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Water Security and Inclusive Water Governance in the Himalayas

- ✓ How does a social justice framing help understand local peoples' claims over natural resources?
- ✓ How do power relations shape water access and distribution between core and fringe areas in Nepali towns ?
- ✓ What dynamics of conflict over water resources are emerging in the urbanising mid-hill towns of Nepal?
- ✓ How are civil-society groups responding to large dam projects in the Eastern Himalaya region of India?
- ✓ What issues and opportunities the newly formed local governments in Nepal are facing in implementing inclusive water governance ?
- ✓ How can participatory community engagement transform gender relations in agriculture and water management?
- ✓ How do agrarian structures affect groundwater access for irrigation in Nepal's Tarai Madesh?
- ✓ How can local experts contribute to inclusive water governance?

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EDITORIAL: WATER SECURITY AND INCLUSIVE WATER GOVERNANCE IN THE HIMALAYAS

Stephanie Leder[1], Dil Khatri[2] and Hemant Ojha[3]

The Himalayan region is known as the 'water tower' of South Asia (Bajracharya et al., 2015; Singh and Pandey, 2019), and yet, the problem of water insecurity is escalating in urban, peri-urban and rural areas of the lower Himalayan region (Ojha et al., forthcoming). Three drivers lead to water crisis in the region. First, climate change affects the water availability as the Himalayan region experiences faster rate of warming (Immerzeel et al., 2019). Second, there is an increasing demand for water due to population growth, rapid rate urbanisation, and industrial activities (Connor, 2015). Third, there is an increasing level of disparity over water access and use, attributed to existing or even rising socio-economic inequalities in both rural and urbanising areas (Narain et al., 2013; Zimmer, 2011). These problems are especially set to escalate in contexts of political and climate uncertainty, while efforts to find solutions face a multiplicity of competing knowledges (Karpouzoglou & Zimmer, 2016; Mehta, 2007). Powerful actors such as industries, hydropower projects, and development agencies control water resources and drive decision-making processes in water governance, marginalising smallholders, women and tenant farmers, and migrants (Joshi et al., 2019; Sugden, 2019, Leder et al., 2019a; Leder et al., 2017).

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We consider water security as a vision which can be achieved through the means of inclusive water governance. This perspective is strongly rooted in a social and environmental justice perspective which uncovers the multiple relational ties through which diverse and differently powerful actors interact among themselves and with the environment. The Himalayan region offers an urgent context to explore water security questions deeply embedded in contested political fields. A number of governance challenges prevent diverse Himalayan communities to have reliable and equitable access to water. While approaches such as integrated water resource management and decentralising government arrangements give hope for more locally adaptive approaches, the sectorial approach of ministries to implement policies prevent the implementation of such ambitions (Suhardiman et al., 2015). Similarly, rapid urban development processes escalate resource conflicts, historically rooted in structural inequalities based on landownership, gender, ethnicity, class and other divides which shape water governance at its deepest core. State, market and civil society actors engage in contention with each other in policy and implementation processes, as they bring diverse intentions to improve "water security" and competing interests (Leder et al., 2017; Shrestha and Clement, 2019).

This Special Issue deals with disparities and inequalities in access to and the governance of water resources in the lower Himalayas, particularly in Nepal and India. The papers in this Issue examine conflicts and contestations over water as well as the impact of growing water insecurity on rural, peri-urban and urban communities. Most importantly, contributors examine the way in which diverse struggles over water could be addressed by more inclusive and climate adaptive water governance reforms.

THE THORNY QUESTION OF JUSTICE IN LOCAL WATER GOVERNANCE

Researchers on water security and local water governance stress the need for the analysis of socio-cultural, political, and economic relations to understand how differentiated access to and control over water is linked to poverty, livelihood options and landlessness (Harris, 2008; Sultana, 2010; Ahlers et al., 2014; Zimmer, 2011). In the lower Himalayas, everyday relations around gender, age, ethnicity and caste differences shape water access (Resurrección et al., 2019; Leder et al., 2017; Leder & Sachs, 2019). It is these kinds of complex social relations which are often hidden in mainstream water security and governance research but are vital to understand diverse and sometimes covert water allocation strategies (Zwarteveen & Neupane, 1996). We envisioned this Issue to explore how these political and economic dynamics shape and reshape water management in contexts of urbanisation, out-migration, and anthropogenic climate change. This Special Issue includes six original research papers and two commentary papers which address emerging questions on water security, access, and distribution in the lower Himalayan region. All papers use the angle of social and environmental justice, and offer fresh and alternative approaches and development pathways towards equitable and inclusive water governance.

Here we highlight key messages of the six papers and two commentaries. Dhungana and Maskey (2019) draw attention to three social justice concerns in contestations over water resources: first, recognition of local knowledge and customary tenure; second, competing participative claims by diverse local communities, state bodies and private actors; and third, distributive issues, such as financial burdens and benefits. Drawing on three case studies, the authors call for political articulation by citizens demanding compensation from a Hydropower project in Lamjung of Nepal. They also argue for communities' rights to fishing in National Parks, and for compensating their contributions from REDD+ programs.

Pokharel et al. (2019) examine inequalities in water distribution between core and fringe areas in the Nepali town of Dhulikhel. They unpack the power exercised by elites which, highlighting discriminatory water tariffs, uneven water availability throughout the day, and unequal water source access due to social and caste-based discrimination. Further, there are also disparities with regard to participation in decision-making in municipal water governance as there is limited participation of women and marginalised groups in decision-making.

Similarly, Devkota et al. (2019) examine the unequal distribution of water within municipal areas, based on social and spatial differentiations at urban fringes. They analyse upstream-downstream conflicts over water resources in the Nepali peri-urban communities, Dhulikhel and Bidur. Their case studies show how people from fringe areas have been discriminated in water access, and resulting contestations over water. They identify increased ability of weaker actors to articulate their voices, which led to open contestations of unequal water distribution practices. The paper draws attention to the importance of political agencies supporting the articulation of the marginalised groups in order to challenge inequitable water governance mechanisms (Devkota et al., 2019).

Sugden (2019) argues that the historically unequal agrarian structure and land distribution lie at the heart of the inequitable access to groundwater for irrigation in Nepal's Tarai Madhesh. He reports that smallholders and tenant farmers lack incentives and the ability to afford irrigation equipment. Their marginalisation from groundwater access can only be addressed through an integrated approach, combining radical redistributive land reforms and technical provision and access to low-cost and efficient pumping technology.

ENGAGING IN CONFLICTS OVER WATER AND STRUGGLING FOR JUSTICE

Engaging at the science-policy-practice interface can offer some promise towards more inclusive and climate adaptive water governance (Ojha et al., 2019). Ojha et al. (2019) see 'the potential of knowledge-led interventions in the Himalayan context, where interactive and iterative research can create space for new hybrid, pragmatic and at times critical and creative forms of knowledge and expertise around water management and policy'. Their evidence is based on more than five years of engaged research and engagement at Dhulikhel, a small town in the middle hills of Nepal.

Joshi et al. (2019) report how civic action both counteracts and aligns to dominant development pathways. Their case study examines the civic response to a large hydropower dam in North East India which has been presented as win-win project to counteract climate change and contribute to economic development. The *Affected Citizen of Teesta* movement in Sikkim has become successful to halt some of the proposed dam projects in the Dzonju region, demonstrating some resonance of the struggle for justice. However, NGOs in Darjeeling are depoliticised by being funded for pre-determined development activities. In this way, NGOs fail to hold the state accountable for social and environmental excesses as they struggle to exist and act in relation to the developmental bureaucracy.

White and Haapala (2019) examine opportunities for more inclusive water governance through policy and institutional reform in the recently reformed local government structures in Nepal. It is widely expected that the new local governance structure be more responsive to the issue of local water security, as they are closer to the citizen and have the authority to craft policies ensuring rights to access of drinking water for marginalised groups. However, despite ongoing decentralisation reforms, discriminatory practices in water governance continue to surface, especially when powerful actors exercise increasing control over water resources.

Leder et al. (2019b) argue for more participatory community engagements in order to promote the empowerment of women and other marginalised sections of communities. They examine opportunities to promote critical consciousness on gender norms, roles and relations in agriculture and local water resource management through an innovative "Participatory Gender Training for Community Groups". The approach is based on critical pedagogy (Freire, 1990) and principles of democratic and visual learning theories to promote empathy and critical consciousness on gender relations in resource management groups.

TOWARDS INCLUSIVE AND CLIMATE ADAPTIVE WATER GOVERNANCE IN HIMALAYA

A range of institutional innovations as well as multi-sectoral and multi-actor approaches are needed in order to explore and promote transformative pathways for more inclusive and climate adaptive water governance in the Himalayan communities. We argue for a more discursive and localised understanding of justice, which addresses both social and material dimensions of inequality and marginalisation. This may help to open up spaces for change. Dhungana and Maskey (2019) contend that acquiring justice requires political mobilisation and political articulation, and the translation of policies into practice. Policy and institutional reforms in Nepal's ongoing decentralisation give some hope for more inclusive governance, particularly through inclusion of marginalised groups in decision-making and ensuring access of water (White and Haapala, 2019). Devkota et al. (2019) call for greater participation in decision-making and for innovative institutional mechanisms towards upstream-downstream cooperation as way to address water conflicts. Similarly, Pokharel et al. (2019) argue for addressing the deeper structural divide between core and fringe areas and the need for the empowerment of fringe areas to improve water access for the most socially and geographically marginalised people.

Sugden (2019) argues that innovative and radical mechanisms such as farmer collectives which pool land, capital and labour are required to improve access to groundwater irrigation. Joshi et al. (2019) suggest mobilising civic potential to challenge and counteract discriminatory practices and projects that affect people. We hope that the contributions in this Special Issue open up further scientific and policy debates on the challenges around inclusive water governance, as well as opportunities for contextualised understandings of water security. Collectively, this Issue points to some important directions for water security in the lower Himalayan region, including transformative pathways of change driven by engaged actors concerned with greater social and environmental justice.

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ORIGINAL RESEARCH ARTICLES

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NATURAL RESOURCES AND SOCIAL JUSTICE AGENDA IN NEPAL: FROM LOCAL EXPERIENCES AND STRUGGLES TO POLICY REFORM

Hari P. Dhungana[1] and Gyanu Maskey[2]

ABSTRACT

The demand for greater community control over natural resources have been profound in recent decades in Nepal and beyond. These demands go together with calls for social justice, which remains a coveted goal in the struggles over resources and development. However, social justice remains an elusive idea in regard to what it is and how it can be achieved in societies characterized by inequalities based on caste, ethnicity, class and gender. Accordingly, it is far from clear what specific policy and legal provisions work well in particular historical, social and political contexts.

This article surveys the theoretical debate of social justice generally, and the way it helps understand local peoples' experiences and claims around natural resources and development projects. Drawing upon the literature, it highlights the pluralist framework of social justice in terms of the ideas of redistribution, recognition and participation, and employs that framework for the analysis of three diverse cases from in Nepal: a) hydropower project development in Lamjung, b) rights of fishing communities in Kailali, and c) program on reducing emissions from deforestation and forest degradation (REDD+). The analysis shows that, while Nepal's constitution and political rhetoric acknowledges the rights and entitlements to disadvantaged groups, it has not abetted the need for local struggles for resource access and control. Broad policy announcements lack follow-through measures and tools, where more attention will be needed in order for a more socially just resource governance and development.

Keywords: social justice, hydropower, REDD+, fishing, National Park, Nepal.

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INTRODUCTION: JUSTICE AND THE NATURAL RESOURCES

The demand from grassroots and activist circles for greater community control over natural resources have been profound in recent decades in Nepal and beyond. In Nepal, several community federations and organizations have been demanding for the grassroots control over forest, water and land, and over the processes of development that impact communities in different ways. Indeed, there have been some of the most protracted conflicts over natural resources worldwide (Yasmi et al., 2012). Coming under onslaught of the imposing state or expanding business interests, communities have been fighting for their greater access, voice and control over the means and resources for their survival. Frequently there are resistance at local and national level, which pose local communities, people's associations and civil society organizations (CSOs) in opposition to government agencies at respective levels. In addition, local differences of gender, wealth and class have fostered intra-community conflicts (Agarwal, 2001; Thoms, 2008). This paper seeks to connect the core concerns of these struggles to the themes articulated in wider political discourse around the relationship of the people with the state.

A core concern regarding the above pursuit is to articulate the discursive or ideational framework within which claims about nature are articulated by the people, businesses, and the state actors in specific social, economic and political settings. For instance, claiming by local people a patch of forest, or about the benefits from a hydropower project, is essentially an attempt to asserting power via-a-vis the state and the company that is developing a project. But such claims often comprise a challenging task as the state exercises considerable control over how to apportion rights and entitlement to the people and the market actors have the wherewithal to mobilize their 'invisible hand' in exercising power. Thus, the specific resource struggles need to be situated historically and with respect to wider political claims that undercut the relationship of the citizens with the state.

The main thrust of this paper is to highlight that the notion of social justice can serve as a useful conceptual frame to examine how claims to resources are asserted and adjudicated in society. The idea can be employed simultaneously

to identify and problematize the aspects of democratization and inclusion and of policies and projects concerned with the conservation and management of natural resources and development in general. For instance, it helps identify and analyze the different threads of demands in the context of significant restrictions that people face for their access and control over their resources, even when forest sector policies espouse people's participation and control in resource management. Similarly, policies on hydropower development, or for that matter in other infrastructure development projects, require that the project developers minimize negative environmental effects and provide benefits to local community and address local concerns. However, many projects continue to encounter local resistance and protests on the site. How these policies unravel amid a political context in Nepal which had seen an intense contestation by marginalized social groups for their rights and entitlement?

This article does not intend to be too focused and detailed about a particular policy sector or about struggles on a particular natural resource or a particular social-spatial scale. Instead it seeks to articulate how the contestation about nature and society could be usefully problematized vis-à-vis current thinking on social justice generally. This article surveys the theoretical debate of social justice generally, and the way it helps understand local people's experiences and claims around natural resources and development projects. Drawing upon the literature, it highlights the pluralist framework of social justice in terms of the ideas of redistribution, recognition and participation, and employs that framework for the analysis of three diverse cases from in Nepal: a) hydropower project development in Lamjung, b) rights of fishing communities in Kailali, and c) program on reducing emissions from deforestation and forest degradation (REDD+). The cases reveal how the local populations, especially marginalized groups, have experienced the conservation and development projects, asserted their concerns and rights, and have struggled for them. Finally, it examines policy approach in Nepal regarding the extent with which they address these concerns and points to where more attention would be warranted.

DEVELOPMENT OF THINKING ON SOCIAL JUSTICE IN RECENT DECADES

The past four decades witnessed a renaissance on thinking about social justice. It was also paralleled by new social movements that called for the equal rights for women and different marginalized groups. Thus, the pursuit of justice has been both pervasive and particularistic. At one end, it is pervasive as justice claims encompass broad political demands regarding the market, economy and society. At the other end, it is particularistic as justice claims may be limited by a geographic scale, a

social group, or a particular resource, or for ending of particular modes of dispossession or exploitation. To make sense of this wide panorama, it may be useful to look at the justice debate in schematic terms.

Pervasiveness of Social Justice Agenda

The upsurge in the talk about social justice in recent decades has been frequently attributed to the publication of the first edition of John Rawls' *A Theory of Justice* in 1971 (Behr, 2005; Fleischacker, 2004; Jackson, 2005; Rawls, 1999; Roemer, 1996). Rawls was amongst the most influential political theorist since World War II who initiated a renaissance of philosophical interest in social justice (Avineri and De-Shalit, 1992; Roemer, 1996). Rawls sought to provide a superior alternative to the dominant frame of utilitarianism, which according to him, did not 'provide a satisfactory account of the basic rights and liberties of citizens as free and equal persons, a requirement of absolutely first importance for an account of democratic institutions' (1999: xii). He saw 'a public conception of justice as constituting the fundamental charter of a well-ordered human association' (ibid: 4), and asserted the primacy of justice:

> Justice is the first virtue of social institutions, as truth is of systems of thought. A theory however elegant and economical must be rejected or revised if it is untrue; likewise, laws and institutions no matter how efficient and well-arranged must be reformed or abolished if they are unjust. Each person possesses an inviolability founded on justice that even the welfare of society as a whole cannot override. [...] In a just society the liberties of equal citizenship are taken as settled; the rights secured by justice are not subject to political bargaining or to the calculus of social interests. […] An injustice is tolerable only when it is necessary to avoid an even greater injustice. Being first virtues of human activities, truth and justice are uncompromising' (1999: 3-4).

The commitment to social justice, however, not shared by everyone. Seen in a conventional left-to-right spectrum of political thought, it can be found that idea of social justice taken cautiously and resisted by Marx and libertarians alike, but for different ideological and theoretical reasons. One finds particular conceptions of justice in the three broad strands—libertarian, centrist and Marxist—in terms of certain basic features of how each perceives social justice. For instance, libertarianism, is generally hostile to the idea of social justice, as it commits itself to the defense of private property (Clayton and Williams, 2004) and the justification of inequality, as against the egalitarian ideal associated primarily with the left (Jackson, 2003). Similarly, Marxism exhibits a lack of coherence regarding the idea. While it condemns capitalist society with a broad-angled view within which the concept of exploitation, rather than injustice, takes priority (Ritzer, 1996; Verma, 2000). Marx unsettles the way justice as taken as a virtue as he considers it and similar conceptions

of the good as ideologies founded on modes of production devised to perpetuate exploitation (Verma, 2000). Accordingly, for Marx, social justice does not represent a proper framework to organize social effort for an exploitation-free society.

As the two opposite positions in the left-right spectrum of political-economic though either disapprove or reject the idea of social justice for their own logic about how an ideal society should be like. Accordingly, social justice idea finds more comfort in centrist, or left-of-central, social-democratic political commitments where individual liberties and pre-defined role of the state in redistributing society's resources are accepted or held desirable. Within this thinking, however, controversies rage around the role of the state, about what resources are to be redistributed between how and how. Controversies also cover how we identify injustice and, on the pathways, to redress injustice.

Furthermore, recent decades have witnessed a cultural turn in political thinking, that privileges the community and its identity, rather than individuals and their choice construed in liberal framing. This turn shifts focus away from the above distributive paradigm, which is concerned with the distribution of material resources in society and rejects the Marxian economic determinism and the liberal counter-narrative based on rational individualism. Instead, it proposes to pay greater attention to culture and religion in understanding human progress and destiny (Robinson, 2006). This strand advocates 'settled traditions and established identities', 'patriotism' and 'the defense of community's ways of life and the values that sustain it' (Guttmann, 1992, p.121), thereby shifting focus on the community and its recognition in the considerations for social justice. In addition, the critical theory paradigm offers further understanding of social justice by transcending both the class paradigm of classical Marxism and the distributive paradigm of liberalism. According to Young (1990), injustice manifests "five faces of oppression," the first being the exploitation in social processes that "bring about a transfer of energies from one group to another to produce unequal distributions and the way in which social institutions enable a few to accumulate while they constrain many more." The second comprises exclusion of individuals from useful participation in social life, rendering them marginal, leading to material deprivation and to the deprivation of the rights and freedoms. The third face is powerlessness, consisting of inhibition in the development of one's capacities, lack of decision-making power in one's working life, and exposure to disrespectful treatment because of the status one occupies. The fourth of Young's faces of oppression, cultural imperialism, relates to experience of how the dominant meanings of a society render the particular perspective of one's own group invisible at the same time as they stereotype one's group and mark it out as the Other. Young's fifth face of oppression comprises systematic violence including

harassment, intimidation and ridicule. According to Young, these are a matter of social injustice if they result from the social context surrounding them, which makes them possible and even acceptable.

Need for pluralist framework of justice: Recognition, Participation and Distribution

The discussion above reflected particular emphases and ideological commitments regarding the socially just society. They look in silos the claims about of the distribution of or access to resources, the demands for the voice and participation of different groups in decision-making, or the recognition of cultural difference in society. More recent calls however emphasize the need to have a more integrative understanding of justice that would bring in the fold of the theorization of justice of the multitude of claims into an overarching framework. For instance, Fraser (1997) proposed a framework of justice integrating both redistributive policy and a politics of recognition of difference and that urges the evaluation of social arrangements and institutions by the extent to which they enable parity of participation in society. She claims that there has been an increase in demands for the recognition of differences based on nationality, ethnicity, race, gender and sexual orientation at the expense of claims for economic redistribution and argues that justice today requires both redistribution and recognition, as neither alone is sufficient. More broadly, Fraser's contention is read not as an attempt to conflate recognitive and redistributive claims but as 'proposing a "perspectival dualism" in which distinctive "economic-redistributive" and "cultural-recognitive" logics of justice are *analytically* distinguished and *practically* combined so as to furnish a balanced strategy for left-critical praxis' (Yar, 2001, p.288).

This line of thinking of justice in the combination of economic redistribution, participation and recognition of cultural difference has also received salience in regard to theorizing environmental justice (Schlosberg 2004, 2013). Indeed, it is largely co-constitutive with "social justice", the two concepts adopted in different spheres and contestations, yet sharing all three analytic threads. The idea of social justice is also welcomed in other sectors such as education, health or other policy areas (Gewirtz and Cribb, 2002). In all the above instances, two distinctive ways of looking into justice – the monism and pluralism-- are distinguishable (Table 1). These two approaches can be distinguished by their core concerns, the "goods" they focus on, the kind of claim, and so.

As mentioned earlier, this article employs the pluralist conception of justice when looking into Nepal's contestation over natural resources and development projects. This is to acknowledge the multiple ideational and discursive basis of claiming nature and resources by local people and other groups. Accordingly, drawing also from

Table 1: Six dimensions of pluralism in models of social justice

Dimension	Monism	Pluralism
Kind of concern	Unified conceptions of justice (e.g. distributive OR procedural etc.)	Justice as multi-dimensional (e.g. distributive and cultural and associational)
Kind of good	A single currency of relevant goods	Different, possibly incommensurable, kinds of good
Kind of claim	Single account of the relevant criteria for claims to justice (e.g. needs OR desert OR ability to benefit)	'Pluralistic' model of relevant claims (e.g. needs AND desert AND ability to benefit etc.)
Scope of models of justice	Trans-contextual model of justice (i.e. one model of justice for all goods and settings)	Context-dependent model—model depends on nature of good and setting
Scope of allocative principles	Universal model—'recipients' of justice treated the same	Differentiated models—differences between recipients relevant for justice
Scope of responsibility	Centralized model of justice—a central agent with responsibility for arbitration and 'dispensing' of justice	Diffused and centralized model—i.e. agency and responsibility shared between all, including center and periphery.

Source: Developed after Gewirtz and Cribb, 2002: 500-1.

environmental justice thinking (Schlosberg 2004, 2013), it employs three strands of justice claims: redistribution of resources, participation and cultural recognition. The intent here is to set how this pluralist framing can be usefully employed in multitude of struggles and contestation, rather than documenting the struggles per se.

METHODS AND CASES

This paper draws from theoretical review of the pluralist framework of social justice in terms of the ideas of redistribution, recognition and participation. Its empirical content is derived from the three small case studies, involving a REDD+ pilot program in Chitwan, a hydropower project in Lamjung and the case of fishing communities in Kailali district. These cases represent different districts, geographic location, caste-ethnic mix. They also reflect diversity of actors involved in claiming resources or developing

the project, their resource use, the nature of claims to nature and developmental processes, the size of population involved as well as the financial stakes involved to different actors. In each of the cases, which will be briefly discussed below, semi-structured interviews were held with members of local population, community leaders, ethnic and civic activists, and relevant government officials. A comparison is made around the key observations across the three cases.

The paragraphs below start with an overall context of social differentiation in Nepal that shapes the nature of discourse around how different social groups. It then briefly presents the three cases considered for analysis in this article.

NEPAL'S SOCIAL DIFFERENTIATION

Nepal's demographic and socio-cultural diversity is central to the political discourse in recent decades that emphasize the group difference in society as an indicator of deprivation, exploitation or injustice. The country indeed is a complex mosaic of caste, ethnic and religious groups intersected by gender and economic inequalities. It has a total of 125 caste/ethnic groups, making it as a country of minorities (Sharma, 2008), as the largest of these groups comprising 16% of the population (CBS, 2014b), while the smallest one has a population of less than a thousand. The most recent population census, held in 2011, shows that the country has a total of 63 ethnic groups, 20 Dalit castes, 38 non-Dalit castes, five "others"

Table 2: Nepal's population, and ethnic groups in the ecological regions

Ecological region	Land area[a]	Pop. (%) (2001)[b]	No of caste/ethnic groups (2011) with geographic affiliation			
	%		Ethnic group	Non-Dalit-caste	Dalit caste	Other
Mountains	35	6.7	}50	}4	}5	} 5
Hills	42	43.0				
Tarai	23	50.3	13	34	15	
Total	**100**	**100**	**63**	**38**	**20**	**5**

Source: Developed from [a]MFSC, 2002; [b]CBS 2014a; [c]CBS 2014b

Note: The "other" category includes Muslims (with 4.4% of population), plus four "other cultural groups", including foreigners.

[3] Caste groups differ from ethnic groups, as the former are organized vertically in society according to Hindu percept of ritual purity, while the latter are horizontally organized in space without any doctrine for a group asserting superiority over others (Gurung, 2003). Dalits are considered amongst the lowest in the caste order.

(Table 1).[3] The political discourse in the past three decades highlights the cultural distinctness of groups, especially in order for advocate for their greater recognition, rights and entitlements.

Ethnic groups together comprise 35% of Nepal's population. They are also identified as *indigenous* peoples, *nationalities* and *adivasi* people, the latter meaning 'first or earliest settlers', though the arrival of some of these groups in Nepal was later than that of the caste groups (Sharma, 2008). Broadly, the indigenous groups are dependent on natural resources for their livelihoods. The ethnic movement has closely aligned with the international initiative on indigenous peoples and has articulated their marginalization, non-recognition and limited control over natural resources. These groups draw on strength in regard to claiming their identity, rights, and privileges through international instruments, such as the International Labor Organization's Article 169 and the United Nations Declaration on Rights of Indigenous People) that have also, to some extent, influenced national policy discourses lately.

The other category is the *Madhesi* group, comprising mainly 49 groups of Hindu non-Dalit and Dalit castes from the Tarai region, which together comprise 19.8% of Nepal's population. Since early 2000s, the *Madhesi* identity has gained ascendancy in political discourse and activism and the use of this term is employed to evoke a sense of mythical and ancient history (Hyome, 2006). The *Madhesi* identity sets itself in contrast to hills high-caste groups, who are seen as having deprived the *Madhesi* of the Tarai's natural resources and to have marginalized their identities.

Among the caste-groups, the *Dalits* are the ones who are at the bottom of the Hindu caste order. There are 5 Hill-based *Dalit* groups (with 8.1% population), 15 Tarai-based *Dalit* groups (4.5%), together constituting 12.6% of Nepal's population. Historically the *Dalits* have suffered from the Hindu principle of graded inequality (Ambedkar, 2005) which has evaded the "justice" dictum 'from each according to his ability; to each according to his need' in favor of 'from each according to his need; to each according to his nobility' (*op. cit.*, 84). The *Dalits* see themselves as dispossessed of property and denied access to land, office positions, dignity and state services. While they demand dignity and access to natural resources, their movement for social justice has not been as potent as that of other groups (Vishwakarma, 2002; Ahuti, 2004).

In regard to political claims-making, the above three groups are set in contrast to a group -- the high-caste groups of the Hills comprising Bahun, Chhetri, Thakuri and Sanyasi – that together comprise 31.2% of Nepal's population (CBS, 2014b). Since the mid-eighteenth century they have dominated Nepal's polity, military, and bureaucratic apparatus, and have settled in virtually all corners of the country (e.g., Lawoti, 2007). The political advocacy in the post-1990 challenged the legacy of exclusion and inequality that created uneven life

chances for various marginalized groups. These call for legal, policy and programmatic measures for righting historical wrongs for Dalit groups, enhancing the representation and inclusion of the disadvantaged groups, including Dalits, indigenous peoples, Madhesis, and women, and enhancing their participation in spheres of employment and social and political life. These calls for social justice amid increased identity consciousness were also consolidated after an influential study which demonstrated the inequality prevalent in Nepalese society (World Bank and DFID, 2006).

It is in this background that post-1990 politics experienced intense broad-scale contestation and demands from historically marginalized groups for their greater representation/participation in the polity, economy and society. These agendas came up in the course of Maoist insurgency and its settlement in 2006 and in the electoral deliberations during post 2006 period. While these agendas were articulated by some political parties, they were also recognized by others. Some aspects of these concerns were accommodated in the Constitution of Nepal, issued in 2015, yet their fuller implementation would require follow through policy, legal and financing measures. This article does not delve into this sphere of politics from political parties, but to specific experiences and struggles of local people in the context of increased expectations for local people's sense of rights and entitlement over resources. For this it draws on the case studies.

The Three Cases under study

The social diversity of Nepal, as outlined above, not only points to the social categories but parallel narratives about how the different groups experienced exploitation and marginalization in the hands of the Nepalese state and powerful social groups. The cases chosen for this article differ in social context, the nature of resource under contestation, and the actors involved in resource appropriation and the power mobilized. In all the cases, local people or indigenous populations face the government or companies in claiming or developing a resource. The latter mobilize the government license, or statist claim of eminent domain to restrict local people's traditional dependence upon the resource. The cases highlight, for instance, of the conservation logic for the restrictions on community forestry, while it mobilizes National Parks to deny indigenous, traditional livelihoods based on river fishing in Karnali.

REDD+ Program pilot sites in Chitwan

The first of the three cases for empirical insights for this paper is the REDD+ piloting site in Chitwan district's Kayarkhola watershed. Nepal has already adopted REDD+ program, consisting of Tarai Arc Landscape (TAL) area comprising Tarai plains

and Chure hills from Bara district in central Tarai to the country's western Terai border. Nepal's REDD+ Readiness Package was endorsed by the Forest Carbon Partnership Facility in 2017 and the federal Ministry of Forest and Environment (MOFE) endorse National REDD+ Strategy in 2018. In turn, REDD-IC has developed an Emissions Reduction Program Document (ERPD) for the TAL, with the intent of generating revenue through by increasing carbon stocks and sustainably managing the forests.

Two community forest user groups (CFUGs) – Chelibeti and Janapragati are among the 16 CFUGs in Kayarkhola watershed in the Tarai district of Chitwan. The first, Chelibeti CFUG, has 65 ha. of forest, which is managed by 171 households, while the second CFUG has 189 ha. of forest managed by 284 households. The pilot REDD+ project in the entire Kayarkhola watershed was launched by ICIMOD and its partners in an area of 8,002 ha. The watershed is inhabited by socially and ethnically diverse forest-dependent indigenous communities, as well as other caste groups, consisting mainly of hills indigenous groups, Dalits and high-caste Bahun-Chhetri. Among these is one of the most marginalized ethnic groups of Chepang who continue to practice shifting cultivation in some parts of the watershed.

Here local forest users, while being entitled to conserve, manage and utilize forest produce according to their plan, face restrictions imposed under the REDD+ program and other conservation policies of the government. REDD+ program emphasizes carbon sequestration over local priorities of forest use, while Churia conservation policy restricts forest access to local communities. These policies restrict local people's control over and access to forest, and the issues have been raised by local communities especially through their representative organizations, such as the Federation of Community Forestry Users, Nepal (FECOFUN) and Nepalese Federation of Indigenous Nationalities (NEFIN).

Hydropower Project in Lamjung district

The second case chosen for this article is the Upper Marsyangdi A Hydropower Project, which begun construction from 2012 in Bhulbhule Village Development Committee (VDC)[4] of Lamjung district in Western Nepal. Sited on the Marsyangdi river, this project received the hydropower generation license from the Department of Electricity Development in April 2012 for a period of 35 years and has an installation capacity for 50 MW (DOED, 2014) and an estimated cost of NPR 10 billion. It was built as a joint venture of a Nepali and a Chinese company, operating on 'build, own,

[4] A VDC was the lowest level political-administrative jurisdiction in Nepal prior to the adoption of new constitution in 2015. While they have now been "restructured" into rural/urban municipalities, this article retains the original category of VDC for this particular case.

operate, and transfer' (BOOT) model, with. The project started production late in 2016.

The field study was carried out in 2014 as the project was under construction. It was expected to fulfil environmental and social obligations, such as the statutory requirement of safeguarding the environment, ensuring the minimum flow of 10% of water into the river and responding to the concerns of affected communities. The people immediately affected by the project's construction comprise those in six nearby hamlets: Tanglinchok, Taranche, and Nyadi bazaar, Nandeshwora-Jyamire, and Bhulbhule Bazaar, and Kuwapani/ Kuleshwor, having a total of 176 households of mainly the Gurungs (indigenous group). As the construction started, the locals received benefits such as increased land price, employment, some contracts, support in local development. At the same time, they also experienced negative consequences from the project. A "public concern committee" comprising local representatives was formed in order to raise their concerns and negotiate with the project for addressing them.

Fishing community in Kailali district

The third case study covered in this article is that of a fishing community of Sonaha, which is an indigenous group, that is traditionally dependent upon the Karnali river at it enters the flatlands of Kailali/ Bardiya district in western Nepal. The Sonaha community lives along both sides of the river and are traditionally dependent upon fishing as the main profession and collecting miniscule of gold out of the sand. Sonaha is a marginalized community and is not officially recognized as "indigenous community" for which the community leaders have been advocating for.

A small settlement of the Sonaha community lies at Balchaur Mukta Kamaiya Shivir on the western bank of Karnali. While there are larger settlements of the Sonaha east of Karnali, this location has only seven households of the community. Here, the Sonaha's houses were built with the support from the government under its *Janata Awas Yojana* (People's Housing Scheme). At the eastern side of the Karnali river lies the Bardiya National Park, which upon its establishment in the 1970s, has been taking recourse to National Park regulations within the protected area and its immediate periphery (buffer zone). Among other things, the Sonaha community find themselves at the receiving end of the Park laws, as their two main occupations – fishing and collecting tiny quantities of gold (*sun chalne*) –are based in the Karnali river. They have been in these occupations for generations and their very identity is formed around them. However, after the establishment of the Park, their occupations have become illegal, but they continue their practices against the odds of the Park

authority, other state organs as well as some local communities organized in the form of community-based anti-poaching (CBAP) units. They are also engaged in a legal struggle for the recognition of their community as Nepal's indigenous people.

JUSTICE CONCERNS IN CONTESTATIONS OVER RESOURCES

This section presents our observations on the three cases under study in regard to the three threads of thinking on justice - recognition, participation and distributional issues. Recognition concerns with demands of local communities and indigenous peoples for the acknowledgement and recognition of their governance traditions, histories, knowledges, cultures and mores as they get squeezed by the regimes of modern state and market for control and appropriation. Participation, on the other hand, concerns with the demands of representation and participation of marginalized groups, women and others in state organizations and relevant forums and structures so that they engage in decisions that affect their lives. Finally, the third strand of distribution concerns with expectations and demands for the allocation of resources- incomes, means of production, or rights and entitlement-in a manner that benefits all in the society.

The three cases - REDD+ pilot project, hydropower development, and of fishing community adjacent to Bardiya National Park provide insights on the relevance of the pluralist framework of justice and on understanding what particular dimension is more salient in regard to a particular claim about resources. It also helps identify the main areas of contention and conflict in regard to the cases in question.

Recognition issues

One of the three dimensions of social justice in its pluralist conception comprises "recognition." As stated above, this dimension concerns primarily with the recognition and acknowledgement of the cultures, knowledge, skills and livelihoods of indigenous people and local communities. Recognition demands, expressed from entities like NEFIN, also call for self-determination, such as for recognizing the indigenous tenure and governance forms.

Table 4 presents the recognition issues in the three cases covered in this article. Of the three cases, the Table suggests that there has been relatively greater consciousness of the recognition issues in the REDD+ pilot process, as it acknowledges certain degree of community rights and tenure. In Hydropower case, the "local" itself is seen as a problem, and the Nepalese state claims itself the sole authority over the country's rivers and licensing of hydropower projects, and any local knowledge as irrelevant to

hydropower development processes. In customary fishing, in particular, the entire community is rendered illegitimate as the State asserts its authority through the mandate of conservation, and fishing in Karnali is seen to be in contravention of the conservation logic.

On the other hand, many community leaders feel that many government regulations/ guidelines are not suited to local contexts and they have been ignored to date. Indigenous groups, drawing upon Nepal's commitments to multilateral environmental agreements and human rights frameworks, hold claims over lands, territories and natural resources and demand for the recognition of their customary laws, practices, knowledge, skills and technology (NEFIN, 2016). Similarly, the views and concerns of indigenous peoples and local communities are not properly addressed and incorporated into the design, policy and programmes relating to REDD+ (Sherpa, 2013).

