the same time, affected communities in the region also argue that they should benefit from the electricity produced. For instance, one Congolese civil society representative stated: ‘sometimes we see the lines above us, but there is nothing, we don’t benefit’ (CS DRC 35, own translation). However, the interviews revealed that the modalities of how and when communities will be granted access to electricity are not fully resolved yet. In both projects, electricity will be sold to the national utilities which will then distribute the electricity. Therefore, rural electrification – and thereby access for the affected communities – lies within the responsibility of the national utilities and is not an explicit part of the projects (RO 57; Do 1). However, in both projects there will also be opportunities to support rural electrification through the above-mentioned community development funds. For instance, the LADP envisions ‘to provide electricity to all rural economic hubs and social/public facilities that can benefit communities in project affected areas’ (ARTELIA, 2013a, Annex 2, p. 2). In the case of Ruzizi III, there are particularly high demands that the Congolese town of Kamanyola, in which the regional electricity dispatching center for Ruzizi III will be located, will receive electrification. We understand that in the meantime the KfW has decided that it will seek to provide a transformer and electrification for Kamanyola if funds will suffice (KfW, pers. comm., July 2013). In the case of Rusumo Falls, the change of scheme poses a challenge as several communities that had already formulated their demand for electrification are no longer affected (RO 57). Also, the hope was aired that the fact that electrification in Rwanda successfully targets individual households in rural areas could create pressure to act accordingly on the other governments (RO 57). Still, at this point, not all communities can necessarily expect to receive electrification soon.

Overall, in both projects, actors at national and local levels discussing local benefit sharing showed an implicit understanding of benefit sharing rather than referring to it directly as a concept (RO 24, 63; Reg DRC 31). Only one interviewee made an explicit reference to the World Bank Operational Policy 4.12 on Involuntary Resettlement, quoting that ‘people should be better off’ (RO 58).

4.3. Links between international and local benefit sharing?

In the interviews, international and local benefit sharing were hardly referred to as concepts and a link between the two was rarely made. The link was only made to rectify development funds for local communities in the project areas beyond the directly project-affected population including for Burundians. Interviewees argued that given that all three countries will benefit from the electricity produced, communities in the project areas of all three respective countries should benefit too (CS RWA 44, 54, 55; LA RWA 71; RO 66; CS DRC 34, 37, 38; LA TZA 78; inter alia).

Negotiation team members pointed out that the demands of the population with regard to local benefit sharing played no or only a minor role in the international negotiations (NT 24, 92; RO 20). However, it
should be noted that they did at least play an implicit role in the transition from a reservoir to a ROR scheme in the case of Rusumo Falls. In this case, hydropower benefits of about 10 MW as well as potential additional benefits attributed to multipurpose dams were foregone in order to reduce the number of project-affected households from more than 17,000 to less than 700. Hence in this case, the wish to reduce social costs including for local benefit sharing led to a moderate reduction of the electricity to be produced and as such considerations on social costs and local benefit sharing had a direct influence on international benefit sharing. However, in the interviews this link was not made.

While a number of interviewees thought that the total costs for addressing social and environmental effects were negligible in the two projects (RO 20; NT 24), one interviewee argued that spending too much money on benefit sharing would not be feasible either: if expenditures on benefit sharing were too high, they would be passed on to electricity consumers who would then have to pay higher tariffs (RO 3).

5. Discussion and conclusions

This paper asked how international and local benefit sharing can be combined and whether these concepts are taken up in recent HPPs on shared rivers. To this end, we revisited the discourses on international and local benefit sharing and presented a study of the Ruzizi III and Rusumo Falls HPPs which are currently in advanced stages of planning at two border rivers in Africa’s Great Lakes region. To our knowledge, simultaneous international and local benefit sharing in relation to HPPs on shared rivers has so far not yet explicitly been conceptualized in the literature, and this is also the first academic study related to Ruzizi III and Rusumo Falls HPPs.

The paper finds that the two projects indeed envision both international and local benefit-sharing mechanisms, but that the two issues are dealt with quite separately in both cases. In terms of international benefit sharing, the cases can be considered as good practice cases for the particular group of HPPs on border rivers, given the envisioned co-ownership of the infrastructure and given that electricity is supposed to be equally shared by the respective countries involved. In particular, what makes the cases special is that Burundi as downstream riparian on the Ruzizi River and as upstream riparian on the Kagera River is included as an equal partner. While the two respective border states – DRC and Rwanda on the Ruzizi River and Rwanda and Tanzania on the Kagera River – had to cooperate to build a dam where the respective river forms the border between the two, in both cases they could have left Burundi out. The fact that they did not exclude Burundi can be considered a significant achievement in cooperation. The interviews revealed that a number of factors were conducive towards the inclusion of Burundi, the most important probably being the existence of regional organizations. In that sense the case studies underline arguments in the literature that adequate regional or river basin organizations matter for cooperation and international benefit sharing. Overall, the cases also demonstrate that – at least on border rivers – cooperative planning of hydropower is possible even under unfavorable framework conditions such as low levels of development and political tensions.

In terms of local benefit sharing, the cases show a mixed picture. First, in both cases the planning for the compensation of the project-affected population by and large followed the World Bank Operational Policies; still, a number of uncertainties related to the envisioned compensation processes became obvious during the interviews. They point to the need to manage the communication process with the affected population even better. Second, while both projects envision certain short-term benefit-
sharing mechanisms, so far they do not aim at realizing long-term revenue-based benefit sharing. The interviews furthermore showed that the project-affected population in the four countries has high expectations towards the planned projects in terms of employment generation, rural electrification and other services, but that in particular with respect to employment and electrification it is not always clear how these expectations will be met. Hence, in terms of local benefit sharing, consideration may be given to including long-term revenue-based benefit sharing, to carefully managing employment procedures and to making rural electrification a priority.

Overall, the interviews revealed an implicit, rather than an explicit understanding of international and local benefit sharing. Furthermore, the link between international and local benefit sharing was only made to rectify development funds for local communities in the project areas beyond the directly project-affected population. However, it can be argued that compensation and local benefit sharing influenced the benefits that can be shared at international level in the case of Rusumo Falls. In this case, the transition from a reservoir to a ROR scheme considerably reduced the costs for compensation and local benefit sharing by moderately reducing the electricity to be produced. This confirms that all relevant cost categories including compensations and local benefit sharing should be taken into account when designing international benefit sharing related to dam projects on shared rivers.

Given that this study focused on hydropower on border rivers (albeit with a transboundary component), a next step should be to explore to what extent the considerations developed also apply to such projects on transboundary rivers. Also, given that the two cases presented are projects in advanced stages of preparation, it might be worthwhile to revisit and re-evaluate the cases after their implementation.

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