Accordingly, Nepal's policies on resources conservation, management or development continue to be problematic in regard to the recognition of the rights of indigenous peoples. It is especially so in respect of the country's commitments to international instruments such as the International Labor Organization Convention 169 and the United Nations Declaration on Rights of

Table 3: Recognition issues

Areas	Issues in the three cases		
	REDD+ program	**Hydropower Development**	**Customary fishing**
1. Local knowledge versus expert outside knowledge	Indigenous peoples and local communities demand for the recognition of their knowledge, skills and livelihoods	Hydropower considered a technology-heavy sector and local knowledge is not sought in its development and execution.	Park authorities in Bardiya emphasize blanket restriction on fishing, while communities have knowledge on fishing that can be less destructive.
2. Self-determination (rules, priorities and preference)	Forestry laws and guidelines are considered to be too prescriptive and state-centric	Policy and laws not addressing the indigenous people's demands for land, territories and natural resources	Local community is rendered at the margins of decision-making from both the Park authorities, and other local groups that collaborate with the Park in enforcing the latter's rules.
3. Customary tenure	Community forestry acknowledges local rights, but prioritizes the state over local community	Customary tenure not recognized – water laws recognize the state as the sole owner of the rivers.	Customary tenure over fish is not recognized; Park authorities mobilize state sanction

Indigenous Peoples (UNDRIP). State-centric policies and laws and their implementation by the top-down bureaucracy are not yet sensitive enough to accommodate the expectations from indigenous peoples and local communities. As Scott (1985) points out, this apparent mismatch of local and indigenous practices and traditions with the top-down bureaucratic approach of the modern state prompt local populations actively evade the State norms. As a result, these communities often compensate by operating outside the remit of formal law and policy processes, which promotes widespread informality. Some of the observations in the three cases help explain this.

The observations in the three cases, as gathered in the field visits, not only offer examples of how local people resist and maneuver with the power of the state and market, but also provide indication of where local resistance and accommodations lead to. For instance, community forest user groups in Chitwan organize themselves into FECOFUN and organize opposition and rallies on one hand, and at the same time bribe forestry officials for signing needed papers. By doing so, they confront the state power and accommodate to it as they face the restrictive forestry regime and state power, but with spending funds. In Kailali, the Sonaha community frequently bribe the Park and police officials to get favors when they were caught in fishing. In Lamjung, local populations staged shut-downs or other forms of resistance to get heard and to coerce the project management address their demands. Thus, the lack of recognition in conservation and development projects not only alienates the local community away from these efforts, it also promotes resistance against the project the state.

Participation Issues

Another dimension of the pluralistic framework of justice provides attention to the nature of how conservation or development projects espouse the participation of relevant actors in key aspects of their decision-making as well as their representation and voice. Table 5 shows main participation concerns revealed from the three case studies. They relate to whether there are relevant structures for local people's participation, who are the 'legitimate' local actors in claiming participation or benefits, the acknowledgement of Free, Prior and Informed Consent (FPIC)[5] as a decision-making tool, and leadership and representation of local concerns.

It is noteworthy that REDD+ processes espouse relevant structures from local to national level; some limited participation in hydropower project, but none in customary

[5] Free, Prior and Informed Consent (FPIC) is a specific right that pertains to indigenous peoples and is recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).

Table 4: Participative claims

Main concern	Main issues		
	REDD+ program	**Hydropower Development**	**Customary fishing**
1. Participation in relevant structures	• Multi-stakeholder bodies a norm, but certain constituencies feel excluded in REDD WG (e.g. Dalits), • Civil society and grassroots stakeholders feel "they are listened to but not heard"	Local people develop "Public Concern Committees" that negotiate local concerns with the project	No structure envisioned for local people to have their voice in decision-making on fishing
2. Actors -Indigenous or local people	Local communities and indigenous people are often considered mutually exclusive, but they are different and heterogenous entities	No significant distinction made between the local and the indigenous.	Indigenous fishing practices seen by other "local" community as contrary to conservation. Clear distinction between the "indigenous" and "local".
3. Free, Prior and Informed Consent (FPIC)	The issue of FPIC discussed by REDD+ actors but suggest "full" FPIC will be infeasible. Thus, they adopted process of limited consultation in which some local populations were 'informed' about the project	Indigenous activists demanded FPIC, but not acknowledged by the government and project developers.	No consideration of FPIC in establishing the Park or introducing restrictive conservation regime in fishing. The "principle of eminent domain" more prominent in defining Park rules and on restricting fishing.
4. Leadership and representation	• When REDD+ funds are seen as forthcoming, women leaders are likely to be replaced by male (perverse incentive to women leadership) • Leadership positions at the community, village, district and national level	Public Concern Committee formally represents the local interests, but the leadership is likely to be coopted by the project in favor its own interests.	No basis of representing the marginalized groups into Park decision-making; no leadership acknowledged.

fishing. The question of who 'privileged' local actors should be also reveal case-specific relevance - in some contexts the local community and indigenous people are treated together, while in fishing local community works in tandem with conservation authorities to enforce restrictions on fishing, which jeopardizes

their customary practices. Similarly, REDD+ tends to acknowledge FPIC but the government officials and project developers suggest that full FPIC is not practical, as there is no clear government guideline and procedure about how FPIC should be adopted. The Nepalese Federation of Indigenous Nationalities (NEFIN) vigorously demands the implementation of an FPIC protocol, but the project developers suggested that consent of all communities was unfeasible to achieve—and this confounds with the problem of whose consent counts.[6]

In regard to leadership and representation, core concern remains, who represents whom and how. The three cases reveal the difference on the level of representation, but also indicate a risk of coopting the representatives by more powerful actors.

Similarly, when some participation platforms are provided, it is important to highlight the quality of participation – language of documents or the time span of consultation, for example. REDD+ related consultations often have been hastily organized - by holding just a brief consultation in an entire district within the TAL area - and referred to English language documents, which were not well understood by local constituencies. Many civil society organizations participating in local, regional or national consultations have complained that they were not effectively involved in decision-making.[2] In Chitwan, for example, the consultants engaged by REDD Cell in Kathmandu held a three-hour "consultation meeting" but ended up introducing REDD+ as a concept, without holding any meaningful consultation about decision points. It was apparent that local communities participate in some of the discussions, but without sufficient understanding about the project in question. Such consultations, when they occur, are rarely comprehensive. They mostly aim at informing the local population, and seek their cooperation in project implementation.

Additionally, the effective participation of women and disadvantaged groups in local consultations is constrained by community-level governance: while community forestry policy guidelines prescribe significant women representation (50%) in user groups and related meetings, this become 'paper participation' too frequently. In hydropower, the public concern groups are virtually controlled by local power elites, who collude with the project. Local people said that key leaders in the public concern committee were provided with favors from the project – e.g. in the form of petty contracts, hiring of their equipment, or leasing their land, so that the local leaders had an incentive to collaborate with the project, than to represent local interests. Thus, power structures and relations are

[6] Based on the discussions in a consultation meeting organized by REDD-IC and WWF Nepal, Kathmandu, 2016.

[7] Based on discussion with NEFIN leader, Chitwan.

important determinants in regard to the representation of local concerns. The same occurs with the participation of indigenous and Dalit populations at village level: there are power relations within communities that constrain the effective participation of the most disadvantaged social groups. Thus, assuring proper representation should be emphasized as a valuable process on its own.

Distribution issues

The third of the three dimensions of the pluralist conception of justice adopted in this article concerns with the distributional issues. Distributional justice in REDD+, hydropower development or fishing concerns with the community's rights, control over and access to the resource in question, e.g. forest resources and carbon stocks, as well as of any additional benefits expected from the projects, such as monetary payments, employment, tenure, or indirect benefits such as capacity development. Nepal's forest policy and legislation has lingering uncertainty about forest tenure and allocation of rights of access and control. For example, in the region of the Terai, demands by distant users is often a justification for denying local community rights (Khatri et al., 2018). Country-wide denial of community rights also occur through declaration of national parks and reserves where more restrictive property regimes prevail. Tenure uncertainty remained after the adoption of the country's Forest Policy (MFSC, 2014a), which endorses a series of management models with divergent tenure security for the community. The persistence of these issues (forest tenure, allocation of rights of access and control issues) has already affected and will continue to confound carbon ownership and benefit sharing in REDD+.

Needless to say, in the above described context, allocating funds received for REDD+ implementation is likely to prove challenging. The government considers that 35% of the income of community forest user groups (CFUGs) should be allocated to "targeted" communities comprising women, Dalits, indigenous groups and the poor (MFSC, 2014b), but the REDD-IC has recently proposed a very different allocation scheme. This scheme specifies that the CFUGs should allocate 50% of the REDD+ funds for forest management, 10% for the poor, 10% for the forest dependent, 10% for indigenous people, 10% for women and 10% for monitoring and administration costs (REDD-IC, 2016).[8] These two schemes (Government and REDD IC allocation scheme) have different categories of 'beneficiaries' on one hand and different ratios of entitlements on the other. Local CFUG leaders in Chitwan suggest that these guidelines are too prescriptive to suit to local needs, as formulaic allocations do not necessarily match local needs and expectations. Accordingly, CFUGs silently concede that they fix the accounts

[8] This allocation scheme also applies to all management regimes, including for CFUGs under community forestry.

Table 5: Distributional issues

Areas	REDD+ program	Hydropower Development	Customary fishing
Resource tenure	Forest Policy privileges 'participatory forest management', less commitment to and uncertainty on community rights, with risk of restrictions on forest rights – including through declaration of protected area, conservation area, etc.	Tenure licensed to the company; licensing not contested by others	Customary fishing rights terminated with the establishment of National Park
Jurisdiction/ spatial extent of claims	Forest boundary at the local level: Continuing conflict between communities on forest boundary	Geographic areas and communities (contiguous and distant) distinctly identified and their claims/ entitlements differentiated	No formal recognition of spatial coverage
Community rights	Uncertain carbon rights and carbon credit transfer rights, together with uncertainty of forest tenure	Certain community entitlements acknowledged as local development support, especially those identified in environmental impact assessment reports	Community rights not acknowledged, recognized – in fact rendered invisible.
Financial benefits or burdens	Allocation of community level funds Funds meant for women, Dalit and indigenous groups are often used for general purposes (e.g. village road), rather than to address specific needs of those targeted communities • No effective mechanism for monitoring and compliance • Divergence of allocation formula in community forestry guideline and REDD IC prescription	Direct and indirect benefits to local community – e.g. employment in the project, increased land price, greater local business, community development support (school, road etc). Some local enterprises get small contracts related to transport, construction- but accrue mainly to local elite individuals. Most of the benefits accrue to the construction phase.	Financial gains to the community according to local market for fish. Financial burdens incurred in the form of damages to the fishing boats by the Army or local Anti-Poaching units; fines to the National Park

to demonstrate compliance to forestry authorities.

Similarly, in hydropower project location, certain community entitlements are acknowledged through environmental impact assessment and the project commits to support local community with developmental funds and preferential employment. Similarly, local people also

get other indirect benefits. A unique arrangement in this case was to differentiate people living in areas close to the project site and other "affected areas" outside and to provide benefits on that basis.

However, the fishing community in Kailali and Bardiya experienced the termination of their customary fishing in the Karnali river. This was justified with the establishment of the National Park, which asserted the state's will to introduce prohibitions on resource extraction, but against the customary access to the resource. The Park authorities also mobilize some other local communities in Bardiya and Kailali in the form of anti-poaching groups who destroy the boats used by the Sonaha people when they find it. Thus, Sonaha community come under the onslaught of the state on one hand and other local groups mobilized by the state on the other. This brings to sharp conflict the customary tenure and rights against the assertive modern state.

DISCUSSION AND CONCLUSIONS

The above analysis brings to focus how different societal groups - the assertive modern state, the private sector and local community –find themselves in mutually competitive positions in regard to claiming nature and the proceeds from its conservation, management or its transformation into development projects. It is apparent that the three cases compiled in this paper - REDD+ pilot project, hydropower project, plus community fishing - are very different in terms of recognizing the rights and entitlement of local people. Nevertheless, they shared a common question - how they help inform the way resources are claimed, counter-claimed and asserted in specific historical moment of problematizing Nepal's past.

The main concern posed in this article is on how social justice could be realized in the cases of conserving, managing or harnessing resources in the form of hydropower or REDD+ projects. This article highlighted that the justice question has to be pursued in terms of its pluralistic framing, combining the elements of redistribution, participation and recognition, and without making any of them reducible to another one. But again, the question comes about how the pursuit of justice can be made practical and enforceable (Fleischacker, 2004). It is therefore useful to look into how claims have been asserted and enacted in local to higher scale social - political mobilizations and translating them into concrete policy, legal or programmatic tools.

This paper argued that the local people's claims to resources often draw upon and gets inspired by the discursive frame articulated in post-1990 politics in Nepal. This has significantly to do with the country's social-cultural diversity and the claims about how different social groups felt marginalized or exploited through history. Seen in this light, for instance, indigenous groups' demands about land, water or other resources are legitimated on the premise that these

groups were treated unfairly under the country's political regimes in the past. These formulations offer an overarching narrative with which a group faced injustice in the hands of the state or other powerful groups, and hence deserved redress in the course of ongoing political-legal reforms generally, and in specific schemes of development in particular. This article attempted at articulating that the claims about nature or development by different groups go hand-in-hand with the claims-making in wider politics and social movements.

However, this article did not set out to become detailed and exhaustive in regard to the expanse of concerns raised above. Instead, it is expected that the line of inquiry afforded by the pluralistic conception would be informative in a range of situations that involve societal contestation for limited resources. Indeed, in all the three cases reveal the persistence of conflicts around rights, entitlement and access to resource and the way they are negotiated within the power relation existing in society. It however needs to be highlighted that achieving socially just resource regimes would be in interest of achieving social harmony and peace and accordingly, addressing the issues should remain important policy concern.

Again, devising policy measures along the idea of justice and implementing them do not appear to move along a straight line. Post-1990 political reforms and social movements have consistently highlighted the need of the policy and programmatic measures targeted to disadvantaged groups. Indeed, the constitution of Nepal itself goes at considerable lengths toward this direction. However, the translation of the overarching intent into concrete measures shows the lack of commitment and the speed on the part of relevant government departments. What it reveals is the need for Nepal government to look into pathways in which political commitments about the rights and entitlement of marginalized groups get actually implemented. This would need a recourse to follow-through policies and consultations at operational levels including across government departments and relevant movements at different levels.

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WATER SECURITY IN URBAN WATER GOVERNANCE: A CASE STUDY OF DHULIKHEL MUNICIPALITY, KAVREPALANCHOWK, NEPAL

Kushal Pokharel[1], Tikeshwari Joshi[2], Jagannath Adhikari[3] & Kaustuv Raj Neupane[2]

ABSTRACT

This paper locates the issue of water security within the larger discourse of Environmental Justice which has become more encompassing and broader in scope, forms and processes penetrating the issues of political, economic and cultural distribution of resources. The concept of urban governance and water security is inextricably tied as the need of improved water services historically grew with the expansion of cities calling for critical governance arrangements. In light of the above, this paper examines the existing state of water security in Dhulikhel. By examining the power relations between 'fringe' and the 'core' areas, the paper depicts the growing inequity across the 9 wards of Dhulikhel pertaining to water access and distribution based on caste, class, ethnicity and gender. Two fundamental questions that guide this paper are: 1) Why disparities exist between the core and fringe categories in Dhulikhel Municipality? 2) How does the core-fringe category shape the power of communities in the water governance? The findings clearly show that there is a huge discrimination between the core and the fringe, the poor and the non-poor within the core in water availability, distribution and decision-making. Establishing an equitable water justice system calls for uprooting the existing social discrimination in water security to empower the fringe communities.

Keywords: water security, core and fringe, Dhulikhel, environmental justice

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INTRODUCTION

Universal notion of justice and equity has remained highly elusive although the movements for these goals are growing. Such concepts are deeply entrenched in the real needs and struggles of people and are often linked with the notion of sustainability *(*Agyeman, Bullard and Evans, 2002). Embedded in this idea is the principle of environmental justice, the use of which has become more encompassing that links marginalization with environmental services and is considered important for sustainable development. Instead of a universal use of the term, the concept of Environmental Justice (EJ) is increasingly applied in a contextualized way so that it is more relevant in helping to solve problems. The term 'environment' itself has become more comprehensive inclucating the access of environmental goods and resources-water, energy and greenspace and the natural as well as technologically produced risks (Walker et al., 2006; Adger et al., 2003; Pelling, 2005).

Within this larger discourse of EJ, issues relating to water security have greatly emerged. The history of water security is rooted in the notion of urban governance. With the expansion of the state and its services, demand for improved water system increased. The concept of water security emphasizes access to safe, affordable and clean water for every person to enable a healthy and productive life including the protection of the communities from water borne diseases and water-induced disasters (GWP, 2000). Asian Development Bank framework for national water security prioritizes the security needs of cities, environment, resilient communities and economies (AWDO, 2013).

While there is a plethora of literature on water security in agrarian contexts (Boelens et al., 1998), urban contexts (Bakker, 2001; Debanne and Keil, 2004), or at the regional level (Giordano and Wolf, 2001), limited studies related to the issues of equity and justice in peri-urban contexts are available (Allen et al., 2006; Edwards, 2002). Moreover, the question of how peri-urban transformation shapes water access and affects water justice remains an under-researched area.

Nepal is one of the rapidly urbanizing countries in Asia. According to the economic survey of 2015-16, 42 percent of the population in Nepal lives in urban areas (MOF, 2016). The problem of water insecurity in peri-urban fringe has become more critical not due to technical problems like burgeoning air pollution, falling

groundwater levels but more importantly by the process of socio-cultural and political marginalization. Access to piped water in urban areas declined from 68% to 58% from 2003 to 2010 as a result of growing social inequality and economic disparities manifested in inadequate service delivery and sustained increase in urban population (World Bank, 2013).

What is more concerning is the disproportionate impact of water scarcity in the urban society. Widespread poverty coupled by lack of access to productive resources have increased the vulnerabilities of the marginalized groups including women, children, old aged and differently abled people which often manifest in their inability to get access to water as a basic human need. Three issues are crucial in the context of assessing the water justice scenario in Nepal: fair distribution of benefits, burdens and risks related to water resource development; the recognition of diverse needs and values; their just representation in policy making arenas (Sen, 2009). The escalation of tensions between communities and states have manifested in the development of large-scale water infrastructures in Nepal (Gyawali, 2013). Moreover, Onta and Tamang (2013) discusses the water resource development characteristics in Nepal from the standpoint of under representation of the marginalized and disadvantaged groups in the project design and weak accountability structures.

In light of the above, this paper examines the existing state of water security in Dhulikhel municipality. By examining the power relations between 'fringe' and the 'core' area, we depict the growing inequity across the 9 wards of Dhulikhel in terms of water access and distribution. We use the term 'fringe' in the context of power relationships to refer to areas that are politically and physically marginal to an incorporated city. We also look into how the fringe is formed from historical marginalization within the 'core urban' and rural areas adjoining the urban, which later develops as urban fringe in the process of expansion.

We begin with problematizing the water justice system in our context followed by a section on the conceptual review of the wider discourses of water justice and equity under the notion of EJ. Two fundamental questions that guide this paper are: Why disparities exist between the core and fringe categories in Dhulikhel Municipality? and; How does the core-fringe category shape the power of the communities in water-based governance? In the next section, we present the empirical findings on the situation of water availability including management and distribution system, participation of various groups in the decision-making processes and further analyze the disproportionate access to and control over water resources in core and fringe communities.

THE JUSTICE CONUNDRUM

As the universal notion of justice has remained elusive in the absence of a unifying framework and conceptual clarity

(Ikeme, 2003), alternative interpretations of justice examining its moral and the ideological character have resulted in multiple perspectives within the practical and analytical contexts. While scholars emphasize the diversity in the theory of justice and rejects the possibility of a measurable and universal notion (Debbane and Keil, 2004), the theoretical contestation is rife with the issue of 'redistribution' vs 'recognition', the latter becoming more dominant demanding a differential treatment of the racial, ethnic and gendered identity (Fraser, 1996; Scholsberg, 2004). The principle of recognition takes into account the locally grounded dynamics of inequities across different scales- the term local not being confined to geographic space but more importantly signaling the multi-scalar interaction of institutions and processes (Debanne and Keil, 2004).

Transcending beyond its origin and initial framing in the US, the concept of environmental justice has become more encompassing and broader in scope in the sites, forms and processes of injustice. Beyond the national boundary, the environmental justice agenda delves into questions of distribution both between and across nation-states (Stephens et al., 2001; Newell, 2005), penetrating different political, cultural and economic environments (Ageyman et al., 2003). Within EJ, procedural and distributive justice have become debatable. Intrigued by the question of distribution in terms of varying political, cultural and economic environment, (Ageyman et. al., 2003), the distributive justice underpins the idea of 'justice to whom' encompassing the demographic and gendered differences along with the rights of the future generation (Dobson, 1998). Furthermore, the fairness of the processes in the distribution of environmental goods and services imply the equitable opportunities for individuals and communities to mitigate risks (Walker et al., 2005).

ENVIRONMENTAL JUSTICE AND WATER SECURITY

Building a strong and resilient water system is high on the international political agenda but lack of unanimously acceptable definition of water security remains pertinent. In an attempt to provide a more measurable and acceptable definition, Grey and Sadoff (2007) explain this concept as the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production coupled with an acceptable level of risks to people, environments and communities.

The role of EJ to promote water security has been widely acknowledged. Increasing popularity of water security in both policy and academic debates transcends beyond the ideals of quantity and availability of water to encompass the issues of water quality, human health and ecological concern security (Cook and Bakker, 2012). An integrative inter-disciplinary approach is

evolving with water governance at its core (Mirumachi, 2008).

Analyzing the water security condition under the framework of the core-fringe discourse assumes greater significance in the context of cities in developing countries. Fringe urbanization is a definitive characteristic of the metropolitan condition in global south. While there is broad agreement that the term "urban fringe" refers to an evolving zone of development beyond the city core, it is used to describe a wide range of socio-spatial phenomena (Thuo, 2013). Recognizing this diversity, the fringe spatially and relationally denotes areas that are physically and politically marginal to an incorporated city. However, there are growing criticisms of the geographical notion of the fringe and increasing focus on the institutional aspect; rural-urban linkages and characteristics, flow of goods and services (Iaquinta and Drescher, 2000). Closely allied with this is the process-based interpretation of the term denoting a transition from rural to urban area including the flows of labor, natural resources and agricultural products (Narain, 2007). With this definition, the power relationship between the fringe and the city is of greater significance than descriptive "rural" and "urban" or "agricultural" and "non- agricultural" characteristics. Existing literature also hint at the existence of 'fringe' within the core (Ranganathan and Balazs, 2015).

METHODOLOGY

This study made use of various data collection methods: Key informant interview (KII), interview with local people, Focus Group Discussion (FGD), local stakeholders' workshop and expert meeting to obtain deep insight into the dynamics of water management and distribution in Dhulikhel. Altogether, 18 KIIs were conducted under 5 different categories of respondents. 4 local leaders from the peripheral area of the Dhulikhel were interviewed to understand the political economy of water security. Similarly, 3 leaders from upstream areas actively involved in raising issues with the Dhulikhel drinking water user committee were also interrogated for this research.

Interviews with ex-officials of the Dhulikhel drinking water user committee who were also involved in forging an agreement with upstream community 25 years back were important to figure out their struggle during the establishment and management of water supply system. Finally, officials from Municipality and District Soil Conservation Office, representatives from Kathmandu University and Kavre Valley Integrated Drinking Water Supply Project were approached to find out the state of collaboration among different stakeholders, upstream-downstream relations regarding water security.

RESULT AND DISCUSSION

Evolution of Dhulikhel as an emerging town

Dhulikhel- a hilltop town struggling for water supply for over three decades is located at about 32 km east of Kathmandu, the capital city of Nepal. An integral part of the Kavre valley which comprises of Kavre, Panauti and Dhulikhel, the town is renowned for its stunning natural views and cultural sites. The town is also developing as a center for education and health after establishment of Kathmandu University and Dhulikhel Community Hospital.

The municipality has 16,263 populations living in 3,291 households with an average household size of 4.49. The sex ratio is 106.6 with male population 8,392 to female population 7,871 (CBS, 2012). Among the major caste and ethnic groups residing in the town are: Brahmin, Chhetri, Newar and Tamang. Among the two major factors contributing to the growing water insecurity in the town are: increasing population pressure and growing water demand of the villages integrated into the town.

Situated at 1550m above the mean sea level, Dhulikhel is dominated by rural and agricultural land (73.6%) followed by forest land (22.4%) and urban area covers only 4%. The municipality is surrounded by Kavre Village Development Committee (VDC) in the east, Panauti Municipality in the south, Ravi opi and Panchkhal VDCs in the north and Banepa Municipality in the west.

Compared to other municipalities in western and far western region of Nepal, Dhulikhel has relatively low poverty rate. According to the small area estimation of poverty 2011, the municipality's current poverty rate is 2.47% drastically decreasing from 13% in 2001 (CBS, 2012). The municipality falls among eight municipalities with poverty rate below 5% (NLSS, 2011). Having said that, there is an increasing disparity between those who own the means of production and those who don't that implicates the water availability and security of different socio-cultural and ethnic groups.

Emerging from a rural village to a municipal town was a bumpy ride for Dhulikhel. Once a district headquarter almost at the brink of extinction owing to water scarcity, Dhulikhel later became a vibrant town. Out of the need to get access to foreign funding, Dhulikhel incorporated the population of the adjoining rural areas to meet the basic requirement of municipality. The drinking water project that started in 1987 was completed after four years with the technical and financial assistance of the GTZ and formally handed over to the community in 1992. Pressurizing the government to declare the then village panchayat as municipality, the local communities wanted to meet the funding criteria.

In collaboration with Dhulikhel Development Board (DDB), GTZ worked for securing water needs of the town. The DDB made

agreement with upstream community for securing water source which lies in the upstream called Kalanti Bhumidanda VDC. As per the agreement Dhulikhel needed to support in construction of School building in lieu of their water source protection efforts. Finally, the DDB handed over the responsibility to Dhulikhel Drinking Water Supply and Sanitation Users Committee (DDWSSUC) in 1992.[4]

DDWSSUC formed in 1992 composed of elite people from the present ward 2-5 of the municipality. Those participating in this committee were politically active people from the past. Although it appears at present that the then Municipality also covered other parts of the city wards including ward no. 7, 8 and 9 and some parts of wards 1, and 6 of the municipality, from the very beginning, there was no participation of people from these areas in the original in the 1992 committee. This has resulted in the growing water marginalization in these areas with the elite control in the water security systems.

The Core-Fringe Dynamics

The historical root of the problem manifests even today across the different wards of the town. While wards 2-5 have proper access to water resources, the remaining wards lying under the 'urban fringe' are facing acute shortage of water. In this context, Wards 2-5 is considered here as the core and Wards 1, and 6-9 as fringe. Until now, the participation in people in Water User Committee is mainly from the core area. And so the water discrimination continues between core and periphery, showing the strong links to ethnicity and class. A brief description of the demographic composition of the core and fringe is presented below:

Core: 41 % of the population live in the core wards of Dhulikhel. The total number of household in this area is 794. There is a mixed social group with highest number of Newars (2953) followed by Chettris (996). Other ethnic groups include Tamang, Damai, Gurung, Thakali, Rai (CBS, 2012 and Municipality Profile, 2016).

Agriculture is the main occupation of the core population. Increasing interest on trade business and jobs among the young population can be observed. Compared to the fringe, the number of families engaged in wage labor is low i.e. 161. Also the share of remittance income is low which indicates that there is relatively less migration from this area in terms of opportunities.

Fringe: The 2011 national census reports a total of 2122 households have been in ward 1,6,7,8 and 9 of the municipality. Newars have the highest population even in the fringe followed by Tamangs, Chhetri and Brahmins. Among the reasons of migration from the fringe, search for work, better opportunities and good salary are

[4] Interview with DDWUC representative, 2014

the most prominent. A total of 500 people are illiterate. Particularly, the numbers are alarming in case of ward no 8 (223) and ward no 9 (153). This category consists of the relatively poor income families. Number of families earning less than 5000 per month in the fringe are 545 while in core it's only 218. There is an increasing trend of international labor migration in fringe than in core, 51 households to be more precise, only 30 from core.

Agriculture is the major livelihood options for the fringe. A total of 1123 households are engaged in agriculture for survival followed by wage labor i.e. 400 households. There is relatively less number of households in business and jobs from this area. Share of remittance income is also appearing as a strong means of livelihood in the poor fringe community**.**

Water Availability Scenario

92% of the Dhulikhel population is supplied with drinking water[5] from Saptakanya spring of Kharkhola which lies in Kalanti Bhumidanda Village Development Committee (VDC), southeast of Phulchoki Mountain. While the current demand of water is about 23 million litres, only 13.83 million of water is being supplied per day (Pandey, 2016). With only 48 % of households having direct connection to piped water, the problem of water access is acute in the city particularly affecting the poor and the vulnerable population. Based on the data of Dhulikhel Drinking Water User Committees, two categories of users exist: domestic and industrial users. The registered number of domestic users in Dhulikhel is 1892 whereas the industrial users stand at 94.

A huge difference in water access among the people living in the core city and the outer periphery is visible. Although geographical variations affect water availability in the region with elevated areas getting less water due to low water pressure in their taps, the powerful households even in difficult locations have access to advanced technology for controlling water pressure. Households in the marginal areas like ward no. 1 and 6 have no access to Dhulikhel Drinking Water Supply System primarily due to the discriminatory water policies formulated by a handful of people living in the core areas. One of the local inhabitants during an interaction with the research team expressed his dissatisfaction over the government's consideration of wards 2-5 as real Dhulikhel and supplying water only to these areas.

While wards in Block A (core area) gets water in two different time slots for 7 hrs in a day, the situation is different for Blocks B and C primarily comprising of the fringe areas (see Table 1). Fringe area gets water only for 4 hours a day. Such discriminatory provisions resonate the question of who determines

[5] Interview with DDWUC representative, 2014

the water accessibility with what motives and incentives. Despite the capacity to supply drinking water to these wards, the water supply system is least bothered about catering their needs. Moreover, there is no provision of subsidies in connection charge for low income people in Dhulikhel

Majority of the poor living in Dhulikhel meet their daily needs by wage labor. These people live in areas that can be called 'fringe within the core'. Residing in the central part of the city in rented house, they have limited access to the piped water under the control of the house owner who charges 50% of the total monthly water tariff of the house.

Table 1: Water Availability Discrepancy in Three Blocks (Core vs Fringe)

Block	Timeslot	Hours
A (ward 2-5)	5-9 A.M. 5-8 P.M.	7 hrs
B (ward 6-9)	6-7 A.M. 1-4 P.M.	4 hrs
C (ward 1)	4.30-6 A.M. 3.30- 6 P.M.	4 hrs

Source: Field Survey, 2014

People in the fringe have to either spend a lot of money or time to get water which adversely affects their livelihood. Ward no.1 is the most vulnerable compared to other wards in the absence of their own water sources. One of the local farmers representing this ward informed that his community has to travel to the neighboring Kavre village to fetch water which takes approximately one and half hour to reach on foot. A local peasant from ward no.6 said that he has to buy 3 tankers (5000 liter/tanker) per month incurring the cost of Rs 1800/tanker. Water has become an expensive good in the town inspite of the government's commitment to protect it as a common property resource.

On an average, core area was found to have disproportionately high access to water than the fringe. Discrimination within the core was equally pertinent relating more to economic marginalization and gender status of the household head. One of the respondents from ward no. 3 (core area) who didn't have piped connection remarked that owing to the joint ownership of the house, she did not have her own piped water supply. She shares water from other household and equally contributes to the monthly charge. Another respondent from ward no. 2 who could not speak very well in conversation with us shared that she uses the nearby public tap and during the monsoon gets bad quality water mixed with flood. During monsoon she normally goes to neighboring household with access to piped water. These women are the head of the families and have often been subjected to various socio-economic discrimination by their own close relatives in matters not only related to property but also water.

Water Consumption Patterns

Water sources vary according to wards (See Table 2). While piped water is a major source of water, other prominent sources include wells and stone taps particularly in the fringe areas. The core areas have no well and tube well but only 2 stone taps.

Because of longer duration and more flow, there is high level of water availability in the wards 2-5. There is a growing evidence of the variation in water consumption across

Table 2: Sources of Water

S. N.	Water Source	Ward No.									Total households
		1	2	3	4	5	6	7	8	9	
1	Pipe Supply	254	128	128	112	138	343	310	124	78	1577
2	Well	21	-	-	-	-	43	53	-	-	117
3	Tube Well	6	-	-	-	-	-	-	-	-	2
4	Stone Tap	6	-	-	1	1	5	57	15	20	105
5	River/Stream	-	-	-	-	-	3	-	-	-	9
6	Total	289	128	128	113	139	394	420	139	98	1848

Source: Field Survey, 2014

Table 3: Patterns of Water Consumption (Unit wise)

S. N.	Water Use in Unit	Ward No.									Total
		1	2	3	4	5	6	7	8	9	
1	0-10	78	65	94	81	97	83	170	40	73	781
2	>10-25	40	118	115	65	83	68	235	31	44	799
3	>25-50	10	32	56	14	32	42	61	1	2	250
4	>50	4	17	19	0	19	32	19	0	0	110
Total		132	232	284	160	231	225	485	72	119	1940
Percentage Consumption (Ward wise)		6.8	11.9	14.6	8.2	11.9	11.5	25	3.7	6.1	100

Source: Field Survey, 2014

the 9 wards of Dhulikhel (see table 3). Of the total water use, the core (Ward 2-5) consumes 46.6%, wards 7-9 also referred to as powerful within the core area uses 39.8 %. However, there is only 14% of water consumption in the fringe (ward 1).

The core-fringe divide

Growing disparity in information pertaining to water access and quality of service has further entrenched the core-fringe divide in Dhulikhel. One farmer from ward no 7, who is neither a user of Dhulikhel drinking water supply system nor has his own water supply system relies on the public well near his house. He is working on a crop sharing basis. Majority of the farmers in the area are not well informed about water services provided by Dhulikhel water users committee and unaware of the water quality in the absence of a vibrant local government.

The empirical data presented in different tables shows that those who have power and control over the water security systems (core area) consume the highest percentage of water. On the contrary, in the absence of political networks leading to underrepresentation in the decision-making structures, some areas consume less water. Ward no 1 (fringe) consumes only 6.8 percent of the total.

Discriminatory Water System

While the people having access to Dhulikhel Water Supply System were fully satisfied with water facilities, people living at remote geographical regions of the ward no. 1 and 6 – the fringe area who are not the users of the system expressed their utter dismay over the existing discrimination in water supply systems. Further expressing their concern towards ongoing ADB funded project named Kavre Valley Integrated Drinking Water Supply Project that aims to make the reservoir tank in low land thereby isolating the upstream communities from the access of piped water, the inhabitants of the fringe have become highly critical.

The key informant belonging to water users' committee claimed that since the beginning of its establishment, it has been successful in equitable distribution of quality water to its users – in both in terms of amount of water and the price.

The above description makes it clear that there is no equitable distribution of water. In terms of price too, this is not equitable. The pricing system puts more burden on poor and those who consume less. Monthly charge is determined as per the water use ranging from less than 10 units to greater than 51 units. Those who use less than 10 units have to pay NRs 160/month. As the minimum unit exceeds, the users should pay on per additional unit basis.

Upon interrogating the need of subsidies for the people who cannot afford, majority

Table 4: Water tariff trend of DDWUC

Consumed Units	Rate of water tariff in NRs						
	1990/91	2001/02	2006/07	2010/11	2011/12	2012/13	2014/15
<10	35/month	50/month	60/month	75/month	105/month	125/month	160/month
11-25		6.0/unit	6.5/unit	10	14/unit	17/unit	22/unit
26-50		9/unit	10/unit	15	21/unit	25/unit	33/unit
>51		20/unit	22/unit	34	48/unit	58/unit	76/unit

Source: Field Survey, 2014

of the respondents opined that granting subsidies with the assurance of no misuse could be highly useful for the poor households. Moreover, from the equity perspective, identification and ranking of the poor is another challenge.

Two distinct types of poor live in Dhulikhel; seasonal migrants in rented house and the permanent poor. The first type of the poor is those who meet their livelihoods by wage labor living in the rented house, get the supplied piped water through the house owner, but have to share the monthly charge of water with house owner in an equal basis (Field interview, 2014 and authors own site observation).

Social Discrimination in Water Use

The claim of the DDWUC officials that the poor and disadvantaged groups lacking access to the piped water system have immensely benefitted from the public taps is devoid of substantial ground evidence. While the officials asserted that people are getting drinking water free of cost, they didn't bother talking about the water quality. Our research shows that the quality of public tap water is a matter of grave concern. Sometimes the public taps are used by the private tap holders, mainly for washing clothes, bathing, irrigating home garden. Often, conflict ensues between Dalits and non-Dalits over the use of public tap water. The so-called upper caste people still are reluctant to fetch water together with Dalit labeling the later as untouchable (Field interview, 2014).

Since the water supply was originally meant for the core inhabitants of the village panchayat which now constitutes the Newar dominated wards, a clear gap between Newars and non-Newars community was observed during the study. While the Newars with a rich historical legacy enjoy political authority in urban areas where they also control the economy through business and enterprises, the fringe area consists of

diverse settlements with poor population having limited political control.

Discrimination is rife within the caste and ethnic groups including women. Generally, the women belonging to both castes: upper caste and Dalits are the victims of such events as women of both castes have to fetch water from such public taps. Women from poorer upper caste households and all women from Dalit families face problem in accessing water – though in different way. Based on our observation, we found that some people who have no access to Dhulikhel water supply system, usually rely on the traditional sources of water such as stone taps.

Most of the key informants shared that the users of the public taps constructed in the core town (2, 3, 4, 5 ward) of Dhulikhel are the poor and disadvantaged people who cannot pay the installation charge. The installation charge to connect private tap is NRs 8000 including a deposit of Rs 3250, Rs 2000 as meter charge and connection charge- Rs 2600 and an application fee of 150). The minimum monthly water tariff of Dhulikhel Drinking Water Supply is NRs 160/ 10,000 L.

Decision Making Structures and Processes

The GTZ supported water project created a deep faction between the core and periphery wards of Dhulikhel over the issue of distribution. While the periphery communities argued for the just distribution of water in all parts of the municipality, the core people denied. Regarded as one of the oldest systems managed by the user committees, the DDWUC is currently supplying water to around 10000 populations. While the water is distributed partially in ward 1,6, and 7, there is an adequate supply in the core areas. And extension is ongoing in ward 8 and 9 for the distribution.

Since the beginning of the Dhulikhel Drinking Water Project, there is virtually no representation of the vulnerable social groups in the water user committees exacerbating conflict between the users and non-users of the drinking water within the municipality. The participation of the users in the general assembly meeting of users committee indicate the state of decision-making. Most of the local people interviewed during the research stated that they usually take part in the general assembly meeting held once in a year. And most of the respondents expressed that there are limited opportunities for them to express their voices which result in the feeling of being boycotted from the decision-making process. These people just participate, hear the decision of the users committee and express consent.

The supply of drinking water primarily to the core areas citing the technical difficulties to extend the service to the fringe is devoid of the social reality. Out of the fear of water

shortage, the powerful individuals in core are reluctant to provide water.

Another dimension of conflict is in terms of poor and better off within the core. Use of the public taps from the rich families have often resulted in low access to the tap for the socially and ethnically marginalized groups like Dalits.

The constitution of Dhulikhel Drinking Water Users' Committee has a provision of six female members (1Vice Chair and 5 Members) out of 21 in the executive committee (DDWUC annual progress report, 2013). According to the vice chair of the DDWUC, she was elected from three women counterparts and rest five women members were elected from17 women counterparts. Having said that, social disparity is evident in terms of women participation as these six women members belong to core areas of Dhulikhel.

Some exceptions are prevalent in the role of women. Referring to an incident in which women played a crucial role to collect installation charge for private tap connection in the beginning when some of their male counterparts demanded free water, the local official asserted that improved status of women participation in decision but failed to take into account the burgeoning divide between the women of the core and the fringe areas.

CONCLUSION

This paper reveals a contrasting state of water access in two spatially and socially differentiated areas of Dhulikhel. Growing disparity between 'core' and 'fringe' is deep rooted in the political access and power in water based decision-making in the community. With the historical process of marginalization based on caste, class, gender and ethnicity still remaining, the problem of water security has become acute in the fringe areas. In the absence of deliberative public spaces, there is high handedness of core elites in the water management system which manifest in the inequitable water access, discriminatory water tarriff and uneven water consumption pattern. Consequently, social tensions have intensified between the core and the fringe, poor and the non-poor within the core.

We highlight the need for a more equitable water management systems that can address the problems of water security of the fringe areas which are populated by mostly the impoverished population. Improving deliberative spaces for the poor people in the water users committee to accommodate the voices of the socio-economically marginalized and disadvantaged groups will be a stepping stone in this direction.

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WATER CONFLICTS IN URBANIZING REGIONS IN THE HIMALAYA: CASE STUDIES FROM DHULIKHEL AND BIDUR IN NEPAL

Kamal Devkota[1], Dil Khatri[1] and Kaustuv Raj Neupane[1]

ABSTRACT

Evidences suggest the growing problem of water scarcity in Himalayan towns due to rapid urbanization, variation in land use and climate change. The scarcity has led to different forms of water related conflicts. This paper documents the drivers and dynamics of water related conflicts in Himalayan towns and explores the potentialities for cooperation in resolving these conflicts based on detailed case study of two mid-hill towns in Nepal. Data were gathered using key informant interviews, focused group discussions, stakeholder consultations and participant observations. The key forms of conflicts emerged from the case study include a) upstream-downstream contestation for access to and/or control over water; b) tension caused by disparities in water distribution within urban region and c) competing use of water for domestic and other purposes. The major drivers of such conflicts include growing water demand both in upstream and downstream areas, declining water sources exacerbated by climate change and urbanization. In both cases of Dhulikhel and Bidur, water for municipal supply was acquired from upstream rural areas using political influence. However, the agreements forged between towns and upstream villages were later contested by empowered upstream people. This suggests that socio-political relations have key role in governing water access. Insights from these cases reinforces the argument that local water management is a political agenda and resolving contestation and conflicts require enhanced cooperation and deliberation. We see the need for institutional mechanisms for forging cooperation and inclusive decision-making practices towards better local water governance.

Keywords: Water conflicts, urbanization, upstream-downstream cooperation, Himalaya.

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INTRODUCTION

A study suggests that two-third of the world population is living in extreme water scarcity at least one month a year (Mekonnen and Hoekstra, 2016) and the situation is likely to further deteriorate due to rapidly growing urban population (UN Water, 2018). A United Nations report stresses that the growing problem of water stress is not only due to urbanization and population growth but it is also because of changing pattern of water use. On the one hand, the existing water sources are declining, and drying in some cases, while on the other, per capita water use is increasing resulting into the overall increase in water demand (Bartlett, 2003; Bhatia and Falkenmark, 1993) as urban lifestyle demands more water for showers, washing machines and flush toilets (McDonald et al., 2011). The increasing water stress is leading to contestations and conflicts over water resources (Falkenmark, 1992).

There are different forms of water related conflicts or contestations. Some are related to access to and control over water resources while others are linked with distribution (Water Aid in Nepal, 2012). The most prominent form of contestation appears to be between upstream communities and downstream users. The upstream-downstream conflict is, in most of the cases, between rural and urban dwellers as the water sources for the towns are in upstream rural areas (Celio et al., 2010). This also reflects the contestation between relatively wealthy urban dwellers and poor rural communities who live with subsistence farming, in most of the cases (Slaymaker and Bain, 2017). Another important form of contestation is related to distribution of water within urban areas. For example, corporate clients and few wealthy people are often privileged with better access to water with better quality, while poor people in marginal areas, i.e., informal settlements, are bound to live with scarcity (Malama and Kazimbaya- Senkwe, 2004). This suggests that the water related conflicts are linked with political economic structure and power dynamics in the society (Swyngedouw et al., 2002).

Accelerating conflict and contestation over water resources has drawn increasing scholarly attention in recent decades. There is an emerging body of literature that delve into multiple dimensions of water conflict (Just and Netanyahu, 2012; Link et al., 2016). Yet, issue surrounding trans-boundary water conflicts has got relatively greater attention compared to local and municipal level conflicts (see Wolf et al., 2003; Zeitoun

and Allan, 2008; Swatuk and Wirkus, 2009). The literature on trans-boundary water governance and conflict primarily deals with the sharing of freshwater resources (Gooijer and Thomasson, 2006). A key emphasis of this body of work has been the political dynamics and political-economic relations between different countries (Zeitoun and Mirumachi, 2008; Mollinga, 2008) and stresses for understanding governance of water resources as political process.

A growing body of literature has started to emerge on local water governance (Mweemba et al., 2010; Funder et al., 2010). There are studies on diverse aspects of local water governance focusing on urban (ibid) as well as peri-urban areas. For instance, Mehta and Karpouzoglou (2015) examine the water governance in peri-urban areas focusing on social complexities and inequalities. Similarly, Vij et al. (2018) explores the dynamics of core – periphery conflict in Gurgaon of India. These studies explored the diverse factors of water stress. Yet, more focus has been on demand side issues like population pressure, agriculture productivity, economic development and less has been done on supply side issues (Bohmelt et al., 2014). However, there are very few cases of violent conflicts over local water management.

As the water stress in Himalayan towns are mounting every day, it becomes vital to understand the political dynamics of water conflicts. This paper seeks to contribute to this emerging field of local water conflict by examining the drivers and dynamics of water related conflicts in the growing Himalayan towns. The issue is explored examining case of two mid-hill towns of Dhulikhel and Bidur of Nepal.

The inquiry is inspired from urban political ecology (UPE). The UPE approach allows to explore the political, economic, and ecological processes underpinning access and control of water at local level (Heynen, 2016). It provides lenses to explore who gets or controls water resources and at what costs, in other words, who benefits and who suffers from particular processes of socio-environmental change (Swyngedouw and Heynen, 2003; Heynen et al., 2006; Desfor and Keil, 2004). Urban water management is highly complex and extremely political issue (Dabelko and Aaron, 2004; Swyngedouw, 2009) and water management, as a hybridized socio-natural flow fuses together nature and society in inseparable manners (Swyngedouw, 2006). In this context, UPE offers analytical lens to unravel these conflicts, complicities and political dynamics as it helps examining urban water governance issues from political ecological perspective (Swyngedouw, 2009) Angelo and Wachsmuth, 2015). For instance, it analyzes who has the power (by custom or law) to use the available water from a river or to dig wells that reach the water table excluding others (Rodríguez-Labajos and Martínez-Alier, 2015). This paper examines the different aspects of municipal water governance and dynamics of conflict and contestations taking insights from the UPE. These conflicts involve unequal power

relations and political influence in access and control of water sources. This dynamics are caused by unequal distribution of water within the towns (Ranganathan, 2014) as well as rural-urban water transfer (Hommes and Boelens, 2017).

The towns of Dhulikhel and Bidur have been facing the challenge of water scarcity in recent decade and the primary reason is the escalating demand of water due to rapid urbanization (Devkota et al., 2014; Devkota and Neupane, 2018). As we will elaborate in this paper, the agreement reached between municipalities and upstream rural areas are contested challenging the earlier power configurations and new conditions for negotiations are emerging. Further, there are also issues of distribution of water within the towns, for instance, residences and hotels in core area of Dhulikhel are privileged to get water from municipal water supply system, while the residents from periphery region areas are deprived of municipal water system. These are the cases of UPE where we examine the dynamics of power and different forms of marginalization that exist in both Dhulikhel and Bidur.

The examination will be primarily driven by the question of how water conflicts are determined by power and politics. Such examinations will be informed from the earlier work (Cornea et al., 2016; Swyngedouw, 2009) on contestation over access and control of resources by different actors. We focus on two major forms of contestation; upstream-downstream, and equitable distribution of water within municipalities. In each aspect, we will explore the patterns of conflict, and the underlying drivers that relates to the changing ecological, socio-economic and political dynamics in both upstream and downstream areas.

This paper is divided into six different sections. This introduction follows the description of field sites in section two and then methods in section three. The key patterns, drivers and dynamics of water conflicts from the cases are explained in section four. Analysis and discussion in section five is followed by a brief conclusion in section six.

FIELD SITES

Small towns (like Dhuikhel and Bidur of Nepal) in the western Himalaya – the residence of about half of the urban population in the region, rely on springs, streams, lakes and rivers for drinking water. The supply systems are managed and governed through a variety of approaches and institutional arrangements. Across this region, widespread urbanization and decreasing spring water flows have increased pressures on water supplies leading to local conflicts (Devkota et al., 2015). Water stress is compounded by inequitable access and distribution of water across the region. Hence, the management of drinking water in small towns of the Himalayas is a critical challenge.

In Nepal, while the contestation of different communities for water use increased, local government - the responsible authority to deal with such issues, remained without elected representatives from 2002 to 2017. Hence, the local level decision-making including resource governance was adversely affected by the local political context (Carter Centre, 2011). In light of this, water related policies premised upon the assumption that the elected local governments would facilitate for its implementation were equally affected. Hence, the issues of water related conflict, contestation and negotiation remained unresolved. Two small towns Dhulikhel and Bidur discussed in this paper are the illustrative cases of the gap mentioned above.

Dhulikhel is a small hill town located at 30 km east of Kathmandu (Figure 1). The town is situated at 1441 meters above from the sea level. Before the local government was restructured in 2016 (during this study), Dhulikhel used to cover an area of 14.01 sq. km consisting of 9 wards. Geographically, ward no. 1 and 6 were in relatively rural area, whereas the remaining wards were urban in nature. The population size was 16,263 residing in 3,291 households (CBS, 2011) in Dhulikhel. The town is situated in between two small catchments, namely *Punyamata* and *Jhikhu.*

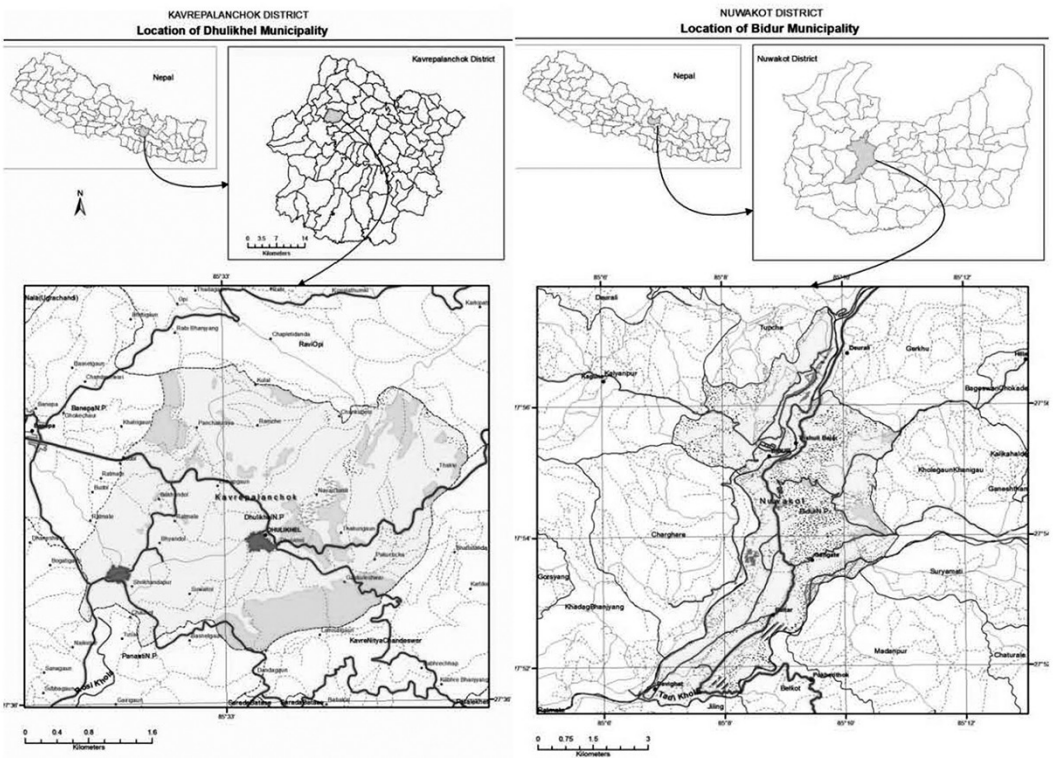

Figure 1. Research sites

Dhulikhel is facing challenge of meeting the ever-growing demand of water supply to its population. The water management challenge is also linked to expansion of the city with regard to increasing number of hotels due to boost in tourism businesses, expansion activities of Kathmandu University and Dhulikhel Community Hospital and water intensive small businesses such as party venues and poultry farms. The gradually decreasing volume of water in the existing sources has further exacerbated the problem. The decline in supply is also affected by variable rainfall regime (Ghimire et al., 2016).

To meet the increasing demand, the municipality has been actively engaged with upstream areas located about 14 km away from the town, Bhumedanda village in the Roshi Watershed. Dhulikhel municipality approached Bhumedanda in 1980s for the fist tie when Dhulikhel municipality received funding from German government for a drinking water supply project. A community led water users' committee now operates this system and supplies water to most parts of the town. Prior to this project, Dhulikhel used to rely on small local springs located within the town. Currently, there are three major sources that supply water to Dhulikhel dwellers i.e. piped water from Bhumedanda, local springs and ground water. There is increasing trend of installing deep boring by community and hotel owners.

Being the district centre of Kavre district, Dhulikhel is a hub for major political decision-making in the district. Also being a satellite town of Kathmandu, Dhulikhel is influenced by politics in Kathmandu. It used to be a regular touristic destination of the former King and his family, senior government officials, political leaders and security personnel. Such political connections helped the local leaders to seek funding and investment in the relatively bigger projects.

Likewise, the district centre of Nuwakot, Bidur is about 68 km northwest from Kathmandu (Figure 1). Its altitude ranges from 470 meters to 1154 meters and is located on the bank of Trishuli and Tadi rivers. Bidur was declared a municipality in March 1987 by merging surrounding villages namely Bidur, Bhairavi, Trishuli and some parts of Tupchhe. As per the census 2011, 26750 people lived in 6270 household in Bidur. Bidur is one of the gateways to China through Rasuwa border via Pasang Lhamu highway.

Bidur has multiple water supply systems. There are 32 formally registered community led drinking water user committees. Among them, Bidur Drinking Water and Sanitation Users Committee (BDWSUC) manages two larger water supply systems that supply water to about 2000 households. Besides, there are some unregistered drinking water user committees within the municipality to manage small-scale water supply systems. All these committees rely on local springs, rivers, hydropower canal and springs from upstream areas for water.

Among two larger water supply schemes managed by BDWSUC, fist one taps water from a small spring from Jiling village that lies about 8 km southwest of the town. Water was tapped from early 1980's from

this spring to supply water for the southern part of the town. Another is the Phalankhu Khola scheme, which gets water from a stream at Gerkhu village and Trishuli river. This scheme is the biggest one and the source is located about 16 km north of the town. This scheme supplies water to the northern part of the town. However, users do not fully rely on this water to drink because of high level of turbidity. People collect drinking water from the locally available small springs.

METHODS

This paper is produced from our two and half years long study on 'The Political Economy of Water Security, Ecosystem Services and Livelihoods in the Western Himalaya'. In this study, data is collected in two stages using different methods. Field study began with key informant interviews (KII) to identify existing sources of water, their status and threats to sustainability. By using snowball sampling method, we further identified pertient governance issues through KII. After broad mapping of water sources and their status, management and governing practices and the generic list of stakeholders for the specific schemes were prepared. We conducted detailed semi-structured interviews with water user committee members, water users both in town and in upstream catchments. Our questions during the initial semi-structured interviews were mainly around identifying the water governance issues, reason behind those issues, actors and institutions involved in the issue, their interest and incentives etc. In addition, we also conducted interviews with people and organizations involved in negotiation and decision-making from both upstream and downstream community including former local government representatives. External actors such as donors, representatives of Secondary Town Integrated Urban Environment Improvement project, sectoral experts and NGOs were also interviewed. We held focused group discussions, stakeholder consultations, participation and observation to the public hearings. Following table (Table 1) shows the details of data collection tools and number and types of respondents and participants.

Table 1: Description of respondents

Description of methods	Numbers of events	Number and types of respondents
Key informant interviews	Dhulikhel- 31 Bidur-12	43 respondents including local political leaders, representatives of water user committees, small entrepreneurs, up and downstream water users, local government officials.
Focused group discussions	Dhulikhel -3 Bidur -3	6 FGDs among upstream communities, members of water and forest user committees, downstream water users.
Stakeholder consultation meetings	Dhulikhel -2 Bidur – 1	About 20-30 (30 in Bidur, 20 and 25 in two meetings in Dhulikhel) participants in these meetings representing government organizations, water user committees, local media, NGOs, local political leaders and people from upstream areas.
Observation of public hearings	Dhulikhel-1 Bidur -1	Dhulikhel: Public hearing held in Bhumedanda was hosted by KVIWSP to discuss on on-going contestation between up and downstream communities. There were about 50 participants including representatives from ADB, KVIWSP, local people from upstream areas. Bidur: Public hearing was hosted by BDWSUC to discuss on the feasibility of the new drinking water supply project in Bidur. There were about 150 participants from BDWSUC, local people from Bidur, journalists, water user committee members.

Using these tools, we documented the stories of the conflict/contestations over water resource management. Interviews and FGDs were audio recorded and transcribed. The audio record of the interviews and meetings were done with prior consent with respondents and identity of respondents is anonymized in the writing. Six different cases of conflicts/contestations were identified from the initial field study in two sites. Later, three of the cases were selected for detailed investigation based on (i) drivers of those conflicts, (ii) dynamics of power exercise (iii) their resolving strategies and (iv) consequences of the conflict. Key patterns of conflicts were identified through the review of transcription and field notes. Secondary data specifically the municipal annual plans, documents of various agreements with upstream communities, meeting minutes of water user committees, application and approval documents for the water use were also used in the case study materials.

CASES OF WATER CONFLICTS IN DHULIKHEL AND BIDUR

CASE I: Upstream and downstream conflict over water access in Dhulikhel

This is the case of contestation between Dhulikhel municipality and upstream catchment of upper Roshi River over the

access and control of water. It details out the competing claim over access to declining water sources by Dhulikhel municipality and upstream users. The agreement reached in 1980s has been contested by upstream communities leading to a series of negotiations and agreements between upstream and downstream authorities. As we elaborate, with changing socio-political and environmental context, the previous agreements have been questioned by the upstream communities.

Roshi River flows through Bhumedanda village and passes the town of Panauti. The river has five major tributaries namely Kharkhola, Bairamahadev, Sisha Khani, Muldole and Gudgude, all originating from Mahabharat range. Dhulikhel has been tapping water from Kharkhola since early 1980s. The river has been also a good source of water for farmers residing in Bhumedanda village who use water for irrigation and running traditional water operated grinding mills along with other domestic usages by the village dwellers. Besides, inhabitants of Panauti municipality have also been using this water for irrigation and domestic purposes.

During early 80's, Dhulikhel was in search of a reliable water source for the drinking water project to be funded by the German government. Leaders from Dhulikhel approached the local representatives in Bhumedanda to access the source of water from Roshi river. Former Pradhanpanch[2] of Bhumedanda noted: "*the initial attempt of Dhulikhel to explore water source at Sashipani was unsuccessful. Then, district Panchayat*[3] *chairperson who was my good friend came towards us with a proposal for seeking potential water source from Bhumedanda*."

Later, village Panchayat[4] meeting of Bhumedanda decided to allow Dhulikhel to tap water from Khar Khola. There was an agreement between two communities on 27 July 1985, signed jointly by Pradhanpanch of both the villages. As per the agreement, while tapping water from Kharkhola, Dhulikhel municipality agreed to provide financial support to build a school in the upstream village of Bhumedada that was swept away by the 1981 Roshi river flood.

As per Bhumedanda's then Pradhanpanch, the agreement became possible because of three main reasons: (i) There was no water scarcity in the upstream area and people had a belief that water source should not be restricted to use by others; (ii) Influential people in local level decision-making in both the villages had cordial relation and (iii) The vibrant leadership of then chairperson of district Panchayat to negotiate with upstream community was instrumental.

[2] Pradhanpanch was the elected head of Village Panchayat—then lowest government unit in Nepal.

[3] District Panchayat was the district level government entity headed by the chairperson during Panchayat era I Nepal.

[4] Village Panchayat was the lowest local government body in Nepal during the Panchayat era (2017 – 2046 BS).

This agreement was in effect for about 25 years ensuring water access to Dhulikhel. Later, the upstream dwellers contested the agreement and mounted pressure to redefine it in 2014. We heard the critical voices against the agreement during our fieldwork in 2015. Some young people contested the idea of providing water to Dhulikhel and threatened to block the water supply. They argued that Dhulikhel ignored the customary and riparian rights of the upstream community. However, such critical voice and contestations were overlooked by the Bhumedanda[5] VDC primarily because Dhulikhel had been providing financial contribution for the development of the upstream area.

Table 2: Agreement details between up and downstream Dhulikhel

Agreements	Agreed date	Party A and signatories	Party B and signatories	Facilitators
Agreement I: To provide water to Dhulikhel from Khar Khola at Bhumidanda	Jul-27, 1985	Dhulikhel VDC – *Pradhanpancha*	Bhumedanda VDC– *Pradhanpancha*	
Agreement II: Accessing water for three major towns of Dhulikhel, Banepa and Panauti from Roshi river and its tributaries (including Khar Khola) at Bhumidanda	Mar-12, 2010	Kavre valley integrated drinking water supply project, Political leaders of 7 major political parties from three towns	Bhumidanda VDC- VDC secretary and 6 local political leaders - 2 from each party (Nepali Congress, Communist Party of Nepal – Unified Marxist and Leninist and Communist Party of Nepal (Maoist)	Municipality officials, Urban environment improvement project
Agreement III: Increment of water volume from Khar Khola at Bhumidanda to Dhulikhel	May-08, 2011	Dhulikhel drinking water and sanitation user committee	Bhumedanda VDC Secretary in presence of three APM* members	Dhulikhel municipality, Kathmandu university, Dhulikhel hospital, District water resource committee

** APM-All Party Mechanism was a local structure formed in the absence of elected local government to facilitate the local level decision-making mainly on planning, budgeting, and implementing development projects. Representative of existing political parties used to be the members of APM.*

Source: Formal agreement papers between upstream and downstream users

[5] As per the record by Dhulikhel Drinking Water and Sanitation Users Committee – About 11 million Nepalese rupees has been compensated to the upstream communities till end of 2018.

Dhulikhel was in dire need of more water sources to meet the increasing demand primarily because of expanding urban areas and tourism activities. To meet the expanding water demand, three adjacent municipalities (Dhulikhel, Banepa and Panauti) agreed to pursue a bigger project called Kavre Valley Integrated Water Supply Project (KVIWSP) and seek financial support from the Asian Development Bank (ADB). The source for the new project was also sought from tributaries of Roshi River including Khar Khola. ADB agreed to fund the project and the three municipalities entered into a new contract in March 2010 to build a new drinking water project using water from Bhumedanda and Kushadevi (from where four other tributaries of Roshi originated).

Further, Dhulikhel indirectly approached Bhumedanda and made third agreement between Dhulikhel (alone) and Bhumedanda village to increase the size of existing water pipe that was installed by German supported project during mid 80's. Following table 2 provides the detail of agreements among the different parties to share the water at different point of time.

Local political leaders and VDC secretary made series of agreements with downstream users. This has challenged the existing local uses in upstream area primarily for irrigation and running water mills. Dwellers of Bhumedanda contested the latest agreement during interview and consultation process. Their key concern was that the agreement made in 2010 and 2011 emerged out of inadequate consultations with upstream communities thereby putting the interest of local people in peril. One of the local water users remarked: "*Agreements were forged with the consensus of limited local political leaders*". Another farmer added, "*The agreement was done without consultation with the real users. This will hamper the ongoing water use in the upstream region*". He further demanded the clarification from the signatory leaders.

Grievances of local users manifested in different forms. They formed a committee called *Nagarik Sarokar Samiti* (often called Local Concern Committee-- LCC) to protest the agreement. The committee discussed with water users, water millers and sensitized them to speak against the water supply project. They wrote slogans against the accord in the public places, prepared 19 points demand to the project (KVIWSP) as compensation, obstructed the construction activities from the beginning and asked the project to clarify about the possible impacts of the project on the local people. The 19 points demand was sent to the Asian Development Bank (ADB) office in Kathmandu. ADB took this demand seriously and hold discussions with LCC. Several rounds of meetings took place among LCC, project coordination committee and Dhulikhel Municipality to discuss on the 19 points demands. Local people led by LCC obstructed the project implementation (denied pipeline installation) causing further delay in implementation of the project.

The LCC claimed that- they have been relying on this water to earn their living from a very long time and hence they have first right to use this water. Nevertheless, the agreement with the local political leaders failed to represent the real user's interest of the upstream. On the other hand, the downstream users (DDWUC and the ADB supported project) accused the multiple interest groups such as the LCC were creating barriers for the project implementation. They complained that the upstream communities were not consistent in their demand and kept adding one after another.

Several meetings and negotiations were conducted among the conflicting communities to resolve the contestation. Even informal agreements with the upstream communities were made. A user from the upstream community revealed that the champions of forging this agreement got compensation in cash and kind including free treatment in Dhulikhel hospital. This sort of informal compensation put temporary hold to the on-going protests. In closer examination, these agreements were found to be myopic and fragmented serving a handful of local elites.

Consultative meetings with stakeholders were also organized by third parties. As a part of participatory action research, Southasia Institute of Advanced Studies (SIAS) facilitated a stakeholder meeting inviting representatives from up and downstream communities, local government and APM members. Similarly, KVIWSP hosted a public hearing where local users put forward their concerns to the project team including officials from the ADB. Leading representatives from three municipalities, project officials, local people attended the public hearing, however, the members of APM did not participate. A participant in this program revealed: "*the absence of APM representatives in this public hearing program indicates the possibility of collusion among them against the local users*." Another participant demanded the APM members presence in such hearing. As there were no elected representatives at local level, members of APM were involved in most of the negotiations. Locally affected people shared that the negotiation and compensation benefitted only the leaders who played a major role in establishing agreements, which has created an issue of accountable decision-making in the village.

The emergence of LCC to raise the collective voice of community was another initiative to resolve the conflict. However, there was a critical voice from the downstream community – whether the LCC represents the common concern of the locals. Still there were several discussions on the 19-point demand put forth by the LCC.

Efforts for resolving conflict have contributed to establish a short-term compensation mechanism to the affected communities in the upstream region. KVIWSP project also offered to provide support to upstream communities. Water millers got 77 thousand rupees each from the KVIWSP to renovate their mills to run it with less use of water.

Another major output of negotiation consists of the plan to renovate existing irrigation canals and small drinking water supply system in Bhumedanda.

The contestation also resulted into several negative consequences. Social harmony between two communities deteriorated. Obstacles created by the local people have adversely affected the completion of the project. As per the Semi-Annual Environmental Monitoring Report 2018, the delay in implementation has increased the cost of project by about 28%.

CASE II: Upstream and downstream conflict over water access in Bidur

The second case is on the informal agreement made about two and half decades ago between two communities on sharing water being questioned by the politically aware new generation of the upstream region of Bidur municipality. This also demonstrates the raising prominence of water rights in the changing environmental and political context.

Majority of the Bidur municipality gets drinking water from two different water supply systems managed by the Bidur Drinking Water and Sanitation Users Committee (BDWSUC). BDWSUC taps a perennial spring located at 7 km south from the town (Nalagaun) and another river from northern part (Pairebesi) to supply water to the southern and northern part of the town respectively. Initially, Bidur municipality used to manage the water supply system which later was handed over to BDWSUC in 1996. Apart from the two major sources, there are number of other local sources from where people obtain drinking water.

During the early 80's, Jay Prasad Gajurel and Lumidi Prasad Gajurel both from the Nalagaon were Pradhanpanch of Jiling village Panchayat and chair of District Panchayat of Nuwakot district. While searching for the water source for the town, people from Bidur reached Nalagaun and identified Chhahare spring as a potential source and since 1982, Bidur has been tapping water from the very spring. 4.8 litre per second of water from this source is being distributed to 1255 private and 130 community taps in the southern part of the municipality. The clan relation of Gajurel eased the negotiation between Bidur and Nalagaun to agree on water supply system.

Locals of Nalagaun have been using water from the Chhahare spring to irrigate their land for a long time. During the initial period, people in Nalagaun did not experience water shortage as they used to plant crop only one season a year and the volume of water in the source was sufficient. With the decreasing volume of water in the source and increasing demand of water due to change in the cropping pattern, water crisis became a grave problem. Realizing the gravity of the situation, people from Nalagaun raised concerns regarding the water being supplied to Bidur.

On the contrary to the situation in Nalagaun, BDWSUC tried to increase the volume of water to distribute more water in the city. They further tried to purchase the private land close to the existing source and tap additional sources of water. Residents opposed the plan and filed complain at the office of the Chief District Officer (CDO).[6] CDO promised to halt the plan. In June 2008, a broad agreement was made between Nalagaon Drinking Water Conservation and Mobilization Committee[7] and BDWSUC to cooperate with each other on managing water. The agreement stated that NDWCMC was not entitled to create barriers on sending water to Bidur and BDWSUC agreed to make appropriate compensation to the upstream people as per the requirement. Having said that, BDWSUC has made no attempts to increase the water volume from the source but the symbolic tussle between two communities continued.

In addition to the tussle over the water source, there has also been the issue of crop damage by the pipeline outburst. Water pipes laid underneath the cultivated land had broken several times thereby destroying crops. Landowners protested the crop damage demanding compensation for the crops. During our interview, they complained that neither they can build permanent building nor sell the land where the pipeline is laid. They asserted that the value of their land has decreased because of the pipeline. On the contrary, BDWSUC claimed that the source is properly registered at the District Water Resource Committee as per the government rules and they have the right to bring water for drinking. They also claimed that the compensation to the victims during crop damage has been provided.

The upstream farmers also complained about the shortage of water for irrigation, but their voices remained unheard. A local farmer reported that their grandparents were illiterate and innocent hence easily agreed to provide water to Bidur. But now the young generation have realized the importance of water and hence are claiming their preferential right over water. Similarly, a group of local users during FGD claimed that there was only a verbal agreement to allow Bidur to tap water, but it was not binding. They shared the experience of being wrongly treated by people of Bidur while visiting the town for administrative works. Another participant from the FGD explained that they have moved their irrigation canal intake 1.5 meter below due to the Bidur's pipeline. This left some land above the canal unirrigated. He further added that during the dry season, they do not get water for irrigation. The locals

[6] CDO—Chief District Officer is the head of district water resource committee who regulates the water management in the district.

[7] A committee to manage water to the source area and negotiate with Bidur.

from upstream also claim that BDWSUC has faltered to deliver their end of the agreement since their request for support for the construction of road in the village had not been addressed.

On the contrary, representatives of BDWSUC defend their action citing how they have adhered to both the formal rules as well as verbal agreements with the upstream communities while collecting water. Former Chairperson (BDWSUC) said:

> We have the water source of Nalagaun registered under District Water Resource Committee as per the water resource act of Nepal. We paid compensation for the damage caused during construction of the pipeline. But nowadays, referring to local rights on natural resources, some of the residents are raising voices against the water supply project. They want to see water flowing down to Tadi river without any use. To confront them, sometimes we have told - we can also obstruct them while visiting Bidur to get administrative services.

There is a trend of migration of relatively well-off people from Nalagaun to southern part of Bidur. This suggests Bidur is the place of destination for both politically influential and financially well-off people from Nalagaun. After migration, they become the beneficiaries of water supply project. This type of kinship as well as political-economic relationship of downstream users with the upstream farmers has averted intense conflict for several years. However, along with the socio-political change and emergence of new generation of youth in the upstream region, the dissatisfaction on water sharing with Bidur has been gradually manifested.

As mentioned above, some initiatives to resolve the on-going squabble between up and down stream communities have focused on settling the immediate issues like crop damage due to water leakage. This sort of negotiation is normally held between individual farmer and the BDWSUC. Such fragmented approach to resolve the contestations have not resulted into longer-term solution. It has rather gradually deteriorated social harmony between up and downstream communities.

Case III: Conflict between water rich and poor zone within Dhulikhel

The third case is about the conflict between two adjoining communities in Dhulikhel, one with better access to drinking water and the other with poor access. The case demonstrates the issue of disparities in water access and the struggles of the deprived community for equal share in water.

Dhulikhel village panchayat was converted into Dhulikhel municipality by merging some periphery villages in 1986 to fulfil the requirement of German government supported drinking water supply project. However, the proposed water supply project was designed for core town only (i.e. previous

Dhulikhel and ward no 2, 3, 4 and 5 of the newly formed municipality). This means, the project included the core town, dwelling of the traditional Newar communities. Peripheral areas of the town (i.e. ward no 1, 6, 7, 8, 9) were excluded from the project. Most of the people in these communities mainly in ward 1 and 6 are Brhamin, Chhetris and Tamang i.e. different from traditional Newar communities. These communities had marginal voice in the municipal and water governance mechanisms.

After the completion of the project in 1990, the core town of Dhulikhel got regular water supply. However, the peripheral areas had to rely on local springs. People from core Dhulikhel claimed that the project was exclusive to their area and hence reluctant to share water to the peripheral settlements. People from the periphery contested such claims and asserted that they also deserve right to access piped water supplied through the project. Such disparity in distribution of water created division between core and periphery in Dhulikhel and the people from periphery areas felt excluded from the water system and the whole municipality decision-making system.

In 1994, Dhuikhel municipality planned to invite the then Prime Minister Girija Prasad Koirala to formally inaugurate the GTZ supported drinking water supply project. However, people from periphery boycotted the inauguration ceremony demanding their concerns to be integrated in the form of an agreement. The inauguration program was cancelled due to the tension. The municipality planned another ceremony to inaugurate the project from the then king Birendra. A group of people from periphery areas again appealed the King through a request letter (*Binti Patra*) collecting signatures of 1130 periphery residents to address their demands of equitable access to drinking water. As the king showed his interest to visit Dhulikhel and inaugurate the project, Dhulikhel municipality took initiative to negotiate with periphery communities assuring the renovation of the existing sources and improvement of the supply system in periphery region. Eventually, a short-term agreement was made to explore alternative sources of water to the periphery and king Birendra inaugurated the project.

In a bid to implement the aforementioned agreement, the municipality found an alternative source in Kushadevi village about 15 km away from the city. During the negotiation, Kushadevi demanded an annual payment of NRs 200,000 from Dhulikhel municipality. While this negotiation was underway, a larger idea of integrated water supply project to three adjoining municipalities (Dhulikhel, Banepa and Panauti) was put forward and the negotiation with Kushadevi was terminated. This new project is supposed to supply water to the periphery region.

With the delay of the proposed project and lack of initiation to improve the water supply system in the periphery region, a struggle committee was formed comprising the dwellers of peripheral areas to negotiate

with the core including key social and political representatives from periphery region. Several rounds of negotiations were held between core and periphery, but the periphery community claimed that their voices were not heard. The struggle committee submitted a protest letter (*Gyapan Patra*) to the office of the Chief District Officer and warned them of disrupting water supply to the core town. As their demand was not addressed, protesters broke the main water supply pipe from GTZ supported project. Water supply to core town was disrupted for 4 days. People from the core town had to rely on local springs and tankers. The protesters also blocked the vehicles in Araniko highway and burnt tyres.

A dialogue was held between the representatives of the then royal standing committee and major political leaders in presence of CDO. Finally, an agreement was reached wherein periphery communities were assured of piped water supply. After that, DDWSUC started sharing water to the nearby locations of periphery region. Yet, major parts of the periphery do not have access to pipe water and the DDWSUC is unable to provide water to the wider population because of water source limitation. Hence, inequality between core and periphery remains unaddressed.

ANALYSIS AND DISCUSSION

The two mountain towns of Dhulikhel and Bidur have been experiencing increasing water shortage in recent years. On one hand, urban water demand has increased along with population growth, and on the other hand, water supply from its sources has declined due to increasing demand of water in upstream area among other reasons (Devkota and Neupane, 2018). Changing pattern of agricultural practices in upstream rural areas of Dhulikhel and Bidur from subsistence to semi-commercial farming such as vegetable cultivation led to increase in water demand for irrigation. The two cases presented above depict the relentless struggles over water for urban supply from the upstream rural areas and continued negotiations. As the case showed, the initial agreements between upstream and downstream village authorities (VDC) had been questioned by upstream communities asserting their perennial rights over water. These kinds of political dynamics of negotiating water access for the emerging towns have drawn increasing attention (see Kovacs et al., 2016). As reported by other studies, change in the socio-political conditions often demand redefining the water sharing agreement (Chan et al., 2017; Kosoy and Corbera, 2010)improving both social and ecological outcomes. But do PES and related incentive programs achieve that lofty goal? Along with considerable enthusiasm, PES has faced a wide range of substantial critiques. In this paper, we characterize seven major classes of concerns associated with common PES designs, and use these as inspiration to consider potential avenues for improvements in PES outcomes and

uptake. The problems include (1. In both cases, the series of negotiations happened through more of informal relations and political influence (Upreti, 1999), and towns which are also district centres, had greater political influence in these negotiations. In case of Dhulikhel, upstream village dwellers of Bhumedanda also negotiated financial incentive for some development projects i.e. budget to construct school building. Since both towns were district centres, political leadership played key role in reaching agreement to provide water from the villages to district centres. In consistent with the argument made by Kovacs et al. (2016), with improvement in education and access to information, capacity of upstream communities to articulate voices and interests have improved leading to the demand for redefinition of the agreements.

The insights from the cases are consistent with other studies that the rights and abilities of upstream communities to control and manage resources are dynamic (Kovacs et al., 2016). The enhanced socio-political awareness with increased education and access to information enabled people from upstream villages to articulate their voice and they started to contest the existing contractual agreements. These articulations resulted into the contestation between upstream and downstream as upstream people and in extreme cases, the upstream community even threatened to stop water supply to the towns (Swyngedouw et al., 2002, Carius et al., 2004; Zeitoun and Warner, 2006)a former mayordomo (ditch manager. The upstream communities often argue for the preferential rights over water as they have been the traditional users.

Another important issue that emerged from the cases is the deliberation between upstream communities and municipal water governing bodies during the process of negotiation. In both cases of Dhulikhel and Bidur, the upstream communities felt that their concerns were not adequately heard during the earlier negotiations. For example, upstream community blamed that the second agreement between Dhulikhel drinking water and sanitation users committee and Bhumedanda VDC was reached without adequate discussion among key upstream actors and users. This is, in part, because there were no elected representatives in local bodies in Nepal during the period, and negotiations were primarily led by bureaucrats and some local politicians. The upstream people felt marginalized in the process citing their voices and concerns were not reflected in the agreement. Moreover, they fight for their right to environmental and social justice and particularly for water justice (Rodríguez-Labajos and Martínez-Alier, 2015). This shows the deliberative deficiency during the process of negotiations (see Heynen et al., 2006), that is often seen in other forest resource management as well in Nepal (Sunam et al., 2010; Ojha, 2008).

The third case was about the distribution of water between core and peripheral area of Dhulikhel. This is the case where the access of water to peripheral areas were denied.

Dhulikhel water scheme only included the core area of Dhulikhel municipality comprising ethnic community of Newar and excluded the settlements from neighbouring sub-urban or rural areas. The communities from peripheral areas raised their concerns on the ground that they were side-lined. This is the case of marginalization based on power and influence in water resource management (see Bakker et al., 2008). The inequalities and marginalization within cities between core and periphery are rooted in the colonial past but reinforced by more recent institutional constraints and policy failures (Simler and Dudwick, 2010). The dynamics of social tensions and conflict, particularly when spatial inequalities are common phenomenon are becoming increasingly challenging in natural resource governance including water resources (Kanbur and Venables, 2005). This supports the conclusion of Rodríguez-Labajos and Martínez-Alier (2015) that conflict over water increase in growth of the metabolism of the economy.

Overall, these three cases centred around the dynamics of power exercises and influence on access to and control over water sources and its distribution among the users. This dynamics of power and politics determining access and control of water draws attention to the urban political ecology literature (Bakker, 2012). Political influence seems to have played key role in shaping the conditions of access and control of water (Franks and Cleaver, 2007) wherein marginalizing peripheral areas of the towns and upstream communities in different ways. The peripheral areas were denied access of the municipal water system in Dhulikhel and politically powerful people from the towns of both Dhulikhel and Bidur seem to have control over water from the upstream rural areas. The appreciation of riparian and customary rights to water use has not been considered in initial negotiations.

The role of government authorities in the process of negotiation between upstream-downstream communities is also worth noting. In cases I and II, district authorities like chief district officer, police officers and national actors like representatives from royal standing committee were involved in vital meetings and helped during the process of agreements. The upstream communities in Dhulikhel considered such decisions as elitist and heavily influenced by power and contributed to accelerate conflict, the finding consistent with other cases of conflict (Upreti, 2004). In both cases, urban political actors had better access and influence to the authorities, hence their role speared not supportive to the marginalized ones.

CONCLUSION

In this paper, we examined the dynamics and drivers of conflict over water resources drawing on three cases from two mid-hill towns – Dhulikhel and Bidur in Nepal. We also explored the initiatives undertaken while forging cooperation among conflicting parties for inclusive water governance. The

paper provides insights for understanding the patterns of emerging conflict and cooperation on local water management and contributing towards equitable water governance in urbanizing areas in the Himalaya.

Two major forms of contestation were identified from the case studies. The most prominent form of contestation has been between up and downstream users, which is basically related to the access to and control over water sources. The contestation over access to and distribution of water in different uses has been exacerbated by competing use of water. The major driver of upstream-downstream conflict has been declining water source and competing demand. Second, major form of contestation is centred on distributional equity within urban areas. In both aspects, socio-economic structure and power dynamics played the major role in exacerbating contestations.

The increased ability of weaker actors i.e. upstream rural communities and people from peripheral areas of Dhulikhel to articulate their voices led to the situation to contest the unequal conditions of water sharing. This suggests that the political agencies are helpful for transformation in water governance underpinning unequal access and control. This further suggests that empowering weaker actors can be an opportunity for transformation towards more equitable governance. Yet, there will be a need of mechanisms for negotiations and dialogue among the key actors for resolving contestations. As we have seen in the cases, there is a clear role of facilitation in the debate. The newly formed local governments in Nepal can play important role towards resolving these issues.

On the analytical front, conflicts and contestations over governance of natural resources including water are underpinned by complex political and socio-economic dynamics and this is not only an environmental, technical or geographical issue but also a political agenda. A deliberative political process could assure the equitable distribution of water and ultimately contribute to resolve the conflict. We call for the institutional mechanisms for upstream-downstream cooperation and inclusive decision-making practices towards better local water governance.

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THE CONSENSUAL POLITICS OF DEVELOPMENT: A CASE STUDY OF HYDROPOWER DEVELOPMENT IN THE EASTERN HIMALAYAN REGION OF INDIA

Deepa Joshi[1], Joas Platteeuw[2] and Juliana Teoh[3]

ABSTRACT

Criticism and contestation of large dam projects have a long, strong history in India. In this paper, we analyze diverse civil-society responses to large dam projects in the Eastern Himalaya region of India, which has in the past decades been presented as a clean, green, climate-mitigating way of generating energy, but critiqued for its adverse impacts more recently. We draw our findings primarily based on interviews with NGOs involved in environmental and/or water issues in Darjeeling, interviews with those involved in a local people's movement 'Affected Citizens of Teesta', and participatory research over the course of three years between 2015 and 2018. Our findings show how doing development for the state, the market and/or donor organizations compromises the ability of NGOs in the Darjeeling region to hold these actors accountable for social and environmental excesses. In the same region, dam projects in North Sikkim led to a local people's movement, where expressions of indigeneity, identity and place were used to critique and contest the State's agenda of development, in ways that were symptomatically different to NGOs tied down by relations of developmental bureaucracy. Our findings reveal how the incursion of State authority, presence and power in civil-society undermines the civil society mandate of transformative social change, and additionally, how the geographical, political, institutional and identity-based divides that fragment diverse civil-society institutions and actors make it challenging to counter the increasingly consensual politics of environmental governance.

Keywords: civil-society, hydropower development, State, social movement, India

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INTRODUCTION

'NGOs [Non-governmental organizations] are essential for extended work of governments, as feedback and as harbingers of change, and are vital for economic and social systems to thrive… (however) a significant number of Indian NGOs (funded by some donors based in US, UK, Germany and Netherlands) have been noticed to be using people-centric issues to create an environment stalling development projects…This strategy serves its purpose when funded Indian NGOs' reports are used to internationalize and publicize alleged violations in international fora. All the above is used to build a record against a country or an individual, in order to keep the entity under pressure and in a state of under-development'.

The above text is from a supposedly classified "secret" internal document of the Intelligence Bureau, Ministry of Home, Government of India (GoI) (for further details, see Sarma, 2014), which is nonetheless available to download online. While the document's authenticity and/or authorship cannot be validated, it does speak of the current situation; of constraints and political coercions in questioning state-led development, in the case we discuss in this paper in the context of hydropower development projects in the North-Eastern Himalayan region.

A renewed interest in hydropower development in an energy-surplus India (Goyal, 2017; Upadhyay and Singh, 2017) is influenced by both global and national drivers. Internationally, policy narratives reposition hydropower development as clean energy, as climate mitigating. In India, financial reports stress the importance of hydropower in enabling economic growth as well as achieving sustainable development targets (FICCI-PwC, 2014). In this context, the Eastern Himalayas region has also been the target of ambitious hydropower development plans. However, hydropower development here has been rife with controversies: how the proposed climate gains (as opposed to 'traditional' energy sources) from large hydropower development intersect with local climate-change impacts; if projected outcomes of economic gains and energy security from hydropower development will be fully achieved; and how costs, benefits and risks be distributed among diverse stakeholders, including project-affected local communities (Dharmadhikary, 2008; Pomeranz, 2009). There are several studies which critique the manner in which large dams have been planned, approved, financed and implemented in the North Eastern region of India (Ahlers et. al., 2015). This is, however, not the focus of this paper. Here, we look

at how local civil society has responded to these developments. It is argued that civil society's function is to critically engage with State hierarchies to 'keep the State accountable and effective' (Lewis, 2002, p.571); to enable 'citizen control of public life' (Cox, 1999, p.27). India, in particular, has been applauded for its rich history of civil social movements, strongly oriented towards environmental wrongs and rights. This history of India's vibrant civil society can be traced to its colonial past, where civil-society actors and institutions held the colonial State accountable, challenged its undemocratic processes and effected social and political change – to this day (Omvedt, 1994; Berglund, 2009). As formal civil society organizations, NGOs have played key roles in environmental struggles post-colonially, and as Nayak (2010, p.71) writes, civil-society's 'struggle[s] against big dams [are a] … prominent phenomena in India's sociocultural and political picture'.

The term civil society itself includes a range of formal and informal organizations – community-based groups, social welfare organizations, social-action groups and movements, as well as academic, activist coalitions – organized around and engaged in various issues, of which "environmental" concerns have been a particularly common rallying point (Omvedt, 1993). For the purpose of this paper, we conceptualize NGOs as CSOs that take on a formal legal structure. In India, all NGOs are registered under the colonially-instituted (1860) Societies Registration Act. This Act, which is now regarded as an Act of Parliament, allows the Ministry of Home Affairs, Government of India to monitor and regulate the functioning of NGOs. Only selected NGOs with additional official approval are eligible to receive and use foreign funds. The Foreign Contribution Regulation Act (FCRA) was instituted by the Government of India (GoI) during the 1975 Emergency rule, to [further] regulate NGO functioning. This legislation has since continued.

Using the framework of analyzing CSOs operating inside and outside the politico-jurisdiction of State authority and outreach, we compare how people's movements un-shackled from development funding and regulation have responded to hydropower development vis-à-vis how formal, institutionalized NGOs based in Darjeeling responded to hydropower development in the region. Our research findings point to an increasing incursion of State authority, presence and power in civil society functioning and operation. This phenomenon is neither new or unusual. Foucault (1979) has written extensively of the intertwine of the State and civil society, particularly in neoliberal framings of economic growth, development, new [neoliberal] freedoms and spaces. In this context, Mohan (2002) describes how the co-option of the civil society by the State, by donors and other developmental actors has been a deliberate agenda. These observations lead one to question why there is still great faith levied on 'civil society to champion both democracy as well

as development' (Hammett and Jackson, 2017; p.1), particularly, as civil society organizations seem to be increasingly 'deployed… by the developmental state model… to constrain (and contain) critical interventions and enactments of citizenship and civil society' (Gough and Shackley, 2001, p.332).

Against that background, our research analyzed diverse civil society organizations and their nature of engagement with dam development in the Eastern Himalaya regions of Sikkim and Darjeeling. In the following section an elaboration is given on framework within which and through which NGOs operate. Subsequently, a section is dedicated to the research methodology and a background of the regions in which the case studies took place. The paper then moves to the presentation of the research findings, in which the case studies of Darjeeling and Sikkim are addressed separately. The paper ends with a conclusion on the findings in which the wider implications of our research are also discussed.

A FRAMEWORK OF CIVIL SOCIETY AND CLIMATE MITIGATING POLICIES

It is important to note that the recent surge of hydropower development, that has developed in the policies to control climate change, has furthered the consensus between the State, market and a selected science community (Goldman, 2001; Swyngedouw, 2009; Gough and Shackley, 2001). Swyngedouw (2011; 3,4) points that this nature of consensus in climate related politics does highlight an imminent environmental challenge; but in the process of making the risks of climate change visible, complex ground realities are depoliticized through 'one quilted… invocation(s) of fear and danger' which mask different socio-ecological, -economic and -political contexts… to 'a universal singular… commodity fetishism around CO_2'. The challenges of climate change on the one hand, and the depoliticization of the complexity of climate change on the other, makes critique and/or contestation of climate problems and solutions difficult. In fact, as we noted in the introductory citation, any critique of such development is easily labeled in India (and elsewhere) as anti-national and anti-development (Sarma, 2014).

In principle, hydropower development does allow combining principles of sustainability, development and economic growth, but several actors contest the "truth" of such win-win equations. Firstly, it is unclear how the global climate impacts of clean energy intersect with social and environmental impacts experienced locally in the development of hydropower. More specifically, several studies (e.g. Dharmadhikary, 2008; Pomeranz, 2009) questioning the attributed positive outcomes of hydropower development in the climate-vulnerable Himalayan regions symbolize these controversies. Secondly, it is not clear

if it is environmental or economic mandates that drive hydropower development. In India, the importance of hydropower to economic growth seems to take precedence over the supposed environmental gains from clean energy development (FICCI-PwC, 2014). Nonetheless, the efficiency and distributional implications of large dams are also questionable. Duflo and Pande (2007, p.1) note that, 'Overall… large dam construction in India is a marginally cost-effective investment with significant distributional implications, and has, in aggregate, increased poverty'. Goldman (2001, p.205) speaks of how the "green neo-liberal project" of climate change brought together 'neocolonial conservationist ideas of enclosure and preservation and neoliberal notions of market value and optimal resource allocation'. Transnational financial and developmental institutions have helped construct this argument, which in writing does help combine principles of sustainability, development and economic growth. Mitigating climate change is a contentious issue and is considered by some as 'the collective action problem of our era' (Brechin, 2016, p.846). This helps explain why consensus is so strategic for climate change interventions and strategies, even when evidence from the ground points to contradictory outcomes of overtly simplistic climate solutions.

Against that background, Gough and Shackley (2001, p.340) provide a fascinating look at how select NGOs have joined 'the IPCC/Kyoto Protocol global community', which according to the authors is significantly and increasingly 'influence(d) by powerful actors from the private sector'. This has resulted in a reversal of the roles of NGOs, 'from that of outside critical agents demanding issue recognition and action (on environmental issues) to that of partners in developing workable frameworks and principles… promoting *the* solution to *the* problem… that anthropogenic climate change is a significant risk that has to be managed, and urgently'. The authors (ibid, p.329) argue how 'a place (for NGOs) at the (global) negotiating table certainly makes climate politics respectable but weakens the 'constitutional legitimacy' of these NGOs'. Indeed, it is NGOs 'outside the climate change epistemic community' who have raised 'ethical and political questions', for example by challenging the "statistical valuation of life" by environmental economists to calculate the costs of climate change impacts in different regions of the world' (ibid, p.332). Ironically, NGOs who were part of the global climate coalition, saw such critique as delaying the release of important climate documentation (ibid).

In that regard, it is interesting to note that a critiquing, thinking, re-politicizing civil society has long been diluted by what Ferguson (1994) termed the "anti-politics of development". Giles Mohan (2002) speaks about how development de-politicizes NGOs by funding them for pre-determined development activities, i.e., for *doing development*. The neoliberal development framework channels funds to Southern

NGOs, 'because NGOs are seen as more *efficient* than corrupt states in delivering local social services' (ibid, p.128); and the few donors who see NGOs roles in enabling and/or enhancing transparency in governance, reach out mostly to reliable, 'urban-based, professional, elite, advocacy NGOs', who 'concentrate on networking and encouraging public debate through [exclusionary] seminars and workshops'. The ideological visioning of an inclusive, transformative civil society is thus an increasingly "imagined" notion. Nonetheless, not all state-imposed plans for development plans are rolled out uncontested and not all civil society organizations are politically diluted. There are 'ordinary' citizens advancing alternatives to dominant ideas, challenging elite assumptions and norms in ways that were envisioned by Gramsci (1971), which we will discuss further in the section on the Affected Citizens of Teesta (ACT). Before doing so, the following section briefly describes the research methodology of the research, and regions in which the research took place.

RESEARCH METHODOLOGY AND REGIONAL BACKGROUND

This paper analyzes the engagement and response of two different civil society organizations to hydropower developments along the Teesta River, which flows from Sikkim through the Darjeeling region in the Eastern Himalayas and onwards into Bangladesh. The findings presented in this paper reflect over three years of interaction starting in 2015 with multiple NGOs and activists in the region through numerous meetings, workshops, formal and informal discussions. Additionally, the paper draws on two students' M.A. thesis research in 2015, which respectively analyzed NGOs in the Darjeeling region, and the Lepcha tribal movement, affected citizens of Teesta.

The Darjeeling district of West Bengal is in North-Eastern India and is located just South to the Himalayan State of Sikkim. The Darjeeling region boasts India's first hydropower projects – in Sindrebong in 1919 (Chattarjee, 1979, p.74). Post-independence, several other small projects were implemented here by the West Bengal State Electricity Board. The projects discussed in this paper involve more recent larger developments, particularly the Teesta Low Dam Projects III & IV (see Map 2). These two dams were commissioned in 2016, while three other projects, Rammam Stage I, III, and IV, are in various stages of completion.

From June to August 2015, we interviewed 30 NGOs in the Darjeeling region involved in environmental and/or water issues, to assess their engagement in the Teesta Stage III and IV projects, to understand how and why these NGOs were established, how they operate and on what issues, eventually focusing the discussions on their engagement with the Teesta Lower Dam projects. These interviews were deliberately semi-structured. In addition, because the Darjeeling region has been embroiled for

Map 1: Darjeeling region of West Bengal

over four decades in a political struggle for a separate State, Gorkhaland - which deeply impacts the local context, we tried to understand the institutional structure and culture in which NGOs operate, the challenges and risks faced by staff members in their day-to-day work and how this impacts what they choose to do (or not).

The State of Sikkim lies directly across the border from Darjeeling district in West Bengal (see Map 1). A second thesis study was started here and then continued

in the Darjeeling region to analyze how the ACT movement against hydropower development in Dzongu in North Sikkim was defined by notions, experiences and expressions of Lepcha identity and indigeneity. Lepchas are considered to be the indigenous inhabitants of the entire Eastern Himalaya region, which includes western Bhutan, eastern Nepal, Tibet, Sikkim and the Darjeeling district, an area the Lepchas called *Mayel Lyang* ("hidden paradise"). What remains of *Mayel Lyang* is now Dzongu in North Sikkim. The last monarch of Sikkim, himself a Bhutia (migrant from Tibet) declared Dzongu as a Lepcha reserve in 1956 (see Map 2), restricting access to, and land ownership in this region, for all, including non-Lepcha Sikkimese citizens. This ecological and cultural preservation of Dzongu was made constitutionally non-negotiable in Sikkim's amalgamation with India in 1975, which explains Dzongu's cultural and ethno-political significance for all Lepchas.

This also explains why the ACT movement against large dams planned in the Dzongu region was widely supported by Lepchas living outside Dzongu, as well as outside Sikkim. A 41-year-old Lepcha male farmer in Kalimpong in West Bengal had actively protested against the dams. For him, "*Dzongu is the land of all Lepchas*" (Field research, 2015). Likewise, a young male respondent in Dzongu said, "*It doesn't mean that Darjeeling, Kalimpong Lepchas are different. We all are the same. We all offer prayer to the deities in Dzongu. When Dzongu is affected, all Lepchas are affected*" (Field research, 2015). In analysing the ACT movement, all interviewees but two were Lepchas. In all, 24 interviews were conducted with individuals in Dzongu, the State capital of Gangtok in Sikkim, and in Darjeeling and Kalimpong towns in West Bengal. The

Map 2: Locating Dzongu

youngest interviewee was 19, and the oldest 80. As with the NGOs, interviews were semi-structured. In addition, 53 quantitative surveys asked open- and closed-ended questions of participants who had not been interviewed. In the entire research process, communication in English with the respondents (NGO staff and Lepcha individuals) was possible and a translator was needed in only 2-3 cases (Lepcha interviewees).

Taking note of Mohan's (2002; p.129) concern that 'NGOs… are under increasing criticism and scrutiny from academics and policy practitioners', we add that, the findings discussed here are not a one-off exploration of complex ground realities; rather, the data presented includes layered communication over time and space. Nonetheless, we acknowledge a research project's limitations to unravel complex socio-political histories and acknowledge how "outsider" research-focused perspectives often sit uncomfortably with complex local realities - various challenges, coercions and compulsions, spatial heterogeneities, social networks, local calamities, etc. that impact what NGOs and activists do locally. Our findings try and portray, analyze, and interpret the situation's uniqueness, complexity and situatedness, giving a 'sense of being there' (Cohen et al., 2011, p.129). Below we discuss the case study of Darjeeling, after which we present the case study of Sikkim's ACT.

NGO RESPONSES TO HYDROPOWER IN DARJEELING

From the NGOs response during the time of the interviews in 2015 an evident shift in focus can be seen in the response to the implementation of hydropower development projects. With the exception of one respondent, all NGOs indicated to not (anymore) be involved in resistance against hydropower, even though they had done so or considered doing so in the recent past. The intriguing silence surrounding the dams requires an understanding of the functioning of these NGOs: how they are established, how they are regulated, how they are operated, etc. It is the answer to these questions which we discuss below, and which make for a compelling contrast with Sikkim's ACT.

The political playing field of NGOs in Darjeeling

Administratively, the region of Darjeeling is governed as the Gorkha Territorial Administration (GTA) under the State of West Bengal. However, this arrangement is not a preferred local option. As recently as September 2017, the GTA region closed down for three months (104 days), during which time there was a violent conflict for political separation from the state of West Bengal. This resulted in three reported deaths and the closing of all offices, shops, schools, traffic, banks and other commercial institutions for over 3 months. The area had

been cordoned physically by State security forces, and the State Government blocked the internet. This was yet another failed attempt in the now four-decade struggle with the State of West Bengal to secure a separate state of Gorkhaland.

It is against this political background - which creates a minefield of socio-political, and economic challenges around environmental governance - in which civil society can and should intervene. But no NGO in the Darjeeling region queries political-environmental coercions. NGOs in Darjeeling, like elsewhere in the Himalayas, mostly work on technical environmental issues, including donor-driven agendas against deforestation, landslides, water-supply scarcity and in favor of biodiversity conservation; where predetermined developmental solutions match typically apolitical framings of complex socio-environmental problems (Yates, 2012).

In fact, most NGOs in the Darjeeling region were created to address constructed environmental problems. A few NGO question the framing of preconstructed environmental problems by speaking of politics and power in environmental governance, but these views are conveniently circumscribed to local political interests: "*What is needed is to completely remove the West Bengal government [the forest department] which is interested only in profiting from our forests*" (Field data, 2015). However, such views are expressed with an immediate request for anonymity. After all, it is explained - 'politics is the work of politicians' (ibid). NGOs here, they explain, *do development* - they implement conservation, afforestation, water-harvesting programs and projects and are careful to avoid using their work and data to challenge contentious political issues. For example, a local NGO we met shared data which shows how hydropower projects accelerate landslides in this fragile ecology, but they are constrained to use this evidence to contest large dams. According to them, their role is to "*inform citizens and authorities about precautionary measures that can reduce human impact on landslides*" (Field data, 2015). Another critical issue in the Darjeeling hills is acute drinking/domestic water scarcity. NGOs working on water-supply issues understand water problems as a technical/management issue; they work to improve local, traditional water resources management, but decline to 'critically engage with the politics behind the enduring water-supply injustice' (Joshi, 2015, p.117).

Darjeeling NGOs' involvement in the hydropower implementation process

Despite being aware of the impacts of large-scale hydropower development in the region and the coercions in such development, NGOs in Darjeeling currently refrain from questioning them. NGO staff point out the futility of political critique vis-à-vis the need to resolve basic problems: "*rather than spend my energy trying to*

fight the government, it is much better to do something more profitable (sic)… To work with the community, make a documentary… doing something that is in their [the community] interest" (Field data, 2015). Nonetheless, it is evident that their funding pushes them to "do development" and also prohibits the criticism of ongoing official interventions.

Very few NGOs in the Darjeeling region receive foreign funding. Most receive project-specific funds from the Central Government for activities such as organic farming, environmental awareness campaigns, forest floriculture activities, sanitation, etc. (Field data, 2015). The few with a Foreign Contribution Regulation Act (FCRA) approval do similar development work for donors such as the Japanese (JICA) for safe drinking water; USAID for community forestry work; the European Commission for smallholder innovation for climate-change resilient food security, etc. NGOs here are careful with their FCRA-holding status, prudent not to lose it through involvement in activities that may be viewed as too political. This is not surprising: FCRA-holding NGOs in North-East India have been regularly "blacklisted" by government authorities for raising environmental concerns that are considered politically incorrect (Bhaumik, 2003 in McDuie-Ra 2008, p.195). In June 2017, the Indian Express, a leading national daily, reported that, 'Since the [current] NDA government came to power [in India], the FCRA licenses of more than 11,000 NGOs have been cancelled. More than 1,300 were refused renewal of their license for violating the FCRA'. Some sources quote a higher number of FCRA cancellations: 20,000. The importance of holding an FCRA approval is further highlighted by the below excerpt of an interview with an NGO worker in the Darjeeling region (Field data, 2015).

> Respondent: *"Luckily, as an organization we joined (sic) the FCRA in 1996; we had a couple of good people who supported us; we had our papers [in order]: society's registration, income tax registration forms, etc. We are one of the few lucky ones who have the registration and we've been careful to ensure continued approval of our FCRA. It's not easy, but we have our papers up to date and we've kept it clean and clear. We have continued our registration since the early 2000s, so almost fifteen years".*
>
> Researcher: *And you say you were lucky to get it?*
>
> Respondent*: "Yeah, lucky enough in the sense, because I think it got tighter and tighter… the newer rules. There has been a lot of control. And because we are a border State with Nepal, the Maoist movement… more and more FCRAs are restricted here. So, we were lucky to get it".*

Project-driven development prevents 'facilitating transformative development' (Banks et al. 2015, p.708) and requires

(project-oriented) NGOs to be accountable primarily to donors and to other regulatory authorities. But there is huge clamor for such funding, which tends to make NGOs competitive and territorial, while similarly eroding solidarity on issues of wider political concern. As a respondent summarized, "*If I am working with street children, that's all. If I'm working with deaf and dumb, that's all. If I'm working with the blind, that's it. Each one who has their own NGOs… if I'm doing sanitation I'm bothered about my toilets and what have you*" (Field data, 2015). This is not to say that NGOs in Darjeeling are not aware of these limitations and/or do not collaborate: there are NGO platforms, and collaboration does happen, but such meetings are managerial, rather than as political strategy to consolidate and claim political spaces in which to voice political concerns. One government-funded NGO summed it up: "*Ours is an organization that came up without too much financial support, I should say. We rely largely on support directly from the Government. Somewhere around 1998 or 1999, it started dawning on us that this was not going anywhere because this is too small; we are not even able to create local influence, we have no power, really. We don't have any fund, we don't have any resources. Our actions are being guided by the ground rules set by the Government officials. We are evading the real issues [referring to the political issues in the region]*" (Field data, 2015). With no financial support, they struggle to sustain their work, let alone effect change: "*There are many problems, but you need money to fight. We could file a case in the court, but for that you need to pay a lawyer. Without lawyers, we couldn't file a case*" (Field data, 2015).

Doing development disallows dissent

A few NGOs we met had protested the TLDP III & IV projects in their early planning stages without any (international) funding. Concerns about environmental impacts (irreversible river-ecology changes, increased landslide frequency and magnitude, unpredictable groundwater shifts around dam locations from construction work, use of heavy vehicles, excavations, tunneling, etc.) led these NGOs to protest. Additionally, while official regulation promises inclusive, consultative decision-making processes, these NGOs noticed *"the lack of transparency, lack of people's participation in the process*" (Field data, 2015). The respondents explained how Environmental Impact Assessment (EIA) documents were not made public or only EIA summaries made available (and not in the local language) at locations distant from project affected regions. The NGOs observed consensual arrangements between hydropower developers, State and central government authorities and University faculty undertaking the EIA studies. They also noted how compensation was arbitrarily set for project-affected communities and/or promises made to lure local communities to approve the projects.

"*They told farmers in one village that a watershed project would be implemented, this was never followed through*" (Field data, 2015). In another village (*Suruk), (developers) promised a bridge, a school, electricity connections – nothing was provided*" (Field data, 2015). The new agenda of Corporate Social Responsibility requiring hydropower companies to invest a share of their investments in socially-relevant initiatives, was used, "*to privilege local elite (politicians, contractors) with contracts to construct roads, bridges, community centers, what have you*" and build on the patronage to enable companies to implement their projects "smoothly" without any objections (Field data, 2015) (see also the below interview excerpt from the 2015 field data).

> Interviewer: *"So when you became a political representative, the process [of building hydropower dams] was already ongoing?"*
>
> Respondent: *"… actually what happened, you know, 51 households were having interviews [on compensation] – okay. But they were not getting the [promised] jobs and/ or the [promised] compensation".*
>
> Interviewer: *"They didn't receive it"?*
>
> Respondent: *"Yeah, but we fought it with the Rammam hydro-project, and we stopped [power] generation for almost two months".*
>
> Interviewer: *"How did you do that"?*
>
> Respondent: *"All together, we went to the intake, blocked water flow, and gave a letter to the project manager. Because they are not issuing checks to the project-affected, so we are doing this. We blocked the intake for two months and one day their manager came to our political office and agreed to provide eight lakhs [800,000 rupees] per household... So, we allowed them [the project-affected people] to earn that (sic) [benefit]. It means… how much… almost four crores [four million rupees]. And they also gave us [local political representatives] three crores (three million) for surrounding developments; playgrounds, tourist development. We did it".*

In the contentious, fragile political space, aspiring locals, including politicians, saw this as an opportunity to 'appropriate' resources. NGOs did not initially understand these intentions: "*We started contacting local politicians of the (then) Darjeeling Gorkha Hill Council, giving them critical feedback about the project to help them question the relevant dam authorities. Little did we know they would use this information to meet their own 'special needs*'" (Field data, 2015). Under assurance of anonymity, one of the respondents explained how the local authorities: "*took all the documents and… to put it bluntly, pressured the hydropower company and got a deal for themselves. Not for the people, but for themselves. To be very honest, that's what happened*" (Field data, 2015). It is clear then, why local

politicians and the more resourceful in local communities opposed NGOs raising their voice against some of these issues. Further, for residents of marginalized settlements this development – no matter how skewed – presented an opportunity unlike anything they had experienced before, or as one of the respondents put it: "n*ear the dam site, a lot of money is pumped in a very short time. Not many locals can see that gains of employment are short-term*" (Field data, 2015).

It was only when established civil-society groups from Delhi and elsewhere, who had experience of highlighting environmental and social injustices, supported local NGOs in their critique and contestation of large dams, that there was some coverage of these issues in national newspapers (e.g., The Economic Times; Indian Express). Nonetheless, this networking caused a serious backlash for local NGOs: local NGOs realized they were far more vulnerable to local political coercions than civil society actors from outside - who were here today and gone tomorrow. For local business and politics, the process of containing increasingly public protests would go on to become lucrative. A senior official in the local government confirmed that, "*Some of the [political] leaders realized that they could coerce local communities and/or NGOs to either protest against the project or enable developers to go ahead with the construction. This tactic was useful in being continuously paid off by the company*" (Field data, 2015). A local politician confirmed, "*NHPC means a lot of money. To get some of their works done, illegally, or rather get it done smoothly, they pay their tax to local political parties, as party funds… That happens directly between NHPC and the senior leadership of the local ruling party*" (Field data, 2015). Another local politician said, "*Realistically speaking, I can't imagine a situation in which someone would disagree with dams. From my experience, and I'm telling some real insider stuff here… one of the first concerns the current local party has – is collecting pay-offs from the dam projects". Not only do they receive kick-backs for ensuring that there is no trouble - preventing local protests - they also get contracts on dam projects… they are fully co-opted; any question of them ever opposing the project on ecological or other issues would be academic*" (Field data, 2015).

Large sums of money exchanged hands through circuitous routes (developer to politicians to local leaders) - till the developers received the mandatory "*No Objection Certificate/s (NOC)" (*from local communities - a process that is mandatory for the EIA approval). While the Darjeeling politicians had no official say in dam development, they did have a distinct "nuisance value". They could "*raise public opinion against the dams, participate in public hearings and ask pointed questions pending approval*" (Field data, 2015). And yet "*bribed and bought over*", they often declared, "*we have no rights to stop the project when the Government of India and the Government of West Bengal have*

already signed an agreement with the developer" (Field data, 2015). NGOs were often on the short end of this process. As one NGO staff recalls, "*For the TLPD III project, we had thoroughly prepared for questioning the NHPC at the public hearing. When the time for the hearing came, we were threatened by the local politicians to not attend the hearings at all. We were told, that if we were seen there, they (the political affiliates) would break our legs*" (Field data, 2015). Another NGO staff member recalls, "*They wanted to kill me if I did not stop… because when you talk about dams there is lots of money involved… the companies give a lot of money to a lot of local politicians*" (Field data, 2015).

NGOs initially involved in questioning the manner in which hydropower development projects were implemented, were also questioned by the Indian government. One NGO which had actively protested against the two projects (TLDP III & IV) was summoned by the Ministry of Home. "*Out of the blue, we were asked to come to Delhi with all our accounts and invoices dating back to when we started work and got registered as an NGO. Thankfully, we had stored all our paperwork. We took boxes of paperwork all the way to Delhi, there were so many boxes that it filled up an entire hotel room. Our meeting at the Home Office was chilling. Little was said, no explanations were given – it seemed we were being told indirectly to lie low*" (Field data, 2015). Another NGO staff noted, "*They [government] can always arm-twist you. They can always find something wrong with your work, there are ways to do this… In this case they might not find anything wrong with me for the thing that I'm doing, but they'll find something wrong behind my back, and it's not worth it*" (Field data, 2015).

Ironically, most NGOs blamed each other for the lack of solidarity and perseverance, "*…we tried [questioning hydropower development projects], but you see every NGO in the NGO network, during the meeting - they say, "yes, yes" [and then] they go back to their day-to-day jobs*" (Field data, 2015) (for more responses bringing back this point please find below interview excerpts from the field data, 2015).

> *"…other organizations here in Darjeeling are not involved in activism. Just get some fund for certain programs, they do whatever is going on… they are not concerned, nothing. Just a few organizations here, including us, are concerned [about the larger issues]" (Field data, 2015).*

> *"The problem here is… all the organizations here… are all scams. All. Not 99.99%, 100% scams… That's why things are going wrong here. And eventually they'll be bought" (Field data, 2015).*

Various coercions thus dissuaded local NGOs from challenging the decision to implement the dam projects, even though, most explain, "*In your mind you know it's*

not good, it's all wrong. But feeling that is one thing and openly saying that, taking a principal[ed], political stand, throws you into the political area. Many of us cannot do that" (Field data, 2015). This epitomizes how NGOs in general - subject to governmental regulation and political conditions - are entangled with the State and far from able to 'keep the State accountable and effective' (Lewis, 2002, p.571). Can civil society play any meaningful role at all, then, in a coercive political space? We focus on this issue in discussing resistance to hydropower projects in Dzongu, Sikkim by the Affected Citizens of Teesta (ACT).

THE CASE OF THE AFFECTED CITIZENS OF TEESTA IN DZONGU, SIKKIM

"*I will die but won't allow mega power projects in Dzongu*" (activist Dawa Lepcha[4]).

Lepchas, known traditionally as the *Mutanchi* (Mother Nature's People) or *Rong Pa* (People of the Ravine) are considered the first peoples of the region. This landscape known by the Lepchas as *Mayel Lyang* (Hidden Paradise) included Sikkim, Darjeeling and Kalimpong in the Eastern Himalayan belt and parts of Bhutan, Tibet and Nepal (West, 2009; Tamsang, 2008). In the book, 'Lepcha, My Vanishing Tribe' Arthur Foning (1987), a Lepcha scholar from Kalimpong, voices fear that resonate widely in the Lepcha community – that geo-political, social and economic upheavals in the region have decimated the Lepchas, and inter- and intra-national administrative boundaries have displaced and uprooted them, their culture and their way of life. Little (2010) notes that there are approximately 45,000 Lepchas in Sikkim and some 70,0000 outside the State. Foreseeing this marginalization, the last monarch of Sikkim had declared Dzongu, North Sikkim as a Lepcha reserve in 1956. Aside from the 7000 Lepchas living here, all others, including Lepchas from outside Dzongu and other Sikkimese nationals, are denied access to Dzongu without an official permit. Dzongu's status as a Lepcha reservation was formally agreed in Sikkim's 1975 merger with India. These processes established Dzongu as the last bastion of the Lepchas, where they are not a minority and their culture, language and identity survive. This explains the resistance to the seven large hydropower dams planned in Dzongu, five inside Dzongu and two along its borders.

The 'Lepcha opposition' to dams was led initially by a handful of Lepcha youths from Dzongu, who in time swelled in numbers and came to be known as the Affected Citizens of Teesta (ACT). ACT eventually managed to get four of the seven dams cancelled through a largely non-violent Gandhian pathway (Arora, 2006). This struggle between a displaced minority

[4] Quote taken from http://www.actsikkim.com/dzongu.html, November 25, 2018.

against powerful official and development actors has been described as "a David and Goliath battle" (Little, 2010) and it is argued that the struggle was built on narratives of indigenous Lepcha identity and Dzongu's cultural sanctity: "*We (Lepchas) have been here for centuries, following our culture, tradition, language. And today, in the name of development, they are finishing it. Is this development? When you lose your identity, you are gone. Finished! So… in that sense, I think Lepchas, especially in Dzongu… I think it is a sort of a design to finish us*" (Mayel Lyang Development Board Chairperson, in Interview, Kalimpong, 2015). And yet, as Gergan (2014, pp.70,72) notes, before hydropower projects planned in Dzongu propelled the reserve 'into the center of controversy', Dzongu, was for all practical purposes, 'a landscape of precarity… [where] remoteness, isolation and poor infrastructure profoundly shaped everyday experiences'. We discuss below how the proponents of the ACT movement, a few protesting youths were not only challenging the development of hydropower projects in Dzongu, but they were questioning the deeply consensual politics of development in Sikkim in which the Lepcha elites from within and outside of Dzongu were themselves, key stakeholders.

THE ACT DEVELOPMENT OF DISSENT

For the ACT members, contestations against dams in Dzongu was not about negotiating compensation or relocation. Their focus was clear, "we don't want to lose [the last bastion of] our *Mayel Lyang* (hidden paradise); if it is desecrated then our culture becomes extinct!" (ACT ideologue, Athup Lepcha, reported in Arora, 2006). Lepcha members and supporters of the movement expressed that it was hypocritical to say no to dams and still use electricity. However, their argument was that Dzongu - the protected Lepcha reserve – was ill-suited to such large-scale development. Some even added that perhaps large hydropower projects were more suited to "*other areas, where people were more educated, able to take care of themselves, and … the carrying capacity is better than [here]… an environmentally fragile and demographically endangered place*" (ACT supporter in Gangtok). While the average ACT supporter was relatively indifferent to hydropower development in areas not affecting Dzongu, a resounding 88.3 percent of the same respondents were against it in Dzongu; 47.7 percent "strongly opposed" dams in Dzongu (Field Research, 2015).

ACT members drew attention to 'the State's double standards': bestowing protected status on Dzongu, and then violating its own assertion by 'plans to take away the very land and indigenous culture of the people it claims to be protecting' (Dawa Lepcha, reported in Arora, 2006). Such critique of coercion in governance was unheard of in Sikkim, where successive elected governments have long established patron-client dependence among an

ethnically divided constituency (Huber and Joshi, 2015). In this context, the 'rejecting of the way things are…' was unprecedented (Li, 2007). There were far-reaching repercussions of this "practice of politics" (ibid). In sum, it questioned the nurtured image of Sikkim as India's green democracy.

In Darjeeling, NGOs had relied on local politicians, providing them relevant information, believing their promises to act on the people's behalf and against the West Bengal Government and dam developers). These politicians often used the information to secure material gains from the developers, choosing to not speak on behalf of the people as explained in the previous section. In contrast, the ACT's very first act of public resistance was to challenge the fact that 80 per cent of the audience at the public hearing for the Teesta Stage III project in Chungthang (which borders Dzongu) were state administrative officials, politicians, dam developers and pro-dam residents, at an event meant to enable local community to review and decide on the EIA (Wangchuk, 2007). The 'ACT members saw [this disproportion] as engineered to intimidate dissent' (ibid; 35). When the EIA for this particular dam was declared as approved, the protesting ACT activists did not accept defeat. Unfunded, they filed a legal case 'in the National Environmental Appellate Authority in New Delhi against the public hearing and its verdict' (ibid). When this failed as well, ACT activists physically blocked roads into Chungthang, preventing district officials and dam developers from surveying land needed for another hydropower project, Panan, located in Dzongu. These inspections eventually required police escort and detention restrictions to hold back the activists. Even though 74 of the 99 Dzongu Lepcha households, whose lands were to be acquired for the project, provided 'No Objection (to the dam project) Certificates' to the concerned authorities, ACT protests eventually led to canceling the Panan project. Eventually, the ACT activists moved their protests from Dzongu to the state capital, Gangtok, where peaceful collective protests and marathon rounds of fasting totaling 915 days (2007-2010) drew public attention to the patronage politics and authoritative coercion in the Sikkim that undermined citizen voice (Huber and Joshi, 2015). Multiple tactics of consensual governance - promising development benefits to the faithful, to activists who withdrew their support, and the punishing of those who refused to yield failed to contain ACT members (ibid). Eventually, 4 of the 5 dams planned inside Dzongu were cancelled, but, much more importantly, the movement exposed the structure and culture of coercive governance and the rhetoric of democracy in Sikkim. The exercise of people powers tremendously inspired a new wave of citizen voice and choice. A Lepcha supporter of ACT from Darjeeling noted, "*Government will never make [people aware]. NGOs will not do that. It is the Lepchas themselves who have to do this. We did it*" (Field data, 2015).

McDuie-Ra's (2011, p.89) analysis of pro-dam actors is one of the rare accounts of how many Lepchas in Dzongu, were against the ACT, even 'pressur[ing] the State to accelerate the projects'. Wangchuk (2007, p.42) notes how during the peak of ACT's protests in Gangtok in 2007, '86 of the 90-odd Panan hydro-electric power project-affected families gave the Dzongu representative in the State Legislative Assembly a memorandum clarifying that they were not part of the ACT protest and reiterating that the No Objection Certificates issued by them for the project still held good if their demands for better compensation rates and other safeguards were granted'. McDuie-Ra (2008, p.89) further notes that pro-dam actors were predominantly elite Lepchas of Dzongu, 'a network of NGOs [doing development], political leaders and public servants with some ties with larger Lepcha organizations in Gangtok'. Gergan (2014, p.67) has argued 'that the anti-dam protests became a way for the Dzongu youth to question [not just] State development agendas [but equally Lepcha] elders and urban elite' who claimed to speak on behalf of the community. Gergan (ibid, p.68) argues that beyond the stories of a blissful "hidden paradise" (Mayel Lyang) ACT used the 'contradictory experience of everyday hardships' in Dzongu to expose 'the community's skewed dependence on Government and exclusionary practices' of governance through coercion. These young people emerged in 2007 as "alchemists of the revolution", questioning, challenging and reimagining Dzongu's future, as well as their own (ibid).

The complex struggle inter-weaving the personal and the political, rhetoric and reality of indigeneity, and varying perceptions of place, identity and citizenship in Dzongu is difficult to summarize. Simply stated, one unique outcome was a synergy of voices, questioning the rhetoric of State 'development' agendas, State-elite entanglements, society and class, and other fractures in an otherwise close-knit community. Unfettered by external and internal compulsions, the ACT enabled a loose group of diverse actors and agencies 'to hold the State accountable' (Lewis, 2002, p.571) and 'enable citizen control of public life' across institutional hierarchies (Cox, 1999, p.27). This strongly contrasts with what NGOs in Darjeeling did or did not do.

CONCLUSION

Our research analyzed diverse civil society organizations and their nature of engagement with dam development in the Eastern Himalaya regions of Sikkim and Darjeeling. Our findings show that although both NGOs and people's movements imagine and perceive large dams in very similar ways, they have responded to these developments in significantly different ways. This difference in positioning is largely explained by the State-NGO interrelations. Partnerships between the State and civil society – considered so

important in development - are often unequal and limiting. When these terms and conditions set the context of dialogue, one cannot expect possibilities for meaningful engagement. In this case, dams were framed as necessary for national development. Other possibilities for development were politically off the table. The State is not a "homogeneous medium, separated from civil society by a ditch, but an uneven set of branches and functions, only relatively integrated by the hegemonic practices which take place within it" (Laclau & Mouffe, 1985 in Mohan, 2002, p.133). This narrowing of distance between the State and civil society is a key contributing factor in the narrowing of possibilities for political actions and reassertions (Mohan, 2002). Through our findings, we draw attention to the processes through which such unequal partnerships between the State, markets, civil society, and local communities are increasingly promoted in the neoliberal agenda of development. Mohan (ibid, 2007) describes this rhetoric of partnership as 'one of consensus rather than conflict in that all actors should negotiate a "shared vision" of national development'.

Social movements are often formulated in different ways to NGOs. In this case, the ACT resistance was framed around a cultural context, that dams would negatively affect indigenous communities, their lands, and ways of life. In this case, not only was the movement independent of the State (in terms of funding, regulations etc.), the State also had no tools, no strategies to respond to these relational aspects of the impacts of development. We argue here that this space in which social movements can articulate and foreground discursive alternatives to neo-liberal paradigms of development are particularly strategic, perhaps far more than issues of displacement and rehabilitation - which are methods that the state outlines for compensating for development-induced material losses. Here, Gramsci's ideas of civil society creating and claiming a space for political agency, for harnessing countervailing power against the state excesses (in whatever form imagined by civil society), is a lesson that emerges.

Our research highlights that NGOs in Darjeeling are entangled in the "service delivery paradigm", bound by 'financial logic and challenging local circumstances' unable to address the civil-society goal of political transformation (Rahman, 2006, pp.451-453). Initially, large dam development in Darjeeling inspired some local NGOs to 'return to politics' (Banks et al., 2015, p.715) as opposed to having a service delivery focus, but these initiatives were short-lived, partly because of the context in which they exist and operate. As Partha Chatterjee (2004; pp.4,46) notes, spatial politics segregates Indian civil society enable a 'bourgeois society, inhabited by a relatively small section of the people… a closed association of modern elite groups, [to be] sequestered from the wider popular life of [far-flung] communities, walled up within enclaves of civic freedom and rational law'. In Darjeeling, civic freedoms have long been

missing (Joshi, 2015), although precisely therefore they should re-emerge. Our research does not negate NGOs' potential as a third pillar next to the market and the State, but rather illuminates the need for revisioning their political potential.

As things stand, NGOs in Darjeeling operate in a context where political power operates rationally *through* rather than *for* civil society (Sending and Newmann, 2006). In general, NGOs embroiled in *doing development* are both object and subject of the state (Sending and Newmann 2006; Bryant, 2002; Rose et al., 2006; Rose and Miller, 1992). NGOs in the Darjeeling region can do little else but collaborate in this web of governance, legitimizing this governmentality. The absence of a functional democracy in Darjeeling impacts the lack of civil society in Darjeeling and this vicious cycle persists. In such a skewed political terrain, hydropower development or any other form of trans-local coercion requires no more than a façade of participation. What we researched and discussed in Darjeeling mirrors the nature and circumstances in which hydropower projects are being rolled out in seemingly contentious regions around the world: elsewhere in India's North-East, but also in the neighboring Mekong Basin. In the Lao People's Democratic Republic (Lao PDR), the rush to develop hydropower happens where historically there has been no culture of participation (Grumbine and Xu, 2011; Matthews and Dotta, 2015; Goldman, 2001); where civil society is either absent, heavily restricted and/or criminalized (Matthews and Schmidt, 2014).

To conclude, challenging the consensual politics of eco-governmentality requires a greater solidarity between different civil society actors and agencies - but this is easier said than done. What remains of a dammed Teesta river flows far beyond the divided administrative borders of the States of Sikkim and West Bengal - well into Bangladesh. And yet, even between Sikkim and Darjeeling in West Bengal, politico-administrative arrangements, ethnic-fractures and local politics continue to divide, rather than unite, local communities and civil society. However, as our findings note, governance is on the 'move' in that relationships between the State and civil society are not static nor predictable. It is this fluidity that we identify as a potentially attractive space for diverse coalitions to emerge among different civil society groups and actors to take better control of public life.

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WATER SECURITY AND SOCIAL INCLUSION: LOCAL GOVERNANCE WITHIN THE NEWLY ESTABLISHED RURAL MUNICIPALITIES IN NEPAL

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ABSTRACT

In the Himalayan foothills of Nepal, water demand is increasing while many water sources are depleting. Local levels of government may play a role in tackling local water problems in a fair manner, or in failing to adapt to changing conditions. Nepal has recently undergone rapid changes in its institutional governance setting. Rural Municipalities (RMs) were established in mid-2017 as new, democratic, local tiers of governance. Their responsibilities include ensuring equitable access to water for all citizens, in line with the new Constitution. RMs must tackle decreasing water availability, increasing demands for domestic, agricultural and commercial uses, impacts of climate change, and the challenges of ensuring inclusive and participatory decision-making. At the same time, they are newly appointed finding their position and responsibilities after years of management by line ministries in Kathmandu. The study analyzes the current status of rural municipalities in remote areas of Sudurpashchim and Karnali Provinces in terms of their institutional capacity to implement inclusive water governance and water security in collaboration with a large donor project. It uses the OECD Principles on Water Governance (OECD 2011, 2015) as a framework. This research asks what

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the current water governance issues are in this setting of collaboration. The opportunities identified include the potential for more accountable policy formulation at a closer level to the community, by leaders who are more representative and accountable to their citizens and are aware of specific local water issues. On the other hand, there is a risk that policy formulation and accountability of governance could go astray. We conclude that this is a key moment to support the fledgling rural municipalities and demonstrate ways to build their capacities to secure safe water for all.

Keywords: water security, water governance, social inclusion, federal Nepal

INTRODUCTION

In the Himalayan foothills of Nepal, the relatively abundant water resources are contested (Suhardiman et al., 2018; RWSSP-WN, 2015a, and informal reports by local communities). Access to water is crucial in the region for local lives and livelihoods, especially in the rural areas. Poor governance, and the increasing demand for extraction of water increase the risks of water conflicts and deficiency. Conflicts on water are becoming more common among communities and various categories of water users, with competing demands (reports by local communities). At the same time, much of the potential of the resource remains untapped due to the undeveloped water infrastructure and institutions (Biggs et al., 2013). This is a puzzling situation, as it truly seems the case that the local water crises are largely crises of governance – or lack of it (Clement et al., 2017; Suhardiman et al., 2018).

If the water crises are crises of governance, then improved governance and management modes of the resource should hold the keys to positive changes. Water governance is fundamentally a local issue that involves a spectrum of stakeholders at various levels. Local levels of government may play a role in tackling the local water scarcity problems in a fair manner, or in failing to adapt to their new responsibilities and increasing water demands.

The study analyzes the collaboration with 27 core rural municipalities (RMs) in remote areas (hill districts) of Sudurpashchim and Karnali Provinces, Nepal, in terms of their institutional capacity to implement inclusive water governance and water security in collaboration with a large donor-funded project (the Rural Village Water Resources Management Project). This research asks what the current water governance issues are in this setting of collaboration, and what support is provided. The article considers water security, including gender equality and social inclusion. The definition of water security encompasses reliable availability of an adequate quantity and quality of water for a variety of purposes, with a bearable level of risk (Grey and Sadoff, 2007). The findings are structured with the OECD Water Governance Framework (OECD 2011, 2015) and share the lessons

learnt and ways forward in this very early stage of decentralization. The Framework was selected as it considers multi-level themes affiliated with implementation and governance situations with multiple stakeholders – very relevant to the complex water resources management setting at RM level.

CONTEXT

Case description

Nepal has recently faced rapid changes in its institutional governance setting. Municipalities were established in late 2017 as new, democratic, local tiers of governance. The first democratic elections at municipal level since 1998 were held in mid-2017, ensuring an elected representation of the residents in the local government for the first time since 2002. Rural municipalities (RMs) replaced the previous local structures of Village Development Committees (VDCs) and Districts. Voters elected a Chairperson and Deputy at RM level, and a ward chairperson plus four members (two of which should be women), representing each ward of the RM (as defined in the Constitution, 2015).

The responsibilities of the municipalities include the arrangement of water supply and sanitation, ensuring equitable access to water for all citizens (Local Government Operation Act, 2074). They also cover other related responsibilities such as local infrastructure (for instance, irrigation, micro-hydropower and other renewable energy sources); agriculture, livestock and cooperatives; health and education (Local Government Operation Act, 2074). The fundamental right to water is outlined in the new Constitution (GoN, 2015), as are many issues relating to social inclusion. The Constitution states in articles 30(1) and 35(4) that all citizens have the fundamental right to live in a healthy and clean environment and to access basic clean drinking water and sanitation services. It guarantees that women, disadvantaged castes, ethnicities and religions, and people with disabilities can equally access these rights (GoN, 2015). In addition, Nepal signed the UN Right Water in 2010 (UN, 2010), guaranteeing access to basic water and sanitation for all. When water and sanitation are recognised as human rights, people are defined as rights-holders, and governments as duty-bearers of water and sanitation service provision. This also means the new local tiers must tackle decreasing water availability, increasing demands for domestic, agricultural and commercial uses, impacts of climate change, and the challenges of ensuring inclusive and participatory decision-making. At the same time, they are only beginning to fulfil their role after years of strong central control, where virtually all issues were managed via representatives of line ministries in Kathmandu.

The research analyses 27 rural municipalities in Sudurpashchim and Karnali Provinces in Far West Nepal that are the core focus of

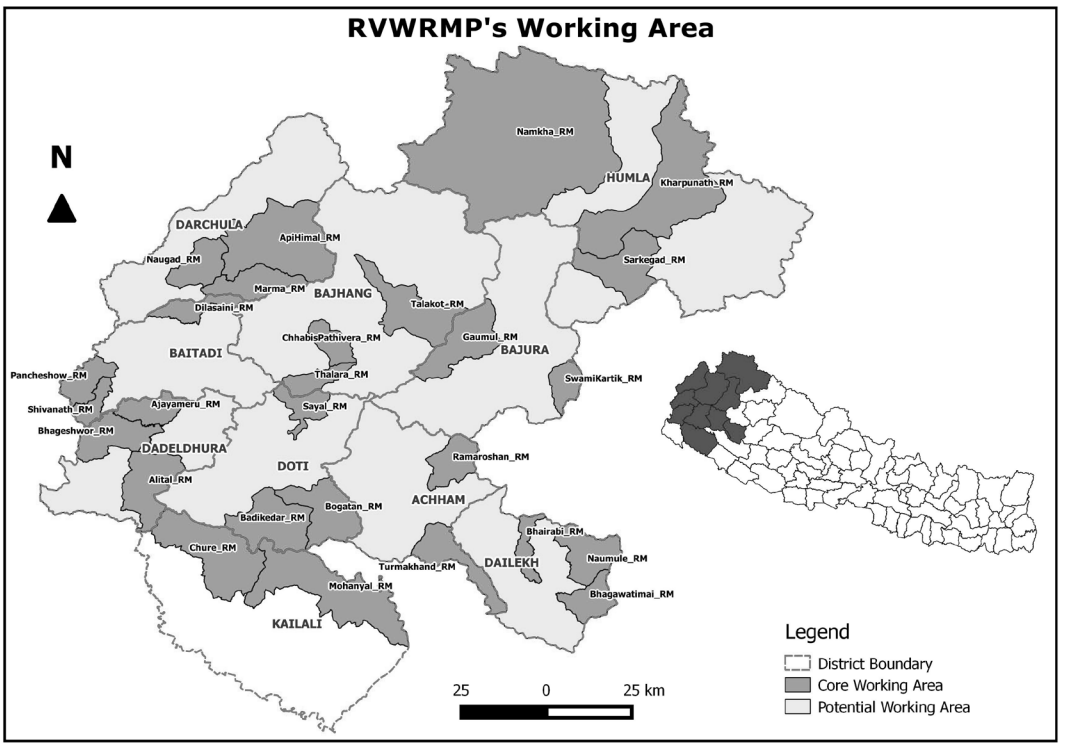

Figure 1: Study focuses on the core collaboration areas of Rural Water Resources Management Project.

the studied project (Figure 1). The analysis focuses on the experiences of donor collaboration with RMs on socially inclusive water governance and water security – specifically, the role of the Rural Village Water Resources Management Project.

The project supporting these RMs is the Rural Village Water Resources Management Project (RVWRMP; see www.rvwrmp.org.np). It is implemented with the support of the European Union and the Governments of Finland and Nepal and is embedded in the local government structures. The project works mainly at the community and RM levels after the government reform, with technical staff jointly planning and implementing with RMs the funding for water supply, sanitation, livelihoods activities and capacity building. The project works on water supply, sanitation and hygiene, irrigation, rural livelihoods development, micro hydropower, climate change adaptation and disaster risk reduction (CCA/DRR), environmental protection, and related behaviour changes and institutional capacity building. Human rights, gender equity and social inclusion are cross-cutting themes of the project. The project has operated in ten districts

of West and Far West Nepal since 2006. It has served approximately 700000 water supply beneficiaries up to date. The third, final project phase (RVWRMP III) started in 2016, and the activities are to be finalised by 2022. Since the new federalisation process, Phase III of the project operates in 27 core RMs and more non-core within the original ten districts (as shown in the map above). The project is a part of continuous, nearly three-decade, Finnish bilateral water sector collaboration in Nepal, making the project a very long-term intervention with substantial institutional learning and memory (www.rvwrmp.org.np – project document, MoUs with RMs, and other guidelines).

One of the most critical tools of project collaboration with the RMs in water governance is the mutual development of Water Use Master Plans (WUMPs). This is meant to be a participatory and inclusive planning tool based on the integrated water resources management concept at micro watershed level. WUMP teams made up of Nepali technical and social staff, working closely with community members (all persons living in the catchment area) and elected representatives, assess potential and existing water sources, structures, social issues and disadvantaged groups, existing water needs for domestic and productive uses and current gaps (Rautanen and White, 2013). They use many tools developed from Participatory Rural Appraisal approaches, as well as technical measurements. The WUMP enables the municipality to develop a clear strategy for the water uses, and the communities to prioritize the potential best uses and conservation technologies of water resources. The WUMPs provide a five-year vision and identify immediate priorities for a one-year action plan, which can then be approved by the RM, and should be followed by the project. In 2018, the WUMPs were adapted to include water use strategies and livelihood implementation plans (LIPs) at RM level (RVWRMP, 2018).

RVWRMP is one of the first organizations to have started collaboration with the local government tiers. The project can therefore be considered a pioneer at the forefront of the donor-RM cooperation. RVWRMP works currently with 27 core RMs, with a full set of project operations available to them. Potentially all other RMs (69 in total) in the ten former districts can be supported on a proposal basis. The set operations depend on the agreement and needs of the communities and the RM (based on outcomes of the WUMP planning process in the core RMs; and requests from RM staff and elected representatives in the non-core RMs). Schemes are prioritized according to set criteria by representatives of the RM in the final WUMP workshop.

The establishment of the RMs has changed the working modality of the project towards providing investment and recurrent support directly to the municipalities (instead of the earlier process of working with district authorities), with significant technical assistance and close collaboration also provided by the project. Before the decentralization, the district administrations

were run by appointed staff from line ministries, often with minimal links to local communities. Budget and technical support from the Government of Nepal and project budgets were provided to the districts. Now most of the project activities are targeted to the RMs, and community trainings often occur at the RM offices with the participation of RM officers and politicians.

Water management, security and social inclusion in local water governance

For many years, Integrated Water Resource Management (IWRM) has been promoted as a logical system in Nepal. The national government prepared a Water Resources Strategy in 2002 (GoN, 2002), which recognized the competing demands and also the social aspects of water governance. However, given the large number of actors and water uses, implementation has proved problematic. Many donors argued that river basin planning, as a holistic tool for water use planning, is the most appropriate tool. However, rivers cut across administrative units and national bureaucracies, and is perhaps more likely to result in conflict than integration (Suhardiman et al., 2018). In particular, efforts to improve planning from above, without consideration of local political, social and practical needs were doomed to fail (Clement et al., 2017).

The current trends in the field of water governance emphasize the linkages of water and security (GWP, 2000; Cook and Bakker, 2012), and especially the water-food-energy-ecosystems nexus (Hoff, 2011; Keskinen & Varis, 2016; Keskinen et al., 2016). Although the nexus approaches hide the political nature of governance behind the technical focus, they provide perspectives to integrated natural resources governance. The question of security in relation to water focuses on whose security is at stake, and who pays the costs? Gender equity and social inclusion (GESI) are therefore important aspects to consider in relation to water security. The contribution of water security to women's empowerment can remain limited if the implementation modalities do not account for politics and social fit (Leder et al., 2017).

Social inclusion as a universal idea can be tracked back to the Universal Declaration of Human Rights of the UN, 1948. It is reflected in human rights-based approaches (HRBA) to development and is emphasized by several international organizations and processes, including the United Nations and the Organization of Economic Cooperation and Development (OECD). Gender equality and social inclusion are considered in various national guidelines, including the Constitution (2015), as noted earlier. RVWRMP has outlined the importance of rights and inclusion in project documents and guidelines (for instance the joint HRBA & GESI guidelines, prepared with RWSSP-WN, 2015).

The accountability measures in the RM governance context of the study

primarily regard the vertical and transversal accountability (UNDP-SIWI, 2015), referring to the degree to which the concerns and viewpoints of the citizens, families, and sector stakeholder organizations are accounted for in the municipal governance. As a normative idea, accountability therefore relates to the concept of good governance (OECD, 2015) through credibility and legitimacy of the government in the eyes of the residents, and the accountability power of the citizens and stakeholders. The social, political, administrative, and financial types of accountability (UNDP-SIWI, 2015) are considerable aspects for viably achieving the social responsibilities recently appointed to the local governments.

In the research context, water security is closely interlinked with multiple issues. The availability of drinking water is the most critical, as life depends on it and women and girls in particular, spend hours each day collecting potentially dirty water from far away springs and streams (RWSSP-WN, 2015). Another security concern is malnutrition and food insecurity - still evident in the remote areas of Nepal. Two of the districts where RVWRMP operates (Humla and Bajhang) had the highest prevalence of child malnutrition in 2011 (GoN, 2014). The project works with RMs to improve the food security and nutritional status by using water resources to promote irrigation, home gardens and greenhouses, introducing new plant varieties for cultivation, and supporting livelihoods activities and agro-business. The poorest and the disadvantaged groups (DAGs), such as disadvantaged castes, women, children, and elderly people, are generally the first to suffer food insecurity. As constituents, the RMs should focus their attention on the needs of these groups.

Another security concern is the adaptive capacity for climate change and disaster risk reduction, both closely related to the increasing amount of extreme weather events, like droughts, landslides, and floods, in the area (NCCKMC, 2018). The disadvantaged groups (poor households or members of disadvantaged castes) often occupy the most vulnerable land areas and household locations in this regard, furthest from water and on steep land. Variable rainfall trends have also brought security concerns in the form of source depletion and disputes among the residents and communities (Regmi and Shrestha, 2018). According to a recent study in Western Nepal, 65% of all sources were in declining condition between 2004 and 2014 (RWSSP-WN, 2015a). The study found that the reducing availability of water demands more attention to governance, balancing competing demands and prioritizing domestic use. In addition, it demonstrated the need for source protection and watershed improvements.

The RMs are linked with these issues as the Constitution confirms the fundamental right to water for all; as well as the RMs' role in water resource management, water infrastructure development and maintenance, and the institutionalization

of the sector. RVWRMP works in this sector at community and RM level and provides institutional capacity building. The Step-by-Step (SBS) project process (giving guidance on technical, social and financial implementation of all schemes) accounts for climate mitigation and disaster risk concerns; for instance, through initial selection of the schemes, attention to disaster risk reduction in construction, and in the Post-Construction and Water Safety Planning (WSP) process (RVWRMP website, 2018).

The male-dominated society and local cultural traditions lead to various types of discrimination in the area. Discrimination is mainly based upon gender, caste, ethnicity and economic status. The 2014 Nepal Human Development Report highlighted that caste and religion-based social exclusion translates into limited opportunities in economic and political spheres (GoN, 2014). Women and girls suffer household drudgery, poor health status and less educational attendance and attainment. In some localities they are socially excluded and suffer significant taboos during menstruation, such as not being allowed to use taps or toilets (RWSSP-WN, 2015). These GESI issues are important when considering access to local water uses and water resources management institutions. With this in mind, RVWRMP operates through an HRBA and gender equity and social inclusion (GESI) strategy and action plan to ensure access to water for all. The project also conducts targeted GESI activities, such as gender budgeting, promoting women as leaders, menstrual hygiene management and discriminatory traditions, and GESI-friendly planning (such as consulting all participating groups, ensuring equal representation in committees, trainings). Targets are set for equal participation of women and disadvantaged group members, though the challenge can be to ensure truly active participation.

METHODS AND MATERIALS

Analytical framework

We conducted action research - a solution-oriented, applied research perspective (Mikkelsen, 2005, p.132). We focus on problem-solving through locally-constructed knowledge and analysis. In the research setting, this translates into an initiative to develop the local governance through well-argued research.

For analyzing the local governance setting, we used the OECD Principles on Water Governance (OECD 2011, 2015) as a framework. It provides a well-argued characterization of multi-level themes affiliated with implementation and governance situations with multiple stakeholders. The defined categories of the framework assisted in identification of key issues and assisted with the analysis of the local water governance issues. It thus provides a useful framework

> "to identify good practices for managing interdependencies between the many stakeholders involved in water management at multiple levels" (OECD, 2011 Box in p.3).

The key coordination themes of governance consider administration, information, policies, capacity, funding, objectives, and accountability (OECD, 2011). The OECD framework and its categorization of the common governance themes is applied as an analytical framework (Table 1) to identify the relevant types of governance issues in local level water governance. This study merged three of the themes in the original OECD framework (Administrative, Policy and Objective), as their scopes were difficult to differentiate in the analysis of the findings. One governance theme was added (Implementation).

Table 1. Analytical framework: Governance themes. Adapted from OECD, 2011.

GOVERNANCE THEMES	DESCRIPTIONS OF THEMES AND GUIDING QUESTIONS
INFORMATION	Is information available to all for adequate discussion and decision-making, or are there asymmetries of information between the stakeholders?
ADMINISTRATIVE; POLICY; OBJECTIVE	Is there a good match between administrative and hydrological boundaries? Are there any problematic land tenure issues in cross-boundary water management? What is the status regarding sectoral objectives, visions, and policies? Are there RM policies regarding GESI? Do the local administration staff understand human rights issues (for instance right to water and sanitation)? Are there differences in the agendas and objectives of the stakeholders; or motivational and incentive problems?
CAPACITY	Are there sufficient personnel, expertise and resources for good water management? Has there been adequate capacity building? Is there understanding of the gender & social inclusion issues among RM and RVWRMP staff?
FUNDING	Is the funding stable and sufficient? Does funding respond to the needs of all groups? Is there follow-up and reporting of expenditures and results, in line with plans?
ACCOUNTABILITY	Is the RM transparent? Do both the elected officials and community members have sufficient commitment, concern, awareness and participation?
IMPLEMENTATION	How are policies translated to actions and practices at the grassroots, benefitting all actors? What are the barriers for implementation of water security and GESI actions?

Data collection

RM level qualitative data was collected by the authors in field visits and interviews at RM offices, with interactions with the chairperson and other elected officials, staff members and with community members. Their views were solicited, in order to understand the progress of the devolution processes.

The authors have also conducted participatory observations in almost all project activities listed in Table 4. RVWRMP project staff are mainly Nepalese, from technical and social backgrounds (only three international staff) – see further details on staff composition and roles from Haapala and White (2018). Project level data was collected from project staff and cross-checked with project documents and implementation manuals. Seven specialist staff were consulted on the project activities in the RMs (Table 3; see Table 4 for the results). Furthermore, two key senior national expert staff were interviewed in depth regarding the role and status of RMs in water security and socially inclusive water governance. All ten District teams of the project presented progress reports with analyses of the current issues in the RM operations, contributing significant information to the analysis.

Table 2: RM data collection

Data type/source	Place (Municipality)	Date (month/ year)	Topics in summary
Women community interactions	Alital RM, Dadeldhura Bhatakhatiya RM, Achham Marma RM, Darchula Dilashaini RM, Baitadi	11/2017 11/2017 5/2018 1/2019	On their interactions with the RM (versus the earlier institutional arrangements); the major difficulties and opportunities they face in the RM; their interactions with the project
RM staff interactions 3 women, 7 men	Alital RM, Dadeldhura Naumule RM, Dailekh Bhatakhatiya RM, Achham Marma RM, Darchula	11/2017 11/2017 11/2017 5/2018	On the challenges and opportunities of the new institutions; the major issues of water governance and GESI; practical capacity gaps and implementation issues; the interactions with the project
RM Chairs & elected representatives 4 women, 6 men at RM level 1 woman, 2 men at DCC level	Naumule RM, Dailkh Ramarosan RM, Achham Dailekh District Coordinating Committee (DCC) Marma RM, Darchula Duhu RM, Darchula Naugad RM, Darchula Darchula DCC	11/2017 11/2017 11/2017 5/2018 5/2018 5/2018 5/2018	On the challenges and opportunities of their new roles; the major issues of water governance and GESI; the interactions with the project

Table 3 Project data collection

Data type/source	Place	Date (month/ year)	Topics in summary
Specialist interviews (7)	Project Support Unit / Amargadhi, Dadeldhura	5/2018	On project activities with the RMs; water governance and GESI issues; capacity building; coordination via the joint management committees;
Key senior national expert interviews (2)	Project Support Unit / Amargadhi, Dadeldhura	5/2018	On the first year of cooperation with the RMs, strengths and weaknesses.
District Team presentations	Project Support Unit / Amargadhi, Dadeldhura	8/2018	Project activity and progress reporting with an analysis of current issues in RM cooperation

The activity and event reports of the project staff (RVWRMP, 2017-2019) were used for triangulation of the findings. The project progress data and annual reports were also used to identify the level of activities conducted with the working RMs. Quantitative data from analysis of the institutional status of the RMs in late 2017 is also quoted.

SWOT analysis

SWOT analysis is a broadly employed research technique used for identifying factors that are helpful (strengths (S) and opportunities (O)) and unhelpful (weaknesses (W) and threats (T)) regarding a particular objective. In the analysis, the strengths and weaknesses may refer to the internal factors or current status, whereas the opportunities and threats may refer to the external factors or future scenarios. In this article, the analysis looks at the current status and future scenarios regarding two specified objectives: 1) GESI and 2) water security in water governance (See Annex for the analysis).

A SWOT workshop was conducted with 40 senior staff of the Project Support Unit and Districts (almost all men), representing almost all of the national technical assistance team of the project (apart from community facilitators). As the frontline team, interacting on a daily basis, the authors considered their opinions important, regarding RM experiences and potential for functionality. The workshop was facilitated to gather feedback from the staff about the experiences with the RMs during the first year of cooperation after the elections.

The staff made a SWOT analysis in small groups, focusing on either the SWOT of the water security in the RMs (two groups); or the SWOT of GESI (two groups). Groups were asked to particularly consider the

changes from the earlier governance structures (VDCs and districts) and the impact or potential impact on water governance. The group works resulted in four SWOT analyses that identified several topical points for each of the sectors in the study context. The authors then analysed the results, linking the points with the OECD governance themes (see the Annex).

FINDINGS

The following findings are organised via the OECD governance categories.

Information

The WUMP-LIP and Step-by-Step (SBS) approach are both project tools that the RMs have begun to apply in their work. The WUMPs are a key element of information gathering and sharing within the RM. Earlier, WUMPs were conducted at VDC level. When the RMs were formed from mergers of VDCs, some the RM already had a WUMP, but some areas hadn't earlier had a WUMP. During 20178 RVWRMP and the RMs have worked together to supplement the information collection. Since May 2018, the RMs have financed the process themselves. The result was an RM-wide WUMP-LIP (including the Livelihoods Implementation Plan), which provides the RM decision-makers with data, information and analysis on water uses and livelihoods, on which investment and activity plans can be based.

Another element that supported information flows was the SBS approach for the planning and implementation of water, sanitation and renewable energy schemes. The SBS guided the User Committee at the scheme level through planning and implementation, including such as community mapping, public hearings and public audits, bringing the principles of good governance into action.

Interviews with women in communities (see Table 2) indicated that they are not always well informed on RM plans (Table 2, interviews with community women, 2018 and 2019). For instance, one elected female ward representative, interviewed in May 2018, commented that men in her ward committee had approached her on several occasions to sign minutes of meetings that she was not invited to attend. Another said that she hadn't applied to be a candidate but was appointed by her party without informing her. Although she still felt excluded from some issues, she now attends meetings, and she considers this access to information has empowered her. In January 2019, several female elected ward level representatives reported that they don't have the authority to check documents (particularly budgets) at the RM level, and they were concerned there was a lack of transparency regarding decisions. However, they also noted that there were more opportunities to be involved than with the earlier system.

The SWOT analysis results (see Annex) and interviews conducted with project staff

(Table 3) indicated that information flows were not a significant problem now. Earlier, information was controlled by line ministry staff, and there were no elected officials locally. Information flows were considered to have improved, as the government was closer to the grassroots. Two of the RM Chairs in Darchula commented that as a result of the Women as Decision-Makers workshops (supported by the project), they had been able to understand the specific problems facing women. They committed to incorporating some of the priority activities in the RM annual plans, and to raise these issues with other implementing organizations and government bodies in the RM. They considered that improving information flows and the closeness of the RM to the population made it easier to plan for future activities.

Administration, policy and objectives

Earlier, there was a clear mismatch between administrative and hydrological boundaries, with the one potentially watershed covering many VDCs and districts. This made water governance particularly problematic. In order to gain legal control of a water source in a neighbouring VDC, to allow construction of a water scheme, considerable effort was needed in negotiations, and legal registration of the source was controlled by the district authorities. As noted above, WUMPs have now been prepared for the RMs, covering more territory than the earlier VDC-based WUMPs. Legal authority for source registration now sits with the RM, however the system is not yet established (Local Government Operation Act, 2074). RMs are still not watershed-based entities, and the legal ownership issues are not resolved. Staff commented that conflicts remain.

RVWRMP staff believed the RMs had considerable potential in capacity enhancement and policy implementation on water security. At this stage, provincial policies are being formulated, and RMs are only now (2019) formulating their own local policies. In core RMs, local policies and strategic plans on WUMP, DRR, CCA, cooperatives and livelihoods, and GESI, were being formulated in collaboration with the project. Some RMs have formulated and implemented water security related laws and by-laws, with the assistance of project staff. For example, the Local Governance Act 2074 requires RMs to develop policies in a range of topics and RVWRMP has made a commitment to support the core RMs. Amargadhi Municipality, where the project main office is located, is not a core municipality, however they have requested technical assistance in preparing their own GESI policy – a reflection of municipalities' interest to build their capacities in this area.

The SWOT analysis results identified possible risks for the RMs in the capacity building and policy formulation processes, reflecting the risk of domination by some groups. Project staff noted the strong collaboration between RM staff and elected officials,

and project staff, in water governance policy, strategy and plan development at RM level. RM Chairs who were interviewed commented on the good coordination via the joint management committee, which eased many activities and solved problems in the field (technical or social).

RVWRMP staff (Table 3) reported great potential for RMs to improve GESI aspects in the new, possibly more accountable ways of policy formulation at a closer level to the community (a key element of a human rights-based approach). On the other hand, policy formulation and accountability of governance are also considered possible risks, if the RM is dominated by male elites. The right to water and san is a key starting point of the trainings by RVWRMP, and participants are aware of the need to prioritize drinking water and sanitation when setting policy and planning for the uses of water.

Some positive aspects of policy that were raised in the SWOT analysis with regard to GESI in water governance, were the fact that the RM has the right to formulate and implement acts and policies that directly benefit their citizens, such as the WUMP and LIP. The Constitution was mentioned as providing a GESI-friendly framework for local government. The project personnel stressed that there is a clear need for RM specific GESI policies, and that the task is under work as a part of the cooperation.

Capacity

The SWOT analysis indicated that a serious problem facing the RMs is in the area of technical and physical capacity. RVWRMP conducted a survey of the staffing and working conditions in 45 RMs in the two provinces in late 2017. At that point, almost none of the RMs had an office of their own, operating from rented or temporary office; and three RMs operated from a temporary tin shack. Internet access was a rarity. Road access was mostly seasonal (24 RMs), which meant that vehicles wouldn't be able to reach the RM during the rainy season. Nine RMs did not have any kind of vehicular road access. The staffing situation was critical, with 16 RMs not having a permanent Chief Accounting Officer.

By mid-2018, the situation had improved. However, many RM Offices are still operating from their earlier district headquarters, because of banking problems (no bank services are yet available in many RMs). There is also a continuing lack of human resources, insufficient energy backup systems, and the lack of internet and telephone facilities in many of the RMs.

The project District staff reported that frequent turnover of the RM officials (Chief Administrators and accountants) have harmed account management, reporting, and budget releases, needing support from project staff (in one case there was even a strike of RM staff). 44 RM accountants had attended a training in the new government accounting system with RVWRMP and the

Table 4: Key trainings and visits with RM staff and representatives

Activity	Events conducted by end of FY74/75	Events planned for FY75/76	Planned event frequency
Institutional / HR capacity building			
Women as decision-makers workshops	6	27	annual (review)
Sensitization of cooperative development	2	2	one time
Business promotion workshop	1	1	one time
Exposure visits by the RM	27	27	annual
RM Accountant orientations	48	48	annual
WASH and water use planning and trainings			
RM project orientation	27	27	one time
WUMP/LIP investment workshop	6	27	annual
WUMP Ward level planning and scheme prioritization workshops / WUMP facilitator trainings at Ward level	168	358	one time
WUMP++ formulation	2		RM initiated pilot
Menstrual pad-making training for RM women	8	27	one time
Total Sanitation and Menstrual Hygiene Management conference	7	27	annual (review)
School sanitation	24	27	annual
Municipality water quality testing kit support	5	Min. 27	RM initiated pilot
Sustainability Workshop	5	27	annual
RM orientation to CCA/ DRR/ WSP	1	27	one time
Technical training on CCA/DRR/WSP for RM Technicians	4	10	for all working RMs in the same District, one time

WUMP = Water Use Master Plan; LIP = Livelihoods Implementation Plan
WUMP++ = Extended WUMP

national government in late 2017, and again in January 2018. 92% of the RM accountants reported that due to the insufficient internet capacity at RM level, they had not been implementing the Government's official accounting package.

Field observations and interviews indicated that the RMs are aiming to recruit staff, but those prepared to work and live in remote areas generally have limited capacity in the key water governance issues. In particular, it can be difficult to recruit qualified women

for remote posts (both for RM staff and RVWRMP). One RM Chair noted in interview with the authors that he felt it important to be able to consult the project staff, as he lacks the full team of experts in his RM to date. This lack of local capacity for water governance and GESI is an important gap. Four elected women commented that women lack skills in leadership and literacy and need training to build their confidence and be able to return home and convince others.

Table 2 lists the key project-related trainings and visits related to institutional development, GESI and water governance conducted for the RM staff and elected representatives, or with a considerable RM representation, in the first fiscal year of cooperation, 7/2017-7/2018 (2074-2075 in the Nepali calendar).[3] Naturally, training isn't enough-changing attitudes and behaviours (for instance with regard to consideration of opinions and needs of women and disadvantaged groups) takes long term reinforcement.

Funding

The SWOT analysis (Annex) indicated that funding is not seen to be a serious issue yet. In fact, project staff noted that RMs have more local control of their budgets. RMs have made increasing financial contributions and commitments regarding project activities, and staff considered that this reflected the increased ownership.

In November 2017, RM representatives explained that they had received general instructions from the Government on how to budget funds and that they could make discretionary decisions within the lines. However, in many cases the RM took funds from one budget and moved it to another – such as in several cases, moving agriculture funds to road construction. It is clearly visible that all RMs have prioritized road construction over other activities during the first year (RM interviews in Table 2).

A female deputy Chair commented that it is mainly men who make decisions regarding the budget, and they do not tend to think about women's needs. She said that the limited literacy of many of the elected women (including herself) also made it problematic to ensure that women have been considered. In the first budgetary decisions by her RM, the 'women's budget' (earmarked by the national government) had been diverted to road construction. When discussion had taken place this year on 'women's' issues, it had focused on possible infrastructure, such as a birthing centre, and not on spending for awareness-raising activities. The Women as Decision Makers workshops conducted to date by RVWRMP with elected women and female staff of the RMs have influenced budget

[3] Disaggregated data isn't available, however, as the participants reflect the RM make-up, it can be assumed that the majority were men

spending in those RMs. For instance, women have identified leadership training for women as a key issue, and the RM has supported.

Donor and project staff had some fears at the start of the fiscal year regarding the financial management of project implementation funds, and potential risks of corruption. The change in implementation structures meant changing the fund flows, with both Nepali and international funds flowing directly to RM bank accounts (rather than via the districts, as earlier). Given the capacity problems mentioned earlier, and the difficult bank access, there was a reasonable basis for concern. However, to date the management of project accounts, at least, proceeded well, with considerable support from project staff. The audits of the RMs by the Nepali National Audit Office has not yet taken place, however, internal project audits of RM accounts have not found serious problems.

While some taxes are collected locally, the RMs are still reliant on central government for most of their budget. Consequently, the RM has limited ability to make major changes in the overall budget. In the planning process for the current financial year, the planning processes at different levels were out of synchronization. RM budgets (included those supported by RVWRMP) were set by the Ministry of Finance in May and read out in the national budget in late May, yet the RM Council meetings were only held in July. For the next financial year, the project has begun to work with the RM to prepare local budgets much earlier, and thus have some chance to influence the national plan.

Accountability

The forms and compositions of RM cooperation with community schemes are still taking shape – in one case the RM had retrospectively applied a tax to a User Committee (seemingly rent seeking). However, clear cases of corrupt behaviour have not emerged to date.

The RM executive structure is representative in principle, as it includes specific women and DAG representatives. This should make the RM accountable to its citizens and give women in particular more confidence to speak up - though as noted earlier, some elected women feel this is a barrier, and they need more training for this (interviews with elected women, 5/2018, 1/2019).

The RM and project are together applying an inclusive strategy in staff and facilitator selection (though this only applies to staff recruited for project activities), and trainings. RMs are close to their citizens, offering services within the RM (and in the near future, legal registration of water sources). The fact that the RM services at the headquarters is accessible from all parts of the RM, unlike the district headquarters earlier, means citizens have improved access to basic social services and that they can talk with representatives and make complaints if

necessary. This is evident from visits to the RM offices, where there are always citizens visiting to attend to issues. Earlier, citizens had to travel further to district offices (up to several days on foot, one way), where staff were often absent from their posts, and otherwise reluctant to serve the public in the remote corners of the country.

On the other hand, RVWRMP staff considered in the SWOT analysis that the most significant issue for water security development was accountability (Annex). RVWRMP staff listed risks of bureaucratic mismanagement, influence of elites, a lack of proper planning and visioning on water uses, political bias and weak coordination among stakeholders – leading to potentially poor accountability to the citizens. An interesting issue was a potential conflict of interest, where the local government acts as a planner, an implementer and as a regulator (leading potentially to environmental risks).

Implementation

The project has supported the RM to apply HRBA and GESI approaches in implementation of scheme prioritization and selection, aiming to favour the least served and most disadvantaged areas of the RM – with positive results. In addition, the RM has constructed GESI / disabled user-friendly public or school WASH facilities with project support.

However, staff reported in the SWOT analysis that men and elites still dominate in decision-making in practice, due to traditional social structures and prejudices, poor confidence and literacy of many women, and the lack of time for women to participate actively outside the home (this was confirmed in the interviews with female elected officials). There is ineffective implementation of the GESI-friendly policies – for instance, guidelines for representation of women and disadvantaged groups in committees and meetings are not always followed by the communities (with men in committees sometimes leaving women out of procurement activities or coming to decisions amongst themselves). This weakens accountability and leads to business-as-usual practices. Elite capture, corruption, disputes in water resources management, and social and political disputes were all mentioned as threats within the new structure. Implementation risks included a priority focus on hardware, and less interest in supporting policies and strategies, as well as RMs favouring some groups with economic opportunities. Menstrual and caste taboos prevent universal access to taps and toilets, as well as interfering with participation of women in meetings (reported by female elected officials, January 2019). The potential role exists for the RMs to intervene and ensure equitable water governance.

In addition, it is clear that there is inadequate understanding of the dynamics of climate change and impacts of excessive water

extraction from sources. A lack of RM water policies makes it difficult to plan effectively. This has been exacerbated by haphazard or unplanned development activities, particularly damage to water schemes by road making (for instance, ripping up pipes or even bulldozing over tap stands). This is an area where improved RM governance would play an important role. RVWRMP has conducted several different policy formulation workshops for the elected RM representatives on water resources governance, climate change and disaster risk reduction, sanitation and hygiene, menstrual hygiene management and gender equity, and steering of water scheme operation and maintenance (see Table 4). As a result, the partner RMs have established formal policies and contributed budgets for implementation activities.

RVWRMP staff based at district level raised some challenges in water governance the communities and RMs are facing (Table 3). These included scheme sustainability concerns, water scarcity, and source disputes and depletion problems related to RM water governance difficulties. For instance, depleting water sources and partially related community conflicts make scheme planning challenging as the nearest suitable water sources are often located a dozen kilometres away from the service area, being owned by another community in another municipality. The evident lack of agreements between municipalities, regulations, policies, and customized ways of managing these types of issues in the new local governments do not help to govern the commons in this regard. These issues can hopefully be better addressed by the RM in the future, utilising the WUMP process, RM water policy development and capacity building activities.

On the positive side, RVWRMP staff reported better multi-stakeholder cooperation and monitoring of activities with the RMs. It was also noted that the RMs have initiated several extra activities, such as expanding WUMPs towards more general RM civic information system (initiated by two core working RMs) and developing water quality testing facilities (initiated by six core working RMs). RVWRMP is handing over the modalities (such as the SBS implementation modality, or Water Safety Planning of water schemes), and guiding materials (several guidelines and guidebooks on sustainable water resources management and livelihoods development) to the RMs, but it remains to be seen if they have the willingness or capacity to implement them alone. The RMs have taken over the implementation of the WUMPs since May 2018, including the financial burden of paying for the NGOs facilitating the process and collecting data. In some cases, RMs have taken them further by adding additional information and data points. In one of the RMs visited by the authors, the RM Chair reported that he observed the SBS process to be so functional and transparent that he has instructed staff to use it in other schemes in the RM without donor project involvement.

DISCUSSION

The critical link of water security and social inclusion

In this study we have reflected water security and social inclusion themes under the OECD governance themes, with findings collected via various methods, such as interviews, SWOT analysis, field and workshop reports (described in the Methods section). In line with this, the social accountability theme of water governance was regarded as the greatest risk for the water security in the RMs. On the other hand, much potential was seen (both by staff and RM officials) for water security in the improved policy formulation opportunities in the water sector, and capacity building at local levels from municipality officials to local people, such as leader farmers, income generation groups, cooperatives, tap groups and Scheme Maintenance Workers of the schemes, trained by the project. Respondents were optimistic that the new system held considerable opportunity.

Accountability is a central theme that links social inclusion and water security by emphasizing that security is a relevant aspect for all social groups, and that good governance as a normative concept (OECD, 2015) is a means to ensure water security for all stakeholders (UNDP-SIWI, 2015). This study demonstrated accountability is crucial for viably achieving the social responsibilities appointed to the new local governments in Nepal. The study stressed that accountability in local governance was considered to be a potential opportunity, but also as the most considerable threat for water security and social inclusion (Annex). Developments in the sphere of accountability may encompass the social, political, administrative, and financial development of the local governance (cf. UNDP-SIWI, 2015), providing a potential means for its success or failure.

The findings convey concerns that integrated natural resources governance should also be socially integrative, to be able to address governance issues in a legitimate way in the new governance system. The water and food security of women and DAGs need to be considered from a social inclusion perspective. This means paying attention to the many identities that produce added social inequalities for women – for instance, those of marginalised caste or ethnicity, the elderly or disabled (Aasland and Haug, 2008). The study replicated the concern raised by Leder et al. (2017) about empowerment of disadvantaged groups, if government modalities do not account for politics and ignore social equity and genuine inclusion. The RM policymakers have a possibility to alleviate the inequalities and injustices that lie behind the lack of access to affordable, safe, and clean water (Leder et al, 2017), through accountable policy-making. On the other hand, the risk remains of the emergence of elite-driven business-as-usual approaches with enduring inequalities in control over water (Leder et. al, 2017; Rusca and Schwartz, 2014). The SWOT analysis

indicated that the accountability aspects and policy themes were evident in reference to RM water governance opportunities and threats alike.

Regarding adaptive capacity to encounter water related extreme events (such as droughts and floods), source depletion problems, and natural hazards (NCCKMC, 2018; RWSSP-WN, 2015a), the SWOT analysis revealed that policy formulation and capacity building were the most important themes that define the trajectories of the RMs in this regard. The study found considerable risks in the current human resources of the RMs, but also found many early achievements and potentials. The findings indicate that further policy formulation and capacity building at the RMs are necessary for improving the adaptive capacity and resilience.

Changed modalities of governance

The decentralization policy of the National Government has set the new framework, but the practical application of how the division of powers will occur is unclear. In theory, power is passed down to provincial and municipal authorities, however, the central government bodies are reluctant to lose control. For instance, the Ministry of Finance collects most of the revenue, and therefore the RMs are reliant on them for distribution of most of their budget. The location and lines of responsibility of technical staff, such as water engineers who previously worked from central or district level, is still undecided. The central government has a significant presence in the RMs through the provision of Accountants and Chief Administrative Officers who share lots of the executive power with the Municipal Council.

The new RMs' responsibilities include ensuring equitable access to water for all citizens. The Government of Nepal has recognized water supply and sanitation as human rights both internationally (UN, 2010) and in the Constitution. The provision of water and sanitation is therefore not a matter of charity but a legal obligation.

Institutional weaknesses remain, however, and the division of powers and finance with the central government remains unclear. All our data sources, including project reports, the SWOT analysis and interviews with staff, and the interviews with RM representatives, indicate that RMs are still trying to fill the capacity gaps (including recruitment of their full component of staff, and training of elected officials and staff). Particular gaps include technical staff that could support water resources management.

This is a key moment for the RMs to receive guidance on accountability towards their citizens. Meier et al. (2014) stressed that internationally, there is a gap between the legal requirements for water and sanitation, and practical implementation. They argue that policies must be translated into local contexts, and integrated into local practices (Meier et al., 2014).

The RMs are currently struggling with weaknesses in staffing, infrastructure and institutions. In such a weak institutional environment, external technical assistance can play important facilitation and implementation support roles (Haapala and White, 2018; White and Haapala, 2018). RVWRMP provided a good example on this regard. The project supports RMs in the development of the RM water use strategy and in the formulation of RM WASH policies. The aim is to facilitate strategy and policy discussions and negotiations, in order to draft visions for water governance and use, WASH investment policies, WASH regulations, water security and environmental protection policies, and livelihoods improvement planning for the particular RM. Project staff also provide technical advice on policy formation and hands on support on issues such as climate change adaptation, disaster risk management, gender equality and social inclusion.

However, this can only be a temporary solution, and the project needs to take care not to take over. There is extensive critical literature on the risks of the power imbalances of technical assistance (though it mainly deals with international advisors) and the difficulties of policy implementation – for instance Mosse (2004). Mosse states that "the ethnographic question is not whether but how development projects work; not whether a project succeeds, but how success is produced" (Mosse, 2004, p.646). This article does not argue that the project and its staff are infallible, nor does it address the power imbalances. The focus is the work of the RMs, and the way RVWRMP is supporting them. Local government staff commented on the importance of joint planning; noting the difference within some NGO projects that operate independently of government systems. There would be risks for sustainability if the project was operating outside of RM systems (Interviews; and White and Haapala, 2018). The final decisions must be in the hands of RM elected officials and staff.

The project has supported accountable development in the RMs through the Women as Decision-Makers Workshops. The major objectives of this workshop are to empower women for decision-making processes and involve them to formulate gender responsive plans with budgets. Prior to the RM elections there was insufficient involvement of women in planning. Since the elections, women's participation in local government has at least increased on paper, due to the obligation to include at least two elected female representatives in each ward (and the RMs usually have female deputy chairpersons). However, as noted by the respondents from the RMs, more attention is needed to women's priorities. Consequently, it is important that women are empowered to raise their voices and are more actively involved in decision-making processes.

To support the technical capacity gaps, RVWRMP has recruited local level staff to work with the RMs. In each core RM,

a Gaupalika Water Resources Officer is employed directly by the RM with project funds. In addition, a Technical and a Livelihood Facilitator will work as project staff within the RM. They will support the RM while they continue to recruit their own technical and administrative staff and learn the business of water and land resources management.

The study indicates that the RMs are providing basic services to users and are generally supporting improvements in water governance. RMs are broadly representative of their constituents, unlike the earlier system. Although some of the female and minority representatives had no prior experience in government, and weak literacy skills, management and confidence, they are learning rapidly on the job (project reports and interviews). Ownership and accountability have strengthened considerably. There is a risk that bad practices could emerge, such as corruption and elite control of resources (Leder et al., 2017). The analyzed threats replicated this view. We want to emphasize that these bad occurrences can best be prevented by proper facilitation on establishing rules, regulations, and customs that enhance good governance practices.

CONCLUSION

During 2017-18, there has been a dramatic change in governance in Nepal, with the federalization process. The newly formed RMs have the responsibility for water security and good governance. They can play a role in tackling the local water scarcity problems, or risk failing to adapt to the changing conditions. This article described the experiences from their first steps from a large donor cooperation perspective.

This research asked what the current water governance issues are in this setting of collaboration. The opportunities identified include the potential for more accountable policy formulation at a closer level to the community, by leaders who are more representative and accountable to their citizens. On the other hand, the results indicated a risk that policy formulation and accountability of governance could go astray.

Overall, the first lessons from the collaboration between the local governments and the project indicate that collaboration with the RMs is possible, it is reciprocal, and is potentially fruitful for all partners. The RMs hold lots of potential and they have much to offer, as they are close to their citizens and seem to be eager to collaborate with reputable partners. The social accountability theme of water governance was regarded as one of the greatest risks for the water security in the RMs. On the other hand, much potential was seen (both by staff and RM officials) for water security in the improved policy formulation opportunities and capacity building at local levels.

The findings convey concern that integrated natural resources governance should also be socially integrative, to be able to address governance issues in a legitimate way in the new governance system. The findings indicate that further policy formulation and capacity building at the RMs (particularly in topics of water resources management, GESI, agriculture, disaster risk reduction and climate change adaptation) are necessary for improving the adaptive capacity and resilience. The RMs do not have these policies yet, as they are in their early stages, but they are under work. In the initial years, more technical back up to the RMs is needed for proper implementation. To succeed, all stakeholders collaborating with RMs should ensure front-loading of policy development, capacity building and technical support in the initial phases of collaboration with these new tiers of government. The paper discussed some good ways to do that, including a range of institutional and community capacity building and planning activities, with a strong GESI focus (Table 4). Provision of technical support in capacity building and policy formation to the fledgling municipalities is now crucial for securing safe water for all.

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ANNEX

The SWOT analysis scrutinized the main strengths, weaknesses, opportunities, and threats (SWOT) regarding water security and GESI in RM water governance. The analysis was based on the OECD multi-level themes of water governance, related to the principles of good water governance (OECD, 2011; 2015). Forty staff were divided into small groups, focusing on either water security in the RMs (two groups); or gender and social inclusion (two groups). Groups were asked to particularly consider the changes from the earlier governance structures (VDCs and districts) and the impact or potential impact on water governance. Participants were not given the framework in advance and were invited to give open responses. To assist with their group work they were asked to consider the following guiding questions:

- Strengths (current)
  - What makes RMs better than the old system?
  - Good experiences this far?
- Weaknesses (current)
  - What should be enhanced in comparison to the old system?
  - Bad experiences?
- Opportunities (future)
  - What is the best-case scenario for the RMs?
  - What are the untapped potentials?
- Threats (future)
  - What is the worst-case scenario for the RMs?
  - Where are the risks?

The responses were then grouped by the authors in line with the analytical framework – i.e. under each of the SWOT headings, they were grouped under the categories of Information; Administrative, Policy and Objective; Capacity; Funding; Accountability; and implementation.

The findings of the group work under each category were analysed in a qualitative manner and the findings presented in the main report. The quantitative SWOT analysis results from the GESI and Water Security groups are presented in the matrices below. The number of issues raised under each topic are presented, as a percentage of the total. The third column summarises the number of positive and negative aspects mentioned, indicating the positive (strengths and opportunities) and negative (weaknesses and threats) shares from all responses (i.e. a weighting of the issues as mentioned).

Ranking of issues evident in Rural Municipality level GESI in water governance

GESI					
Strengths		**Opportunities**		**+**	
Policy	29%	Policy	43%	Policy	33%
Accountability	25%	Accountability	21%	Accountability	24%
Capacity	18%	Capacity	14%	Capacity	16%
Implementation	14%	Implementation	14%	Implementation	14%
Information	11%	Information	7%	Information	10%
Funding	4%	Funding	0%	Funding	2%
Weaknesses		**Threats**		**-**	
Accountability	30%	Accountability	33%	Accountability	31%
Policy	24%	Policy	27%	Policy	25%
Capacity	18%	Implementation	20%	Implementation	16%
Implementation	12%	Capacity	7%	Capacity	13%
Information	12%	Information	7%	Information	9%
Funding	6%	Funding	7%	Funding	6%

Ranking of issues evident in Rural Municipality level water security in water governance

Water security					
Strengths		**Opportunities**		**+**	
Capacity	32%	Capacity	35%	Capacity	33%
Policy	23%	Policy	30%	Policy	25%
Accountability	16%	Implementation	25%	Implementation	16%
Funding	13%	Accountability	5%	Accountability	12%
Implementation	10%	Information	5%	Funding	8%
Information	6%	Funding	0%	Information	6%
Weaknesses		**Threats**		**-**	
Accountability	26%	Accountability	50%	Accountability	33%
Policy	26%	Capacity	25%	Capacity	22%
Capacity	21%	Implementation	13%	Policy	22%
Implementation	16%	Policy	13%	Implementation	15%
Information	5%	Information	0%	Information	4%
Funding	5%	Funding	0%	Funding	4%

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TRANSFORMATIVE ENGAGEMENTS WITH GENDER RELATIONS IN AGRICULTURE AND WATER GOVERNANCE

Stephanie Leder[1], Gitta Shrestha[2] and Dipika Das[3]

ABSTRACT

Despite frequent calls for transformative approaches for engaging in agrarian change and water governance, we observe little change in everyday development and research praxis. Empirical studies on transformative engagements with gender relations among smallscale or tenant farmers and water user groups are particularly rare. We explore transformative engagements through an approach based on critical pedagogy (Freire, 1996) and transformative practice (Leder, 2018). We examine opportunities to promote empathy and critical consciousness on gender norms, roles and relations in agriculture and resource management. We developed and piloted an innovative "Participatory Gender Training for Community Groups" as part of two internationally funded water security projects. The training consists of three activities and three discussions to reflect on gender roles in families, communities and agriculture, to discuss the gendered division of labour and changing gender relations over time and space, and to create empathy and resolve conflicts through a bargaining role play with switched genders. The approach was implemented in twelve villages across four districts in Nepal and India (Bihar, West Bengal). Our results show how the training methods can provide an open space to discuss local gender roles within households, agriculture and natural resource management. Discussing own gender norms promotes critical consciousness that gender norms are socially constructed and change with age, class, caste and material and structural constraints such as limited access to water and land. The activities stimulated enthusiasm and inspiration to reflect on possible change towards more equal labor division and empathy towards those with weaker bargaining power. Facilitators have the most important role in transformative engagements and need to be trained to reinterpret training principles in local contexts, and to apply facilitation skills to focus on transforming rather than reproducing gender norms. We argue that the gender training methods can initiate transformative practice with the gender-water-agriculture nexus by raising critical consciousness of farmers, community mobilisers, and project staff on possibilities of social change "in situ".

Keywords: gender, transformative practice, critical pedagogy, agriculture, water, participatory action research, social learning

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INTRODUCTION

Participation in resource governance has been considered highly important but the literature has not been short on demonstrating failures (Agarwal, 2001; Mosse, 1994; Mosse, 2004). Gender and other social inequalities remain in access to and control over natural resources such as water and land, and agriculture more broadly (Sultana, 2011; Zwarteveen and Meinzen-Dick, 2001). Feminists, researchers and policymakers have long been advocating for the greater inclusion of women in decision-making processes on natural resources (Agrawal, 2000). Several developing countries such as Nepal introduced a women quota in water user groups at the local level. However, there is a rising concern if gender equality could be achieved by simply adding women to user groups as this might not address power relations and structural inequalities (Shrestha and Clement, 2019). There is even a danger of antagonistic attitudes among community members and aggravated inequalities (Ahlers and Zwarteveen, 2009; Cleaver and Hamada, 2010; Zwarteveen and Neupane, 1996; Harris, 2008). In South Asia, gender relations are set within axes of other social and economic differences such as class, age, ethnicity and caste, which shape water access and irrigation management (Panta and Resurrección, 2017; Leder et al., 2017). These complex social relations are often hidden in mainstream water and agricultural research, government schemes and development projects. However, these are vital to understand in order to move towards greater inclusion in water resource governance and to address the unequal division of agricultural labor and decision-making (Leder et al., 2019). This is particularly of importance in contexts of climate change and rural out-migration of mostly young men, with an increase in labour burden for women accompanied by limited access to and control over water and other resources (Sugden et al., 2014). Addressing gender inequalities through open dialogue is essential for small-scale agriculture, water security and more inclusive water governance.

Despite frequent calls for transformative approaches for engaging in agrarian change, water governance and climate change by feminist and critical development scholars (Sultana, 2019; Nightingale et al., 2019) there are only few theoretically and empirically grounded approaches to transformative engagements which open up spaces to discuss opportunities for greater inclusion in water governance and agriculture more broadly. The literature on social learning is in particular insightful. Social learning is taking place through deliberative interactions amongst multiple stakeholders in which participants learn to work together and build relationships that allow for collective action (Cundill and Rodela, 2012; Rodela, 2013). The promotion of social learning in forest management groups has shown positive effects on multi-directional information sharing and collective action (Hegde et al., 2016). Creating 'contact zones' between different groups to meet and engage can reduce conflicts or redress asymmetrical power relations (Hegde et al., 2016). Furthermore, particularly gender-responsive participatory approaches have been considered as promoting socially-

inclusive and sustainable natural resource management practices (Elias et al., 2016). Morales and Harris (2014) suggest to draw attention to subjectivity and emotion for meaningful participation. Knowledge co-creation, empathy and a shifting sense of own subjectivities can promote new ways of relating to water resources and water infrastructures (Tremblay and Harris, 2018). Building on these insights, we see the need for empirically tested methods to deeply engage with context-specific gender relations in resource governance which address the unequal division of agricultural labour and gendered norms on mobility, speaking up and being heard.

We argue that approaches that build on critical pedagogy (Freire, 1996) and transformative practice (Leder, 2018) can initiate transformative engagements with gender relations in agriculture, natural resource governance and research. Critical pedagogy was developed by the Brazilian educationist Paolo Freire (1996) and builds on the concept of *critical consciousness*. Freire's pedagogy is oriented towards promoting social justice in which marginalised individuals can become transformative democratic citizens through reflection and dialogue and thus contribute to national development (Freire, 1996). We also draw on principles of *transformative practice* for sustainable development based on democratic and visual learning methods as developed by Leder (2018). The approach promotes critical thinking on controversal human-environment relations through visual methods and a weak framing in which the facilitator has less control over the communication of participants in order to encourage participation.

This paper explores opportunities for transformative engagements through the development, piloting and implementation of a "Participatory Gender Training for Community Groups" (Leder et al., 2016). The training methods are derived from principles of critical pedagogy (Freire, 1996) and transformative practice (Leder, 2018) in order to promote empathy and critical consciousness on the role that gender plays in communities' everyday lives, and to create opportunities for reflections on how to transform towards more equal gender and labor relations. The training aims at openly engaging with gender inequalities in small-scale agriculture, domestic labor and resource management institutions, e.g. in irrigation systems, or collective farming. We will exemplify how gender-focused activities and discussions provide valuable space for encouraging farmers to bring their own ideas and stimulate critical reflections and dialogue on gender perceptions and practices in their particular cultural setting while avoiding prescriptions based on particular "Western" view on gender relations.

In the next section, we review recent literature on gendered struggles in agriculture and water resource management. In section three, we address the importance of bargaining in the context of gender inequalities in natural resource governance. We then introduce in section four the approach of the "Participatory Gender Training for Community Groups", and outline our methods in section five. We will then present participants' response to the different training methods which 1) reflect on gender norms, 2) discuss

the gendered division of labour 3) create empathy through a bargaining role play with switched genders. We then discuss the role and perceptions of the community mobilisers and the process of facilitating and reinterpreting training principles in local contexts. Finally, we reflect on the opportunities and the challenges around shifting and reproducing gender norms through such social learning engagements.

GENDERED STRUGGLES IN AGRICULTURE AND WATER RESOURCE MANAGEMENT

The influence of gender norms and relations in managing natural resources such as agriculture, forests and water has been widely recognised in the literature (Meinzen-Dick and Zwarteveen, 1998; Agarwal, 2001). On the one hand, gender norms attach particular traditional feminine and masculine roles for women and men, on the other hand, changing rural dynamics such as male out-migration reconfigure gender roles and added responsibilities to women which were previously performed by men. While women carry a triple labour burden of reproductive, productive and community work in the absence of men in the villages, unequal resource access and exclusive spaces of decision-making hinder equitable use and management of natural resources. In opposition to men, women often have lower mobility and limited access to their husbands' social networks, and women receive lower recognition as irrigators than men. Thus, women have to repetitively request the pump owner for water and spend more time arranging irrigation than men.

One major policy measure to tackle gender inequality in agriculture and water resource management is the 33 percent reservation in water user associations in Nepal. However, evidence suggest limited impact of such policy due to failing to take into account social and cultural factors that largely shape an individual's access to resources and decision-making spaces (Shrestha and Clement, 2019). Feminists further stress the need for an intersectional analysis to demonstrate how differentiated access, use and control over water is conditioned by poverty, livelihoods, and landlessness (Harris, 2008). A gender analysis of the Chhattis Mauja irrigation scheme in Nepal shows that some women, despite being excluded from the management of the scheme's organisation, use the prevailing perception of women as physically weak to develop a privileged position for getting their irrigation needs accommodated without spending time participating in maintenance and meetings (Zwarteveen & Neupane, 1996).

Gender norms vary over time and space, and often put women at disadvantaged position affecting livelihood and well-being of women farmers adversely. Intra-household relationships have important implications on who takes part and who benefits from agriculture and water interventions (Leder et al., 2017). The exclusion of women from decision-making bodies has severe consequences in how interventions are shaped and resources allocated (ibid). Gendered vulnerabilities increase during water scarcity for household or agriculture use as women have to travel longer distances to collect

water which increases their workload (Gurung and Bisht, 2014). In the context of increasing male migration from the rural areas, research indicates increasing reliance of the left-behind women on male relatives to access information, services, and opportunities (Shrestha and Clement, 2019).

THE IMPORTANCE OF BARGAINING IN AGRICULTURE

Agriculture and the management of natural resources are linked with bargaining relations on and beyond the farm. Bargaining is an act of negotiation that uses power to achieve an outcome (Martin, 1992). At the intra-household level, bargaining power depends on an individual's fallback or a breakdown position (Agarwal, 1997). The fall-back position is determined by how well-off someone would be if the cooperation failed. A person having stronger fallback position has better bargaining power and often receives a better choices in the family (Agarwal, 1997). The process of bargaining can involve discussions, logic and arguments as well as comprises of subtle resistance such as emotional manipulation (Locke and Okali, 1999).

In agriculture, the meaning of bargaining power can be described as the ability of a person to use their agency to make a fair share of farm income or crop produce, as well as the ability to make choices related to it. Bijman et al. (2012) argued that agricultural value chains have persistent bargaining imbalances between farmers with their upstream and downstream partners. Farmers, particularly women smallholders, often have low bargaining power due to a lack of productive resources and low levels of literacy and numeracy knowledge (Dorward et al., 2003). In the Tarai area of Nepal, for example, traders who visit smallholders' farm to collect vegetables also allocate the price of agricultural products which has the effect that smallholders often bear a loss due to the traders' stronger bargaining power (Bastakoti et al., 2017).

Bargaining power is vital for both women and men farmers in their everyday activities. In farming, bargaining power becomes essential to manage tasks like the allocation of labour to various activities, including household, agriculture and wage work (Doss, 2013). Despite its importance, Agarwal (1997) noted bargaining power is subjective to individuals based on their gender and age, caste and experience. Women's bargaining power within a household is influenced by her education level, health, education of children and general wellbeing. In addition, women's active participation in agriculture is steered by socially constructed gender norms (Farnworth, 2011). Hoyt and Murphy (2016) explain that men tend to have better bargaining power while women feel less comfortable when it comes to bargaining. Hence, it is important to consider bargaining against the background of existing gender norms and power imbalances in particular contexts.

A NEW APPROACH: PARTICIPATORY GENDER TRAINING FOR COMMUNITY GROUPS

As researchers of an international research organisation[4], the first and third author developed a "Participatory Gender Training for Community Groups" (Leder et al., 2016)[5] to inform an internationally funded action research project[6]. The approach was developed to be used by Non-Governmental Organisations (NGOs) staff to hold discussions with community members and fellow colleagues on gender norms and relations. Furthermore, methods were used by researchers for a gender analysis.

The training methods are rooted in principles of critical pedagogy (Freire, 1996) and transformative practice (Leder, 2018). The key objective of critical pedagogy is individual liberation through promoting capabilities for individual development and the collective struggle for social justice (Freire, 1996). Freire considers transformation as a praxis which combines both reflection and action. Through dialogue, education becomes a democratic and emancipatory process, in which the oppressed are freed from their "culture of silence" (Freire, 1996, p.12). He suggests countering the social reproduction of inequalities through reflection and dialogue for an educational awakening. Freire developed teaching methods concerned with the actual experiences of rural peasants in Brazil and available material from their cultural background. This approach led to an influential social and educational movement to create empowerment through critical consciousness, "la conscientização" (Freire, 1996, p.17).

Transformative practice describes an intermediate, transitional form of engagement which aims to shift practices of social reproduction to practices of transformation (Leder, 2018). Unequal power relations such as gender can be addressed by drawing on principles of democratic learning theories (Dewey, 1916), participatory approaches (Bunch, 1995; Chambers, 1994) and network thinking (Vester, 2002) to develop a visualising and communicative approach to promote the interlinkage of diverse knowledge (Leder, 2018).

In this spirit, the training methods were developed to provide a space for farmers and staff to share their perceptions, to learn from another, and to engage

[4] The authors worked with the International Water Management Institute (IWMI), and the CGIAR research program "Water, Land and Ecosystem".

[5] The participatory gender training manual is published by Leder et al. (2016) and includes step-by-step descriptions for each activity and discussion, as well as tips for facilitation and pictures to use in the training. A 12' film documentary, webinar slides, and an interactive homepage of the implemented training can be found at https://wle.cgiar.org/solutions/participatory-gender-training-community-groups (last checked 8 Jan 2020).

[6] The research project was funded by the Australian Centre for International Agricultural Research, and was called "Improving dry-season irrigation for marginal and tenant farmers".

in a dialogue. To avoid imposing pre-determined social and gender values, space is provided for participants to come to their own conclusions by guiding them through reflections on gender and activities which promote empathy. This can lead to collective ideas evolving and a critical consciousness (Freire, 1996), which contributes to social change.

The objective of the Participatory Gender Training is to create a space for critical discussions on gender norms, roles and relations in agriculture and water and natural resource management groups. Participants are encouraged to reflect around their capabilities, value and belief systems in regard to existing gender relations in agriculture. The training aimed at bringing the fluidity of gender as a rather academic and development-oriented discourse into discussions with marginalised community groups. The training is designed to be culturally grounded and regionally adaptable through using local examples and pictures. The training provides methods

- to reflect on gender roles in families, communities and agriculture,
- to discuss the unequal division of labour and changing gender relations and across time and space, and
- to create empathy and resolve conflicts through a bargaining role play with switched genders

The development of the activities was guided by specific principles, objectives and methods (cf. Table 1). We developed three activities and three discussions for a three-hour gender training workshop for approximately 5 to 12 participants, which we will shortly introduce in the following sections.

Table 1: Principles, objectives and methods of the training activities

Principle	Objective	Method	Activity
Network thinking (Vester, 2002)	Extending and sustaining knowledge	Photo networks as visual input	1 - Boy or Girl 2 - Gender Position Bar
Identifying social constructions (Chambers 1994, Leder, 2017)	Demystifying ascribed gender traits and roles in the community (e.g. women's triple work)	Discussing reasons for boy or girl preferences	1 - Boy or Girl
Thinking on a Continuum (Leder, 2017)	Demonstrating the relativity of gendered labor division	Arranging agricultural labor on 5 varying degrees of women and men's involvement	2 - Gender Position Bar
Role switching	Raising empathy and awareness for the other gender's constraints	Switched gender role play with own bargaining story	3 - Bargaining Role Play
Participation and farmer orientation (Bunch, 1995, Chambers, 1994)	"local people to share, enhance and analyse their knowledge and conditions, to plan and act" (Chambers, 1994)	Farmers' choice of pictures, space for discussing own reasons, spontaneously integrating farmers' issues in the training schedule	1 - Boy or Girl 2 - Gender Position Bar 3 - Bargaining Role Play

The first activity "Boy or girl?" enables farmers to understand and discuss their own gender constructions. We build the idea on a similar activity in a gender training by the non-governmental organisation iDE (2015). Participants have to choose between a boy or a girl picture if they could decide their offspring's gender – given an imaginary medical condition which allowed them to have only one child. By giving reasons for their gender choice to the group, the activity promotes reflecting on own gender assumptions within the personal sphere as per "the personal is political". Ascribed gender traits and roles can be demystified through those participants who chose the other group, and a discussion may evolve.

In the second activity, the gendered division of labour was discussed with photos of different types of labour as visual input (Vester, 2002). The photos should reflect the local context so that the participants can relate their everyday life activities to it. The photos had to be placed along a "Gender Position Bar" (cf. Fig. 4). In the Gender Position Bar, pictures of different types of labour shall be arranged along a continuum of labour attributed as "only female", "mostly female", "both male and female", "mostly male", or "only male". This demonstrated the relativity of and changing gender divisions in reproductive and productive labour as well as community roles (triple work load), reflecting on women's tasks with a life cycle approach (Chambers, 1994). Participants are encouraged to describe, explain, discuss and arrange visual inputs in the form of pictures (Vester, 2002). The idea of a visual continuum builds on the didactic teaching method developed for a doctoral dissertation on Education for Sustainable Development (ESD) for India's formal educational system (Leder, 2018).

The third activity is a "Bargaining Role Play" to encourage bargaining between male and female farmers in switched roles. The role play challenges farmers to represent the other gender in a humoristic manner, and to act and speak like they perceive the other gender. Themes covered are balancing domestic tasks such as cooking and fetching water with agricultural tasks, landlord-tenant negotiations or in-law's working demands on daughter-in-laws. Participants are encouraged to opt for any situation, problem or story relevant to them to act on. Role-switching can promote empathy and awareness of the other gender's constraints without directly criticising current gender roles and relations.

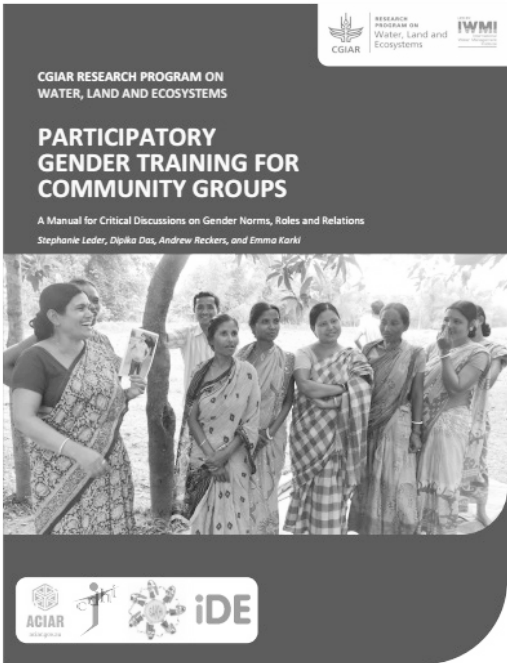
Guided discussions help connect the activities and provide participants space to ask questions and talk about gender norms and gender roles in their households and community. These spaces for discussions allow to spontaneously integrate any issues which farmers might bring up during the activities of the training (Bunch, 1995).

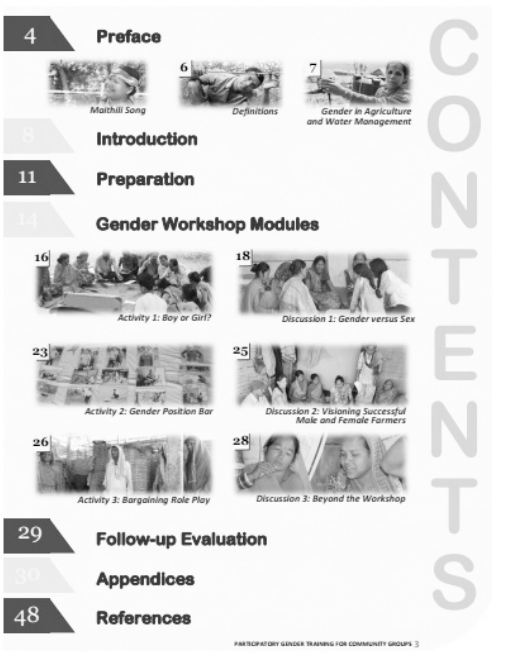
While the Participatory Gender Training laid out in a detailed manual (Figure 1) can be used any time to generate discussion and reflection on the role of gender in a community, there are four times when this specific training may be particularly necessary. First, when new projects are starting in villages and community groups are formed. In this case, the training can be used to sensitize field staff and farmers on

gender relations in communities. Second, when there are gender-related tensions in a community. This may happen often in communities where men are out-migrating and women are left behind. Third, when conducting participatory research to understand how gender effects community relations and practices in villages. Lastly, when project staff is working with communities. It can help to reveal one's own gender perceptions before addressing those directly or indirectly in villages.

After the implementation of the activities and discussions, facilitators and farmers can discuss opportunities to repeat these activities to observe whether their perceptions have changed. It is important to view this workshop as an initial engagement tool within a greater development process which can be linked to other project interventions. For this purpose, the approach can identify community-specific challenges regarding gender relations which shape developmental interventions in unpredicted ways.

Figure 1: The Participatory Gender Training Manual (Leder et al., 2016)





METHODS

The training activities were piloted and modified by two researchers in collaboration with project field staff and farmers in six villages in the Eastern Tarai of Nepal and Bihar and West Bengal in India. In these villages (Table 2), groups were formed by local partner NGOs as part of a larger action research project, and we were asked by the project team to develop a gender training for the groups to accompany other technical trainings which promoted horticulture, solar irrigation and other improved agricultural techniques. The trainings were conducted twice per village, twelve times in total. The training was tested with both female only (4 groups) and male only (1 group) as well as mixed gender (7 groups). Each group had a maximum of 12 farmers, whereas we noted much better communication happening in smaller groups of 6 to 8 farmers.

We employ action research methods in order to promote the co-creation of knowledge. We involved local field assistants and social mobilisers as supporting facilitators in the training. Before we conducted the training, we met with four support facilitators to prepare their roles in the training as well as to integrate their views on the training and modify it accordingly. During and after every training, modifications and variations were incorporated in the training structure, e.g. timings per activity were adjusted and instructions were changed or specified. The data collected was transcribed, summarised and paraphrased for each activity and discussion relying on principles of a qualitative content analysis (Mayring, 2002).

Table 2: Characteristics of the 12 groups in 6 villages in which the training was piloted (DSI4MTF Census Survey, 2015)

	Khoksar Parbaha, Saptari, Nepal	**Koiladi, Saptari, Nepal**	**Bhagwatipur, Madhubani, Bihar**	**Mahuyahi, Madhubani, Bihar**	**Dholaguri, Cooch Behar, North Bengal**	**Uttar Chakowakheti, Alidurpur, North Bengal**
Caste and gender composition of groups	1 x Tharu women group 1x Dalit and Muslim women group	1x Mixed caste groups women only 1x mixed caste mixed gender (Castes: Singh Mandal, Mukhiya, Dalit, Muslim)	1x Mixed caste Women only 1x Mixed caste Men only (Castes: Yadav Mandal Mukihiya Jha (upper caste))	1x Dalit group mixed gender 1x Mixed caste group mixed gender (Castes: Mandals, Brahmin Muslims)	2 x Rajbanshi mixed gender	2 x Scheduled Tribes (SC) mixed gender
Education	Mostly illiterate	Illiterate	Illiterate	Illiterate	Mostly illiterate	Mostly Illiterate
Age	35-49 years	25-55 years	30-62 years	18-58 years	18 – 60 years	24 – 55 years
Social structures in the village	Lower inequality among landlord and tenants, more equal community in terms of gender and caste	High inequality among landlord and tenant, Caste system Strong Patriarchy	High inequality among landlord and tenant Caste system Strong Patriarchy	High inequality among landlord and tenants Caste system Strong Patriarchy	Inequalities in landowners, tenants and agricultural wage workers, gender and caste inequalities	Lower inequalities in terms of gender and landownership, tribal village

Village remoteness and market access for women	Close to highway, periodic market at 10 minutes walk	Remote from highway, periodic market 15-20 minutes walk	Remote from highway, market and periodic market 20-25 minutes	Close to highway, Periodic market 15-20 minutes walk	Close to highway	Remote from highway
Women involvement areas	Household, Farm, market (home, farm and haatiya)	Household, farm, selling produce from farm and home	Household, farm, selling produce from farm and home	Household, farm, marginally also in selling to local traders	Household, farm, marginally also in selling to local traders	Household and mostly subsistence farming
Mobility opportunities for women	Independent and open: bicycle, motorbike, within the village and to the market	Partly Restricted: bicycle, city rickshaw	Partly Restricted: bicycle	Partly restricted: Bicycle autorickshaw	Partly restricted: Bicycle autorickshaw	Partly Restricted: bicycle
Irrigation access	Mostly ground water irrigation, tubewell and pumpset, solar	Canal irrigation, ground water using pumpset	Mostly ground water irrigation, tubewell and pumpset, solar	Mostly rainfed, lower level of ground water resources	Mostly rainfed, lower level of ground water resources	Mostly rainfed

After several modifications of the pilot version, the training was implemented as part of a different international development project[7]. 36 community mobilisers were trained for a day by two research consultants who were experienced in gender research and training. Afterwards, in two consecutive days, the community mobilisers conducted the training themselves in pairs with three mixed farmers groups in two villages in the Far-Western Nepal districts Dadeldhura, Kailali and Baridya. The implementation process was documented by the research consultants. In total, our empirical material draws from both project implementations totalling in 24 conducted trainings with 65 community mobilisers and field staff of 15 staff of different NGOs and government organisations in 12 villages, and approximately 200 farmer participants.

ENGAGING WITH GENDER NORMS IN A PARTICIPATORY TRAINING

In the following sections, we will present our observations of the training process and present results of farmers response to each activity.

Activity 1: *Boy or Girl?* Creating awareness on gender norms in the community

At the introductory state, the training aimed at creating a safe and comfortable space, and to raise awareness on local gender norms in the community. The training starts with an ice-breaker in which the participants sit in a circle on the ground and introduce the person next to them to the group. A few minutes are allocated to discuss in pairs. The pairs then introduce their partners to the wider group by name, age, number of members in the family, and the types of crops they grow. This interaction created a positive atmosphere, and first giggles were heard.

Figure 2. Step-by-step guide to the training activity "Boy or Girl?"

ACTIVITY 1: BOY OR GIRL? (30 MIN)

WHAT IS THIS ACTIVITY?
Participants describe why they would rather have a son or a daughter.

WHY IS IT IMPORTANT?
Participants discuss their own values that are attached to having sons and daughters. These will be critically reflected upon and explained as socially constructed gender perceptions in the discussion following this activity.

WHAT DO I NEED?
Pictures of man and woman (Appendix II), cardboard/index cards and markers for note-taking.

STEPS:

Step 1: Hold the picture of the woman at one end of the circle, while the other facilitator holds the picture of the man at the other end. The two pictures are shown here, and larger versions can be cut out in Appendix II.

Step 2: Explain: "Imagine that you spoke to a doctor and due to a medical condition, you can only have one child in your life. Would you prefer a boy or a girl?" (represented by the pictures of the man and the woman).

Step 3: Participants move and stand by the picture of the child that they want: a son or a daughter.

Step 4: The girl group and the boy group separately sit down in small circles. The facilitator asks them: "Why did you choose a girl/boy?" This discussion can be led by a facilitator, but make sure that you also pick someone to take notes of the discussion, ideally on a big piece of cardboard.

Step 5: Each group presents the reasons they picked a girl or boy to the rest of the participants.

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For the first activity "Boy or Girl?" (Figure 2), farmers chose whether they prefer a boy or a girl, if they were able to have only one child and were given the choice for the sex. This imaginary task required some effort to explain, as farmers initial reply

[7] The DFID-funded Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) "Anukulan" in Far Western Nepal.

often was: "God will give". In all groups, the farmers almost equally divided and moved to the two pictures of a boy and a girl which were placed at different ends of the room. In those two groups, local facilitators encouraged a discussion on the reasons why they prefer to have a boy or a girl. We found that the reasons mentioned for a particular gender could be organised into the four categories: financial security, lineage, gendered tasks and gendered traits. The examples (Table 3) demonstrate valuable insights how relevant the role of gender is within a specific community's beliefs.

Table 3: Reasons for participants' son or daughter preference

Category	Reasons for son preference	Reasons for daughter preference
Financial Security	**Income/remittances through migration** Sons can migrate abroad and bring good income. Son earns and supports parents during emergencies such as natural disaster (e.g. earthquake), they can migrate and send remittances, whereas if daughter opt for migration for job, she can fall prey to sexual and physical violence. **Dowry** The dowry of the son's bride contributes to the family's welfare.	**Religious belief** Daughters are regarded as goddess of Laxmi, so having girls, is considered as good source of income. **Education** If girls are educated, they can bring money like sons. **Gifts** Whatever is given during the wedding ceremony, this will come back to us during marriage, we will receive gifts from others during marriage and the daughter receives wedding presents.
Lineage	**Race** Sons continue the race as they stay in the family and pass on the family name. Social tag of '*aputro*' (those who cannot bear son) Discrimination within family and by the society in case there is no son at home. **Heritage/Property** Property is passed to the son and therefore it stays within the family; sons can buy land and build a house	**Developing Relations** Having a girl creates, extents and strengthens relations with another family **Daughters are important to bear children** **Receiving family honor** By marrying a daughter to another family, the in-law family will be honored for giving their daughter **Marrying = soul cleansing** When we marry daughters to a man, our (parents) soul will be cleared, as marrying is one of the best things to do in life.

Gendered tasks	**Ploughing, building, managing** Male manpower is required to work on the field. Ploughing can only be done by male, as a drought will come if female plough (based on a legend). Similar activities such as livestock management and building houses are considered male tasks. **Cremation** (*Daagbathi*) Sons can cremate parents and perform funeral rites. **Household help through daughter-in-law** The son will bring a daughter-in-law who will take care over cooking	**Household work** Daughters are responsible and help with all household work (cooking, washing, cleaning etc.) **Daughter-in-law** The son will bring a wife and they are disrespectful in behaviour, and the relationship between son and family gets worse **Caring/Devotion to parents** Daughters are caring and look after their parents. Daughters bring happiness and brightness at home. Daughters carry motherly love; they understand problems of the family, problem of other people. **Obedience/ Responsibility** Daughters come when we call them. Even if they are married, they come to their parents if they are old or called. Daughters respect culture. Daughters are important for Tihar, Teej and other cultural festivals. Daughters make family lively, son could not be trusted, he never stays at home.
Gendered traits	**Security and safety** Sons will stay with the family and look after the parents when they are old Son has strong physical built up so they can do hard work, whereas daughters have weak physical built up Society prefers son, it brings family honour. If son spent a night outside the house, it brings no shame. However, if daughters spend a night outside home, it defames the family. Daughters are soft in nature, become easily nervous; son can handle everything by ease.	**Discipline, honesty** Girls have discipline, boys quarrel and create conflicts. Daughters are important for positive society/cleanliness/education. The house with daughters are well managed, well decorated, they keep relations. They play important role and voice against negativities widespread in the society. Daughters are very honest. Compared to sons, daughters are more tolerant and patient. They can endure more hardships. **Looks and Decoration** Daughters look cute and can be decorated with ornaments and jewellery, and the sound of jewellery is a pleasure.

A range of disagreements between the "boy" and the "girl" group came up, and sometimes a discussion generated, if supported through good facilitation and open questions. Participants disagreed: "Girls can also earn!", "My son takes very good care of me!". This was the very intention of this activity: to shed light on the diverse gender norms on traits and roles perceived in the community, but also to generate an awareness that these are not generalisable and can be contradictory. The danger of this activity is that particular gender traits or roles become manifested instead of critically reflected upon. However, with appropriate facilitation and critical questions, these norms can be destabilised and reflected upon collectively. Respondents shared their experiences on how gender norms in communities have been gradually changing. For example, one participant shared how men who would help women at home are tagged '*jaitingre [nepali version of henpecked]*', which is slowly changing now. Similarly, women participants shared how changing gender and cultural norms such as disregarding 'Chhaupadi', the practice of untouchability during menstruation, is allowing more women to participate in education and economic activities. It was also shared that in few places women have also started challenging rigid norms and activities by engaging in ploughing, funeral rites, migration etc., which traditionally is performed by men. The discussion on the variability and change of gender perceptions promoted critical consciousness on gender norms.

Discussion 1: Sex vs. Gender

To generate further reflection on those gender norms, a short lecture of 5 minutes and afterwards a discussion was held on the differences between the biological "sex" and the socially constructed "gender" (cf. Table 4). As a response, several farmers shared their own perception why girls should be educated like boys, or how they can fulfill the same role as boys. The farmers were well-aware of the gendered restrictions to women and the need to challenge these, but the recurring reason named for this was social pressure and that "people will talk", and that it takes a long time to change the community's mindset. Examples to explain gender norms and roles by participants during the discussion were: "women are kind-hearted", "women milk cows and buffaloes", "men sit in the tea shop and chat" and "men plough, break stones and paint houses".

Table 4: Training guidance to explain the difference between biological sex and socially constructed gender

SEX	GENDER
Biological—Male and Female Inborn/ innate cannot be changed Examples: Only women can be pregnant and give birth Only men can supply sperm. Only mother breastfeeds her child Only women menstruate	Social—Masculine and Feminine Not inborn/innate, can be changed Examples: Women do domestic chores Men are breadwinners of the family Women wear sari/kurta Men plough agricultural land, drive tractor Women cut and collect grass

Activity 2: Gender Position Bar: Imagining shifts in the gendered division of labour in agriculture

The activity "Gender Position Bar" focuses on the gendered division of labour in domestic or reproductive tasks as well as agriculture, water and forest management. To understand and work with the gendered perceptions associated with particular tasks in these domains, every farmer choses one picture of a particular labor being performed, describes it in front of the group and places it along a position bar below one of the five varying degrees over women's or men's involvement (Figure 3): either as female only, mostly female, male only, mostly male, or conducted by both gender equally. The farmers had also to give a reason for their choice. This was particular important, as farmers were challenged to think beyond "it has always been like this". Most attributes given for male labour were "heavy/hard", "technical", "dangerous", "income-generating" and "energetic". Female labour was remarked as "low in production", "no skill needed", "caring", "cleaning", "better concentrating", "better vision", "time intense", "not difficult", "at home" and "calm". The reasons given for particular agricultural activities are listed in Table 5. This activity demonstrates valuable insights how relevant the role of gender is within the community's beliefs. Farmers were well-aware of the gendered restrictions to women and the need to challenge these, a recurring was theme of social pressure and the slow change of community's mindset.

Figure 3: Gender Position Bar activity

Table 5: Farmers response to the Gender Position Bar

Agricultural Task	Gender	Farmer's reasons for the task being gendered
Livestock	Mostly female	not hard work for female
Ploughing	Male	Not allowed for female, too technical, to respect women
Digging	Male	Now allowed for female, too hard, women are busy with household work
Irrigation/ Pump handling	Male	Too heavy, women are not strong enough to rotate the handle and its operation, too technical, only male have knowledge on electricity and current flow, it is too dangerous, an electric shock may happen, women's sari will get rolled into the wheel and this could lead to the death of a women
Transplanting	Both/ Mostly female	Men do not take care of plants, they are busy with other work
Weeding	Both	Only labour, no skill required
Harvesting	Mostly female	When production is less, female will do
Drying harvest	Female	Not much power and physical labour required, women have a better vision, it is related to caring and cleaning, women can better concentrate
Selling vegetables at the market	Both	if crop good, man sells, if not good and we have to sit for a long time, women do, mostly women, as they save money, men waste money, if they are free at home, some men engage
Money handling	Both	women sell, but women often can't calculate, then men
Buying seeds	Both	men used to go, sometimes if easily available, women also go, Women select well because they are working in the field
Tractor Driving	Male	rule by society, but it is driven by women in other countries, e.g. in Punjab, women can drive a small tractor and replace male farmers, do all their labour
Applying Fertiliser	Male	Difficult for women
Storage of crops	Female	Men are busy with income generating work, women work at home, women as they are more at home
Pesticides	Mostly male	Men have more freetime
Cleaning crops	Female	Male do not do the cleaning grains work because they are not good at concentration, they are 'Chanchal' highly energetic in nature so cannot stay still doing one thing. Women are by nature very calm and can do such things easily

Reproductive Tasks	Gender	Farmer's reasons for gendered tasks
Childcare	Mostly female/ both	Woman do it because they are more kind to children, men slap them. Such type of love and affection is not seen in a man; women are kind-hearted, when children are small, women show more affection to baby
Healthcare	Mostly female	smaller things women do, bigger outside travels men; men are mindless and not caring
Cooking	Female/ mostly female	Women do, because husband says: I married you, so you have to cook for me, men cook only outside or in exceptions, e.g. when wife is sick; women do rotis at home
Washing	Female	Male can only wash their own clothes if needed, but not wash for others
Vegetable garden	Both	Whoever is free

Discussion 2: Challenges for female and male farmers

Based on activity 2, farmers discussed in group work the challenges and opportunities for becoming successful male or female farmers (cf. Table 6). The prior mentioned gendered division of labour seemed to be a major problem for female farmers, as they have limited opportunities to plough, apply fertilizer, pesticides or irrigate. For male farmers, mostly structural constrains such as limited access or lack of irrigation, pesticides, fertilizers, crop choices, market prices etc. were listed. Opportunities were seen in trainings, group savings, discussions and learning from each other, and provided inputs such as seedlings, irrigation. This task showed that the farmers were well aware of the objectives of the projects, and the addressed challenges help being tackled through project interventions.

The challenge in this activity was to challenge participants to think beyond "it has always been like this" when they describe why a certain labour activity is a challenge for the other gender. Participants argued, for example, male tasks to be too "dangerous" and "heavy", while women's tasks "take time" and are "safe to do at home". Here is again a danger of reproducing existing gender roles which the facilitator can avoid by giving space for contradicting opinions within the group.

Table 6: Challenges and opportunities for female farmers

CHALLENGES FOR FEMALE FARMERS	OPPORTUNITIES FOR FEMALE FARMERS
• Not being allowed to plough • Household workload results in coming late to meetings • Not allowed to start water pumps • Lack of confidence • Lack of technologies • Illiteracy • Knowledge on market rates, crop insurance, access to local services • Work load	• Collective labour support through other farmers • Confidence to speak up in groups • Increasing cropping areas • Exposure visits, trainings and workshops • improved nutrition • access to government services, e.g. subsidy from District Agriculture Office

Activity 3: Bargaining Role Play: Switching gender roles to create empathy

The final activity was a creative role play in which some farmers took the role of the opposite gender in a bargaining act. The aim was that farmers become more conscious about the feelings of the other gender and thus create empathy for someone else's struggles. This activity was perceived as the most entertaining, and several farmers enthusiastically started to dress up as the opposite sex through shawls and headcovers. The farmers imitated typical dialogues, which would present the opposite gender in a stereotypical manner. For example, male farmers (played by females) were complaining that women were late to bring food, and yelling at them to quickly and nicely serve plates and water, while the female farmer (played by a male) was shy, excusing herself for being busy with a lot of household work and child care, and then quickly fulfilling the demanded tasks. The scenes the farmers played also indicated which aspects of behavior and communication they consider relevant to address, and the role play provided a safe space to do so.

Once farmers are sensitised on gender issues through prior activities, the bargaining role play gives them an opportunity to think about how do they perceive their opposite gender as a farmer and perform gender roles according to it. This has as a mirror effect because farmers can see how they are dealing with their partners when the group switches their gender and perform. This spontaneous role play of the training challenges farmers to think of and react to gender distinctive behaviours. The role play promotes creativity and fun by demonstrating asymmetrical gender roles on farms.

There are few requirements for a successful bargaining role play. First, as the role play is a spontaneous activity, farmers must be given sufficient time to develop their script

and plan their dialogues. In case the time to think the script is not adequate, it may lead towards less interesting or ineffective role play as the farmers might not be able to identify and prioritise the important gender issues. Second, not only identifying the gender issue becomes critical for farmers but also they must think on how the role play session could be an excellent opportunity for them to bargain on the gender issues they are suffering since a long and they had barriers to convey and discuss on it. The group role play gives farmers more autonomy particularly to women farmers to bring out important issue that would not be possible for them to speakup alone. Third, farmers may also bring upon the feel by using some props in the role play. For example, the role play in Kanakpatti village, women farmer when played a male farmer they had a *feeta* that is a long shawl on their head and to become a women they used their towel to cover the head as a symbol of *purdah* that women usually do to bring actual feel of changed gender roles.

On other side, as this role play is considered to bring out gender issues on farm, it might bring out some gender sensitive issues to the context. Such topics might invole challenging any gender taboos or religious belief on farm. Hence, facilitators of the training must play important role to become aware of the issue that is being brought up and take the time to discuss it afterwards.

Photo 1: Role play with changed gender roles

With a little help from the facilitators, this seemed the participants' favorite activity. Having random props (such as farm tools such as a spade, kitchenware, like plates and cups, vegetables etc.) may help generate ideas. In our workshops, women were excited to get a chance to tell men to bring them food and tea constantly, while men enjoyed covering their heads with a scarf and playing an obedient housewife. We

found that participants have lots of ideas once they realise that this is supposed to be a fun and light-hearted exercise. At the same time, some important realisations seemed to trigger thinking:

> "It felt weird to play a landlord and harass people older than me, it was good to have that power but at the same time he was an elderly person and I played a younger person's role." – Birkuti agriculture group, Gulariya, Bardiya, 14.11.2016

> "It's the first time playing a woman (for me), I didn't know how to speak as a woman, as a daughter-in law, it's difficult to attend meetings and walk in a saree as well." – male community mobiliser, Gulariya, Bardiya, 12.11.2016

After one bargaining role play, an elderly woman started to spontaneously sing a traditional Maithili song, and participants joined in or listened in awe (translated from the local language Maithili):

> "Your wife, son, is much bad-mannered; she broke her water pot and left for her mother's place.(...)"
>
> "She had slipped out and broke the water pot, what is the crime of my wife here?"
>
> "I saw a lady pouring tears from her eyes under the Bel Babur tree.(…)"
>
> "Come back my lady! Let's return home, let's return home. My mother has become old, will die shortly, sister will get married to her home, remaining will be my brother, I will separate him, we both will rule our regime."

This unexpected but deeply meaningful song revealed cultural connotations participants drew to the gender engagement on the ground – that is, injustices felt by a husband towards his wife, reproduced through his mother.

At the end of the training, participants are requested to reflect on their day long involvement in the training and if this discussion has succeeded to meet their expectations. The feedback should be reflected upon collectively and consider how to integrate ideas in future trainings.

THE ROLE AND PERCEPTIONS OF COMMUNITY MOBILISERS

Community mobilisers and project staff have the key role to facilitate the trainings, and more generally, are important for reaching out and interacting with the communities in rural areas, whether it is for mobilising farmers for collective action in farming, technology adoption, or knowledge sharing. However, community mobilisers rank lowest in project hierarchies, and often have to 'deliver' results such as functioning user groups or accompany project's technological implementations, often without having been trained on gender and social relations in communities. While being close to communities, there is a danger that they may reinforce existing gender and social inequalities in rural communities as they

are unaware of how power relations shape everyday lives. Limited gender awareness among staffs have been documented in many sectors including water and irrigation ((Udas and Zwarteveen, 2010).

During the training of community mobilisers on the principles and methods of the "Participatory Gender Training", all community mobilisers acknowledged that this was their first platform to be introduced to basic concepts around gender and intersectionality, and the practical implications of it on their everyday work. The majority of community mobilisers, both male and female, expressed positive learnings from the day long discussion. Many shared that they learned about the distinction between gender and sex for the first time. Such discussions, as the majority of community mobilisers shared, enable them to provide an understanding of why understanding gender relations is important for increasing agriculture productivity. For example, one community mobiliser shared:

> "*I learnt about sex and gender […] that gender is culture specific and its impact in agriculture sector. I feel that if both male and female should divide work equally, more benefits could be derived."* (*male community mobiliser, Gulariya, Bardiya)*

> "I learnt that change is possible. We have unequal workload and it should be shared equally. I will share this in community. I had the understanding that men and women share workload equally, I realised today that women bear more responsibilities." (male community mobiliser, Dadeldhura)

Some also reflected how the training helped them to reflect on their own positionality in relation to the farmers.

> "I did not have much knowledge on gender. I did not know we also practice this in the community. I learnt that challenges and opportunities are context specific. It is important to understand how change is required and is possible within ourselves. I will share and implement this knowledge in my project activities and with my community.(…) I liked the second activity. I realised that we practice discrimination in our own lives. So, I think I will try to apply this knowledge in my life" (female community mobiliser, Gulariya, Bardiya)

> "[…] It felt as if there are many things which I need to improve. So far we had learnt about gender only verbally however, through different activities and through photo activity, we experienced it practically. May be these activities could be effective at the community level." (male community mobiliser, Gulariya, Bardiya)

However, there were some participants who shared about their unmet expectations. Although they agreed that they gained knowledge on gender, sex and gender relations, their expectations that they will receive gender solutions to the problems they face in the community level remained unmet: "*We thought we will get the solutions of our problems [..] the problems we face at the community level."*

Especially the discussions helped them to realise how gender shapes their everyday practices and decisions. For example, at the personal level, examples were shared which indicated how gender is socially constructed, and how it is different across spaces and changes with time. Several participants shared these insights during the introductory discussions:

> "Change is gradual with increasing awareness. I have seen it in my society. Women have jobs, male do not have. So, in those situations, men are taking care of children and doing household work – may be 25%." (male community mobiliser, Dadeldhura, 4.11.2016)

> "Nature never formed caste division. Caste division was formed on the basis of occupation. For example, I am Brahmin, someone is Chettri and someone is Dalit. These divisions have been formed by the society." (female community mobiliser, Dadeldhura, 4.11.2016)

> "Society is different here. Here male and female both can say 'no' to conceive more babies. Couple bear children with mutual understanding." (male community mobiliser, Dadeldhura, 4.11.2016)

At the professional level, the discussion revolved around the challenges community mobilisers face while ensuring women's participation in the user groups:

> "In the village, it is difficult to convince women to participate in the meetings. They are very busy, especially in this season." (male community mobiliser, Dadeldhura, 4.11.2016)

> "Community and family support is important to make women successful farmers. Women lack time and income. These are the biggest challenges." (male community mobiliser, Dadeldhura, 4.11.2016)

Project field staffs are little equipped to address issues related to social and gender inequities, and they seldom receive opportunities to learn such skills through trainings. For instance, community mobilisers receive an orientation on community mobilisation in general at the time of joining but not a specific training on gender norms and relationships:

> "This is the first time we have gained this detailed knowledge about gender roles and relations. No one before has helped us to understand the concepts. We have never applied this in our work besides following instructions of including different representatives from different groups in the user groups." (female community mobiliser, Gulariya, Bardiya, 12.11.16)

Similarly, many shared that they had not realised the relevance of gender to the project beyond women's involvement in numbers. It was shared that before attending the training, it never occurred to them that gender could be linked to their work in substantial ways:

> "I learned that men and women need to understand each other's needs. I will now ask my husband

to work alongside and help me grow vegetables." (female farmer, Phulwari village, Kailali)

"I thought we would argue about gender differences but we discussed very specific things that were previously ignored- it forced us to think about it." (community mobiliser, Gulariya, Bardiya)

FACILITATING AND REINTERPRETING TRAINING PRINCIPLES IN LOCAL CONTEXTS

We observed that successful implementation of the gender trainings depends on excellent facilitation skills, group size and composition, and training locations which encourage a safe space for women and marginalised community members to speak up.

The facilitators should have both conceptual clarity on gender and power relations, and the expertise to adjust the gender discussions and activities to the specific local context. One challenge we observed is to find clear linkages of gender relations to specific agricultural and resource management practices relevant in the community. Most effective tools are pictures of agricultural activities from the community itself. In addition, local words need to be used to explain gender (e.g. "Laingik" in Nepali). Precaution should be taken not to confuse participants by using abstract concepts such as gender equality without referring to specific examples and to demonstrate in the activities and discussions how gender roles change and shape everyday lives.

In the introductory part, facilitators should clearly emphasise the objective and principles of the gender training. They may explain the training schedule, and the nature of targeted discussions to create a safe space to discuss and understand locally practiced gender roles and its possible impact on agriculture. Training facilitation should aim at minimising power differences in groups and maintain ethical conducts. Discussions on cultural, social and gender norms in any local context are very sensitive topics. Therefore, facilitators should be trained beforehand how to act neutral and discourage conflicts and controversial discussions. Specific facilitation skills to practice are asking open ended question, making appropriate probes, using words and language comprehensible to the participants, using life experiences and local examples, explaining the objective of each activity, linking the activities to discussions, and keeping discussions focussed on agriculture and gender roles.

We observed the important role of group compositions and small-sized groups to encourage good discussions. We experienced that a workshop can be effective with as few as 5 or 6 participants, but recommend a maximum number of 12 participants to ensure for everyone the possiblilty to participate and speak in the discussions. It is important to allow sufficient time to select participants of different age, caste, and class, as well as to form groups in which all participants feel comfortable speaking. To encourage women's participation in meetings,

crèches (daycare) for children or similar appropriate incentives may be arranged. The groups should ideally be mixed, but sex-segregated groups often allow for a more secure space to speak. The choice between mixed or single sex groups depends on prior interventions in communities and how much women feel comfortable speaking about these topics in front of men. If there is significant hesitancy among the women to speak up, then single sex groups may provide greater individual participation.

Finally, it is important to chose an appropriate place and time suitable for the diverse participants' needs. A place for the training should be well chosen, and open space with lots of disturbances, e.g. at religious places such as temple or a mosque should be avoided. The props such as clothes and utensils for the role play must be arranged beforehand.

CONCLUSION

Shifting and Reproducing Gender Norms

Gender equality is central to international development agendas such as the 2030 UN Sustainable Development Goals, both as a goal in itself (SDG 5), and as cross-cutting issue in goals such as "Zero Hunger" (SDG2) and "Clean Water and Sanitation" (SDG6). Yet, studies on transformative engagements with gender relations among smallscale or tenant farmers and water user groups are particularly rare. In this paper, we developed and tested methods based on critical pedagogy (Freire, 1996) and transformative practice (Leder, 2018). We found that these initiated transformative engagements with the gender-water-agriculture nexus because they raised critical consciousness of farmers, community mobilisers, and project staff on possibilities of social change "in situ".

The development and implementation of the Participatory Gender Training demonstrates that the training methods provide an open space to discuss local gender roles within households, agriculture and natural resource management. Discussing own gender norms promotes critical consciousness that gender norms are socially constructed and change with age, class, caste and material and structural constraints such as limited access to water and land. Visual, interactive and discussion-oriented training methods stimulated enthusiasm and inspiration for participants to further join gender discussions. Sufficient space to reflect on possibilities of change allowed rethinking practices towards more equal labor division and generated empathy towards those with weaker bargaining power. Such knowledge co-creation and empathy may promote new ways of human-environment relations (Tremblay and Harris, 2018). Particularly the bargaining role play activity provides opportunities to bring up relations of dependency and unequal power positions in a humoristic manner. What participants and facilitators learn may differ from workshop to workshop, but many participants left with new ideas about how gender impacts their daily lives, and how they might change those impacts.

This approach is different from already existing approaches as it is a theoretically led and empirically guided gender training which combines principles of critical pedagogy (Freire, 1996) and transformative practice (Leder, 2018). The reliance on those principles is important for social learning when it aims at addressing unequal power relations and promoting more socially-inclusive and sustainable natural resource management practices (Hegde et al., 2016, Elias et al., 2016).

Nevertheless, various challenges remain throughout the implementation. We observed several situations in which gender norms were further reinforced rather than critically deconstructed and shifted. To avoid this, a well-trained and skilled facilitator has to guide well discussions. Facilitators have the most important role in transformative engagements and need to be trained to apply facilitation skills to focus on transforming rather than reproducing gender norms. Furthermore, the approach is applicable to different contexts as long as training methods are reinterpreted according to local norms. This can be best done through using photographs of agricultural and domestic labor conducted in the village or region, and collaborating with local facilitators. Further research is needed on how to build and interact in relationships that result in collective action in diverse contexts of agrarian change or resource management conficts.

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ENHANCING WATER ACCESS IN NEPAL'S TARAI-MADHESH

Fraser Sugden[1]

AGRARIAN STRESS AND IRRIGATION IN *MADHESH*

The *Tarai-Madhesh* remains a region of Nepal with the outstanding agricultural potential – yet while there are pockets such as Chitwan which have seen widespread mechanization and increased productivity, in other parts of the region, cropping intensity remains below potential, yields are low, and the levels of growth fall far short of what was envisaged in ambitious documents such as Nepal's 1996-2016 Agriculture Perspective Plan (APP), and the later Agricultural Development Strategy (ADS).

The challenges facing agriculture in the region are manifold, including the pressures of climate change, loss of productive land due to speculative plotting and urbanization, intensifying inequalities, and out-migration. This opinion piece focuses on the challenges posed by access to water. Agricultural development in *Madhesh* is dependent upon reliable year-round irrigation. However, access to irrigation is in the most part, intricately connected to social structures rooted in the relations of production at the grassroots.

Irrigation in the *Madhesh* has evolved considerably over the centuries. The earliest forms of irrigation included large storage tanks or *pokharis* built by *jimidars* during the Rana era and earlier (Palanisami, 2012). Such ponds required the mobilization of significant amounts of labour which was

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only possible under a centralized feudal system. Canal irrigation was relatively underdeveloped, although there were exceptions such as the network established amongst the *Tharu* settlers on Rajapur island in the 1900s (Gill, 2016). Under the late Rana period, some of the earliest state funded canal networks were built in the *Tarai*, including the *Chandra Nahar* in Saptari in the 1920s and the *Juddha Nahar* in Rautahat (Dahal, 1997). In the post Rana era, a number of large canal systems were built, most notably the extensive Morang-Sunsari irrigation system. However, since the 1990s, canal irrigation has been beset with high costs and maintenance challenges. Canals also have suffered from levels of siltation and a breakdown in the management committees, particularly in the context of out-migration.

Set against these challenges, governments across Asia have over the last two decades moved the focus away from large scale canal investments towards expanding the extraction of groundwater, at least in the context of lowland and floodplain agro-ecological systems. While over-extraction of groundwater and declining volumes of aquifers remain a challenge across the Indo-Gangetic Plains, there are still areas where groundwater availability remains high and the potential has been underutilized, including the lowlands of Nepal. Hydrological analyses have suggested that in the Eastern Gangetic Plains, which includes eastern *Madhesh*, there is sufficient groundwater to allow up to 300% cropping intensity (three back to back cultivation seasons including two fully irrigated dry season crops), even if one accounts for current rates of groundwater withdrawal and recharge (Rajmohan and Prathapar, 2013). It has long been shown however that actual use of groundwater is far below potential, inspite of its importance in the government policy (Bhandari and Pandey, 2006). Cropping intensity in large portions of the *Madhesh*, alongside adjacent parts of Bihar, is very limited in the winter and pre-monsoon (Sugden, 2014; Sugden et al., 2014).

The primary challenge in accessing groundwater is not the availability of water, but *access* to water. Unlike canal irrigation, which is in effect a public resource, groundwater irrigation through shallow tube wells require *private* investment by the farmer. A person's capacity to irrigate with groundwater is intricately connected to their ability to invest in pumping equipment and the boring of wells. This is particularly significant given the deeply entrenched inequalities in landownership in the region. The relationship between the *Tarai*'s agrarian structure and irrigation was documented through a series of studies by the International Water Management Institute between 2012 and 2018 (Sugden, 2014; Sugden, 2017; Sugden et al., 2014).

THE AGRARIAN STRUCTURE OF EASTERN *MADHESH*

The *Tarai-Madhesh* is home to deeply inequitable agrarian structure, and this is all the more apparent in the eastern *Madhesh* between Parsa and Jhapa. In the region east of the Koshi, absentee landlordism is a significant challenge (see Sugden, 2013). During the Rana era, the *jimidari* system created a distinct landlord and tenant class. This was aggravated as vast estates were given out as *birta* to the hill nobility. While land reforms took place during the 1960s, this primarily affected the *Tharu* functionary class whose political role for the state became redundant with the collapse of the Rana era tax collection system. The more powerful landlords of hill descent were able to retain control over their holdings, yet they increasingly tended to look after them from the cities through a *kaamtiya* rather than live locally. Land inequality was aggravated by the purchase of land by people from Biratnagar for speculative purposes. Today the distribution of land remains deeply unequal. A farm survey including 3 villages in Morang found that a substantial 84% of land was under tenancy, while in two villages of neighbouring Sunsari it was 57% (Sugden, 2017). Much of this land was found to belong to absentee landlords from Kathmandu, Biratnagar and other urban centres – a handful of whom were the direct descendants of Rana era *birtawalas* or functionaries, with many holding considerable political power within the state apparatus. Most tenants were found to be *Tharu, Madheshi Dalits,* as well as marginalized *Tarai Adivasi* groups such as *Rajbanshi, Bantar* and *Santhal* – although it also included migrants from the hills driven by destitution.

In the Mithila belt, the agrarian formation was found to be even more complex (Sugden, 2017). There is some landlordism in regions such as the Koshi floodplains of Saptari. However, in large parts of Milthila, the 'traditional' upper caste Maithili landlord class is less powerful than it was in previous generations, due to both division of estates amongst sons and the selling off of land perceived to have limited financial value in the more peripheral districts of Mithila (in contrast to the Morang-Sunsari region which is in proximity to state power and large urban centres). Nevertheless, our research suggests it is in fact the medium sized farmers who have benefited from the break-up of landlord estates, rather than the tenant and marginal farmer majority. The analysis found that while tenancy was less prevalent than east of the Koshi, population pressure is acute, and many farmers own less than 0.5ha, and landlessness is growing.

AGRARIAN STRUCTURE AND GROUNDWATER ACCESS

Set against this inequitable agrarian formation, the constraints in accessing groundwater are acute. For tenant farmers in particular, they have limited incentive to invest in tube wells due to insecure tenure.

Tenants understandably are unlikely to invest in fixed irrigation infrastructure on land which doesn't belong to them. The crippling rent burden also constrains their capacity to cover the costs of groundwater irrigation. Even for smallholders with their own plots, investments in groundwater is expensive, with pump sets and the digging of a well representing a considerable expense. This is a particular constraint in regions such as Dhanusha-Mahottari where water tables are deep. In both regions, our research suggested that pump sets and irrigation equipment mostly belong to a small group of medium land-owning farmers (who is owning more than 1ha of land) – a group which mostly comprises well below a quarter of the farming population.

A final option for marginal and tenant farmers is to rent tube wells or pumps. However, the costs are high due to monopolistic pump rental markets and high diesel prices – a challenge also identified in Bhandari and Pandey (2006) in the western *Madhesh*. While the contribution from landlords could increase incentives for investment, our research found that in most cases landlords were indifferent – particularly those who were absentee. Furthermore, water is not always available when required, and water buyers generally only receive water after the owner of the water source has irrigated their own land. Access to groundwater is also aggravated by out-migration and feminization of agriculture – itself a product of persisting inequalities and agrarian stress. Women headed households have been shown to face specific gendered constraints in accessing water markets, with limited social networks and bargaining power (Karn et al., 2016).

CONCLUDING THOUGHTS

Effective groundwater irrigation has the potential to revolutionise agriculture in the *Madhesh*, but what this opinion piece aims to highlight is that an *integrated* approach is crucial – one which both addresses fundamental historical structural inequalities as well as the technical tasks of providing access to efficient and low-cost pumping technology. In the long term, radical land reforms are the only solution which can potentially facilitate sustained groundwater-led growth in agricultural productivity in regions such as Morang-Sunsari and other pockets of landlordism. This include a strict regulation of ceilings and control of absentee landlordism. However, any redistributive reform appears extremely unlikely in the current political climate. Not only has land reform all but dropped from the political agenda of post-conflict governments, landed interests are themselves deeply embedded within Nepal's political and bureaucratic apparatus (Alden-Wily et al., 2008).

In such regions where there is a no significant landlord class such as large parts of Mithila, the challenges to access groundwater remain the same. This includes the distribution of tube wells and pumping

equipment through farmer groups. This practice has already been pursued through some government programmes, yet the paperwork needs to be streamlined and the awareness of the opportunities must be expanded, particularly amongst the most marginal farmers. Furthermore, there is still a strong case for continued investments in public irrigation systems – which benefit all farmers, regardless of their socio-economic status.

Across the region, radical integrated approaches to sustainable, productive yet equitable agriculture require further exploration – these include developing farmer collectives, whereby groups of farmers can pool land labour and capital (Agarwal, 2010). This has been shown to offer promising opportunities for marginal farmers to pool resources, including irrigation equipment, and overcome scale and tenurial constraints to irrigation led intensification.

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LOCAL EXPERTS AS THE CHAMPIONS OF WATER SECURITY IN THE NEPALESE TOWN OF DHULIKHEL

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ABSTRACT

This commentary paper examines our local expert engagement methodology that we developed to understand water supply issues as well as to inform the direction of our action research conducted in Dhulikhel, a small town in Nepal. Through three years of field-based research at Dhulikhel, our inquiry uncovered a range of data 'gaps' and emergent as well as long-term conflicts around increasingly scarce water resources. To respond to this gap and contribute to inclusive water management, we developed and used a local expert engagement method, through which we were able to pool and mobilise a rich repertoire of hybrid knowledge from a range of local experts in Dhulikhel and others from nearby towns. The method of expert engagement was simultaneously linked to deliberations among local water stakeholders concerned with water supply management. Based on the lessons from this work, we argue that rich local expertise exists in water management and policy in Nepal, one that transcends the dichotomy between indigenous and scientific knowledge. We also show that as formal scientific knowledge becomes hybridised in different ways, this creates an important and actionable opportunity for advancing local science-policy processes to support water security agendas across the country.

Keywords: water security, water champions, expert engagement, Dhulikhel

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INTRODUCTION

Generating actionable knowledge for managing water and crafting policy has become crucial in the context of rapid socio-hydrological change, urbanisation and increasing uncertainty resulting from climate change. The Himalayas are commonly depicted as a region with scarce data for decision-making pertaining to environmental management, particularly at scaled-down levels, wherein 'data' typically refers to models and formal outputs of scientific research. Management and knowledge scales do not necessarily 'match' the topography of the issues they seek to address (Ahlborg and Nightingale, 2012), as is the case with water security issues and scarcity dynamics (Bakker, 2012; Rasul, 2014). Generally, water security literature has focused on either technology led solutions to water provision, or integrative, adaptive approaches, where the latter focuses on the lack of scientific knowledge, poor planning and governance systems as main factors responsible for escalating water insecurity (Cook and Bakker, 2012; Zeitoun et al., 2016).

With significant rural migration and urbanisation affecting the Himalayas, water access and allocation conflicts are on the rise, particularly between up- and down- stream needs, wherein complex inter- and intra- conflicts take shape (Jury and Vaux Jr, 2007; Xu et al., 2009). Our collaborative research has examined the effects of small-town urbanisation on water supply, ecosystem services and livelihoods across rural and urban gradients of the lower Himalayas over the past three years. Water scarcity is an everyday negotiated reality for households throughout the Himalayas, with access characterised and differentiable through socio-economic and cultural relations, gender, urban and rural geography, and historical planning and development processes that may determine individual households' distance from both water and formal decision-making (Bandyopadhyay and Gyawali, 1994; Merz et al., 2006; Sudhalkar, 2010).

These dynamics give rise to unique opportunities for experimenting with how the geographic and institutional particularities of knowledge production can be related to diverse stakeholders, where such links may ground claims to legitimacy and expertise in decision-making (Gautier and Kull Christian, 2015; Van der Sluijs et al., 2008). 'Science-policy interfaces' (SPIs) have been characterised as "dynamic learning environments" wherein interdisciplinary stakeholders and knowledge forms can come together to debate

and open up policy forms and directions (Tinch et al., 2018). However, engagement and momentum behind interdisciplinary SPIs have predominantly been at the international level, which mirrors researchers' production of a 'global' knowledge for global management forums (Ingold, 2012). This has arguably undermined the potential of productive engagements between research and local

practice, which includes questioning the relevance of 'global' knowledge at lower scales, and the masking of the ways in which the categories of 'science' and 'policy' are not separable but in co-evolution (Van den Hove, 2007).

This short research note paper presents our use of an iterative, participatory methodology to harness local experts and their expertise to contribute to the understandings of water supply issues and conflicts, as well as to inform and influence the direction of ongoing action research. Through two years of field-based research at Dhulikhel, Nepal, our ongoing inquiry uncovered a range of data 'gaps' and emergent as well as long-term conflicts around increasingly scarce water resources. Our small research team found that, after a short time, the research team themselves started to be identified as stakeholders in the highly politicised processes of development and negotiations around water management, and could not remain as objective, data-driven 'outsiders'. By negotiating and adapting a research path that was essentially that of neutral 'knowledge brokers', we gained increased insights and audiences for alternative pathways to water sustainability. We demonstrate how a rich hybrid knowledge pool engaged through research initiatives and local stakeholders can be brought into conversation with formal decision-making practices, and through these insights we advance the debate on the dichotomy between local and scientific, and explore contexts where formal scientific knowledge becomes hybridised for the making of local science-policy decision-making processes (see Pohl et al., 2010). Below, we explore both the dynamics of water management at Dhulikhel, and the ways in which community and research needs intersect and co-evolve over time.

DHULIKHEL'S WATER SUPPLY MANAGEMENT CHALLENGE

Like many small towns in the Himalayas, Dhulikhel is situated at the top of a mid-range mountain. The town has a history that extends over two hundred years, initially as a gateway point between Tibet and Nepal's capital city of Kathmandu, and recently as a major touristic and educational hub. It comprises a small core with indigenous Newari people, and a periphery of more rural and poorer settlements of other ethnic groups in the lower elevation and drier hill slopes. Dhulikhel is one of the three interconnected towns situated within the Kavre Valley, the other two being Banepa to its west and Panauti to its south. The town has always struggled for water access, as it did not have the fortune of a high mountain watershed to supply water, which is the case with some Himalayan towns. However, the town was able to locate, to the south-west of the city, two higher elevation mountain watersheds. Since the early 1980s, Dhulikhel has tapped water from the Roshi Khola, a small stream in Bhumidanda

Village Development Committee, located 14 kilometers southwest of the town. This ambitious project was made possible through a combination of strong local leadership, German technical assistance and the sympathetic political support the town received from Kathmandu. Being close to the capital city and with strong personal links to the royal family, Dhulikhel leaders were able to secure assistance for their drinking water project, the first of its kind in terms of being a community-led partnership for designing, building and operating the project.

Over the past few decades, the town population has grown steadily, yet with less than 20,000 people, it still remains a small town in the South Asian context. The town has emerged as a popular destination for tourism, education and health services which contributes few thousand people to its mobile population. It is also the district headquarters, with over 25 district level offices of the Nepal government. For several years, since the start of the Roshi drinking water project, Dhulikhel was able to supply the needs of its residents. However, with expanding urban demands and infrastructures, it has become increasingly water insecure. In particular, the town expanded rapidly with the establishment of Kathmandu University, hospitals, hotels and other industries. The city is also expanding to incorporate new rural areas, which are drier, more remote, and poorer, all needing more water. As a former Mayor narrates, Dhulikhel has three important functions now: blood, brain and heart: "We have the water supply system which is the blood; we have the University which is the brain; and we have a hospital, which is the heart". Yet the city water leaders are increasingly wary of growing water insecurity and a variety of initiatives are being undertaken to cope with these challenges.

STRUGGLES FOR WATER SECURITY

Water is governed through a complex ensemble of institutions representing five different stakeholder categories. First, water user groups include registered and unregistered groups of households working collectively to manage water supply, often located in the peripheral parts of the town. Second, the municipality is a key institution in terms of its supporting infrastructure. Third, district branches of the Nepali government exercise greater power in relation to district- level developments including water management, and there are at least four different water- related government offices in Dhulikhel: the District Soil Conservation Office, Division Drinking Water Supply Office, District Irrigation Office, and the District Water Resource Committee chaired by the District Administration Office. Nepal's water regulations also provide for the formation of a district water resource committee to represent the four government offices. These serve to regulate community- based water management. The Dhulikhel Drinking Water Users Committee (DDWUC), which

was established after the main water supply project was completed, is regarded as a well-functioning institution in Nepal by water stakeholders. The committee currently employs eighteen staffs, including an engineer who moved from the government role to the local community when the project was transferred to community management in 1994. As a result of the tumultuous political transitions arising from the Maoist war in the decade after the mid-1990s, a political vacuum started from this time due to a lack of formal leadership and a lack of local elections. In this context, the DDWUC emerged as an important political platform for local leaders. Through its long history of water management, Dhulikhel has been able to develop several leaders who proudly identify themselves as water champions and recall their struggles[5].

Dhulikhel's water security struggles can be broken down into five important dimensions. First, there exist inherent conflicts between the rural upstream and the downstream urban region, which includes Dhulikhel municipality as well as other neighboring towns. In the 1980s, the upstream communities agreed to provide water to the municipality in exchange for some development benefits, worth USD 2500 to construct a school building in the upstream community. The amount was paid by the Dhulikhel municipality and the water project. Initially, there was some reluctance from the upstream communities, but a few rounds of negotiations developed a compromise arrangement that included some benefits to upstream communities. However with political change, new leaders emerged who chose to defy the previous agreements. During a time of transitional politics, new authorities kept emerging and changing. A poster in the source village reads 'beware of water sellers', clearly expressing dissent towards local leaders who agreed to sell/enable

water access to Dhulikhel. Aside from local political dynamics, there has also been a concurrent national level constitutional discourse that favors local and indigenous control over natural resources, empowering local communities to assert claims over water and other natural resources. Such an empowered position to the rural upstream has been perceived as a threat by downstream urban (and rapidly urbanising) communities.

The second key factor impacting water governance has been the involvement of the Asian Development Bank (ADB), which has funded a government project (the Kavre Valley Integrated Drinking Water Supply Project) to set up a new pipeline from the Roshi watershed. The Bank proposed that Dhulikhel join a consortium involving two other neighboring municipalities, which is supported by efficiency and economy of scale considerations as well as the imperative to address wider regional water problems. Interestingly, the ADB has chosen

[5] Within the book by Bel P Shrestha.

water projects as a promising investment with the prospect of good returns and is now working with three municipalities[6]. There is still a significant lack of clarity around how this project work will unfold, and the project is investing in both technical and institutional aspects of development of the water system. These are likely to have impacts on existing management arrangements and tariff structures for the residents of Dhulikhel once the larger project is commissioned, but these details are still under negotiation.

A third important aspect concerning water security in Dhulikhel is the distribution of water between different categories of users, in terms of their economic status, geographic location and needs or types of use (mainly domestic versus commercial uses). In particular, strategies for allocating water between big industrial users and small household users have featured prominently in the water governance debate. People living at lower elevations and within poorer belts away from the water supply station complain that they have not been treated fairly in water distribution (many marginalised households cannot access piped water). Newly settling residents also complain about the high installation costs of connecting taps in their houses. There is a further contradiction between different uses of water. Dhulikhel water leaders have always argued that water is required for drinking, and the national water law also privileges drinking needs over other uses such as irrigation. However, distribution becomes complicated when trade- off decisions must be made between household consumption and commercial use allocations. More than two dozen hotels, a University with over 2000 students and nationally- reputed hospitals require significant amount of water for purposes beyond 'drinking', where these needs sorely test the capacities of the developed water supply system.

Fourth, the Roshi stream watershed supplying water to Dhulikhel and neighbouring municipalities is itself under threat, and the future of water security depends on how the watershed system is handled. A number of stone quarries have been established in the Roshi Khola watershed itself, driven by an opportunity to cater to the needs of Kathmandu and other neighbouring towns. There exist fears that the proliferation of these stone quarries will directly affect the water yield and quality.

[6] The Government of Nepal (GoN) with financial assistance of Asian Development Bank (ADB) is implementing the Secondary Towns Integrated Urban Environmental Improvement Project (STIUEIP). One of the important components of the STIUEIP is the Kavre Valley Integrated Water Supply Project (KVIWSP) with an objective to improve the water supply system in Banepa, Panauti and Dhulikhel municipalities. As a joint water supply scheme, the project is designed to divert 77.33 liter/sec of fresh water from tributaries of Roshi River: Muldol River (35 liter/sec), Sisha khani River (25 liter/sec), Baira Mahadev River (7.5 liter/sec), Gudgude River (5 liter/second) and Khar River (5.23 liter/second). After implementation of this project, the supply of water in all three municipalities will be regular and sufficient to meet the needs of the current population.

This is complicated further by the changing climate in the Himalayas and the attendant impacts on the hydrological system. Part of our research analysed climate data over the past four decades, which showed that the average annual rainfall is declining (although there is no appreciation of this in the local water planning debates; Dahal et al., 2019).

Finally, which institutional modality can work best to establish and promote a sustainable and equitable supply of water is a key issue highlighted by this case. Dhulikhel's water governance is neither state-managed nor private sector provided. It is primarily a community-managed system closely supported by the central and local governments. It has the potential to supply water at a reasonable price, particularly compared to private sector management, and is also more efficient than the government agency. But as one of Dhulikhel local drinking water user committee (DWUC) officers remarked: "we have to recover all costs of the water supply system from the tariffs, where discussions reviewing its level are extremely contested in the annual user assembly". To what extent users understand the technical and economic requirements of the supply system and agree to pay for the continual cost of upgrades and maintenance remains a critical issue. How other institutions, such as different levels of government, whether Municipality and Nepal government agencies, can better work with local communities remains an important question in understanding and furthering water security.

RESEARCH STRATEGY TO HARNESS LOCAL EXPERTISE

Our research project emerged from a project call from the UK's Ecosystem Services for Poverty Alleviation (ESPA) programme whose main goal was to investigate the link between ecosystem services and poverty alleviation. A core research objective was to undertake our research with the active engagement of local stakeholders which contrasted with the other seven research goals that aimed to analyse, understand, examine or assess relationships between people and water on-the-ground but were not co-production-led. The partnership with researchers from Southasia Institute for Advanced Studies (SIAS) added more interactive space for research than was initially planned in response to the ESPA call. The Nepal national partner SIAS had clear intentions to engage with water stakeholders and to ensure that the water governance debate remained grounded and practical/ practice-oriented during the research. In this context, Dhulikhel town was selected as a case study site as a result of our motivation to continually engage and demonstrate the results of research- based engagement on the ground, whatever these could be.

From the stage of initial site selection, we were aware that the question of water was a very sensitive one in the area (given the increasing dissatisfaction of the upstream community and the ADB project's plan to tap additional water for the downstream municipalities, and also perceived disparity

of access to water between the core and peripheral zones of Dhulikhel). In this context, our research started cautiously to avoid the research team being seen as taking a particular 'side' in ongoing debates and conflicts. Every actor was in a very reactive - and even defensive - mode when the water issue was introduced for discussion. An example of this was the vigorous criticism received from prominent water leaders when researchers attempted to bring the issue of unused spring sources into the town. This arose from an observation that several extant springs in the township had been discarded and were unused. When one of our researchers noted this, people in the town were unhappy (as it emerged that town leaders saw this observation as a conspiracy to thwart their plan to tap more water from the upstream Roshi river).

Immediately after the initial data collection during 2014 - primarily through key informant interviews and the review of archival documents - it became obvious that there was a clear sense of water insecurity in the downstream urban areas (involving Dhulikhel Municipality and beyond), and that the water supply system installed in the 1980s was not only aging but also becoming insufficient to meet these newly arising (and growing) demands. In this context, the ADB project promised to work with the government and municipalities to bring additional water to the thirsty urban settlements. However, we found that this effort was itself contested. We realised that stakeholders were taking positions based on prejudices and only partial knowledge of the facts. This was in part an important source of inspiration to our team to gather data from every angle and present analyses of these to all concerned stakeholders. We organised three stakeholder meetings in which we presented emerging research findings. These meetings brought contesting stakeholders together, mediated by relatively independent research groups, and in a discussion setting that was primarily founded on data and evidence around water availability and access. These meetings were also crucial to communicating our approach to the stakeholders – that we aimed to undertake analyses without "taking sides" in the ongoing debate.

During these meetings, we were asked a number of practical questions, primarily related to hydrology, geology, and to biophysical aspects of the watershed. A major knowledge gap that we confronted was related to the link between climate change and water yield, the effects of upstream quarrying and land use change impacts on Roshi river flow, and the ways to conserve and recycle water. Many of these questions were outside the scope of the project, but as an interactive research project, we considered these seriously. For some questions related to climate change, we invested effort to gather data and analyse available data, but for others, we elected to turn to local experts. A variety of water institutions have existed for decades, if not centuries, in the case of community- based groups, with many experts still resident in

the water management landscape, who range from community water managers to formally trained professionals and administrators working within government agencies.

Too little national-level data exists and even fewer studies have been conducted on the topic of hydrogeology, climate change and water management in the areas surrounding Dhulikhel. At the same time, our interviews with key informants revealed that there were quite a few people who had accumulated knowledge on various aspects of water management. With the intention to address these information gaps, we organised a roundtable through which we were able to pool knowledge from various experts. What we found from within this community was a blend of disciplinary academic training and rich practical experience with institutional memory. The workshop involved three components: a briefing by the research team, a field visit, and then a roundtable discussion. All together 15 experts from diverse fields participated in the workshop over the course of two days.

A multi-disciplinary team of geologists, watershed experts, soil and hydro-meteorological experts participated in the workshop, as well as researchers from SIAS. The SIAS research team shared an overview of the study area and some findings and issues of the study site. After the presentation, experts visited the upper Roshi watershed where they managed to observe the complex land use of the upstream areas, made up of villages, stone quarry sites, agricultural land and water mills. In addition, experts managed to discuss and meet with the local water millers, stone quarry laborers, farmers and local people.

From the many questions, we focused on pooling knowledge around water yield potential in the Roshi watershed in view of all the different types of development interventions and land use change. The focus was on how changes in stone quarrying, agriculture, forestry, rural-to-urban migration, governance and impacts of natural disasters affected the watershed and the flow of the Roshi river. In the post-field trip roundtable, experts discussed what type of planning was essential for watershed management and how this forum could be further developed as catalyst for enhancing the water security in the region. One of the co-authors moderated the meeting.

RESEARCH OUTCOMES AND LESSONS

Our research in Dhulikhel developed a significant local engagement component through time. This was in part driven by the local research partnership and in part by our reflective approach to research, with the space granted for methodological adaptation. In a more fundamental sense, we were inspired by the action research epistemology in the language of Kurt Lewin: “You cannot understand the world

unless you try to change it" (Lewin, 1945). One of the co-authors had significant prior experience and research work on critical action research in Nepal, and the Principle Investigator of the research also had strong connections to the study region. In fact, over time the entire research team became intimately engaged in the practical discourses affecting Dhulikhel and its surrounds through repeated interactions. It was almost impossible for us to simply collect data and leave the community without reciprocating, at the very least, by sharing our insights back to them. It was indeed this desire to engage that underpinned our subsequent idea to plan and design a series of stakeholder workshops and also an expert workshop.

As we progressed through the research, we confronted a number of questions that were beyond the scope of the project, where in addition, there was no pre-existing science or research that we could draw from (e.g. impact assessments about how geology is likely to be disturbed by stone quarrying and subsequent impacts on water). Confronted by these dilemmas, we decided to turn to a range of local experts who had very different epistemologies yet possessed considerable practical and applied experience. Our work with a range of 'hybrid' experts was revealing, especially when invited to observe the research context and when we forged a dialogue between our own research team and the local expert community. These insights arose largely as outlined earlier, we experimented with a specific methodological framework for this two-way dialogue so that we could actively incorporate the issues-based and contextual observations identified by our invitees into the research design. We began to conceptualise this approach as engaged research that was informed by local experts' observations of the field, yielded and prompted through roundtable and informal discussions and wide stakeholder engagement.

It is hard to attribute any distinct, easily identifiable 'outcome' to our research work in the area. However, our interaction with a number of stakeholders confirms that the interactive research process, including the expert roundtable, has led to a number of changes in the water governance debate itself. Our ongoing presence and mediation has led to the amelioration of some elements of conflict, such as between up- and downstream areas, the recognition by local leaders of the merits of research and how research findings and evidence may inform their decision-making, which is matched in turn by a continued willingness on behalf of the municipality to explore alternative sustainable water options.

With time, our approach became increasingly interactive. Yet, in terms of methodology, our research framing did not provide enough space to engage with local stakeholders. This was the limitation of the project, mainly imposed from the funding agreement and our own motivation to engage with the scientific peer community. For example, while undertaking field work,

the need to remain neutral at times limited our ability to critically interrogate more contested domains of water governance. The research also demanded strong skills in both research and social engagement and mediation, and it is difficult to find such skills in one or even a few persons in the Nepalese context. Despite an explicit engagement strategy at the beginning and some diversity in research approach among the team members, the actual research process was reasonably adaptive, and there was good level of freedom to field researchers to adapt research process in a responsive way. The constant feedback from the field team and reflections helped to enhance the appreciation, among the entire team, of the importance of engagement and stakeholder consultations towards the middle of the project.

An important outcome of our engaged research in Dhulikhel is that stakeholders have now become more open to alternative ideas and options for securing water. From water leaders to government planners and international support agencies – all initially seemed to presume that Bhumidanda spring water was the only source of water security for Dhulikhel. Alternatives to this upstream source had not been explored. However, there are options such as rainwater harvesting, and local residents also see hope in the numerous small spring sources at different locations in the township. Commercial water users may also look at ways of recycling water. Kathmandu University has already demonstrated the feasibility of this, but the issue of up- and out- scaling needs to be further explored.

One thing that is clear is that despite a complex institutional landscape, there is still limited effort in generating and harnessing the knowledge needed to ensure water security by any of these institutions. Under an already variable climate with the growing threat of climate change, Dhulikhel and its neighbouring towns (which draw water from Roshi river) need more robust planning, management and national policy support to achieve water security and to catalyse new development initiatives that can help harvest water from other sources. But moving away from one dominant approach requires broad-based water security planning nurtured by interdisciplinary science, enabling state policies, and politically accountable local leadership.

The forums we created and experts we brought are fraught with political issues, which could hardly be addressed in such a limited time frame. The view of the knowledge holder greatly varies according to their institutional position. For example, an expert serving in the government administration tended to emphasise the data and knowledge that would result in greater government control over resources. A disciplinary expert had strong tendencies to challenge another (forestry versus water). Experts who own businesses requiring huge amounts of water tended to overlook the social justice and access dimensions of water management. One way to handle

such positionality is to have a research team with good orientations and skills to reflect each approach (in the sense of Pierre Bourdieu), and any process to catalyse local expert learning processes should also entail a component to generate empowering data for people already disadvantaged or locked out of the decision-making process.

CONCLUSION

Linking science, research, common sense and political reasoning is required to achieve a fair institutional arrangement for water security, and engaged research and local expertise can provide much needed knowledge to help water stakeholders in the Himalayas to plan for water security that go beyond 'data scarcity' and 'down scaling' narratives. This commentary paper has reported our use of an iterative, interactive methodology to harness local expertise contributions to an understanding of water supply issues and conflicts, as well as to inform and influence local water planning and governance. Our research attempted to open up space for informed dialogue while also recognising our own roles and positionality as knowledge brokers within the local water management landscape. The process of project development, reviewing management options, and addressing new institutional needs is ongoing but our interventions and engagement have altered some of the pre-existing relationships and power dynamics between stakeholders in the region, and have facilitated conversations that were not already taking place. While these might be seen as less purposive and ongoing science-policy-practice interface, as researchers, we did not have a preferred policy or institutional solution to the water security challenges of the region. Our strategy demonstrates the potential of knowledge-led interventions in the Himalayan context, where interactive and iterative research can create spaces for new, hybrid, pragmatic and at times critical and creative forms of knowledge and expertise around water management and policy. This means that the best form of knowledge to start serious conversation around water security could be neither scientific nor policy but be composed of a bricolage, a combination of rich institutionalised and hybrid forms of knowledge and practices of learning that are common in most urbanising regions in South Asia and the Himalayas.

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