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Power interplay between actors: using material and ideational resources to shape local adaptation plans of action (LAPAs) in Nepal

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ABSTRACT

Deliberation over how to adapt to short or long-term impacts of climate change takes place in a complex political setting, where actors' interests and priorities shape the temporal dimension of adaptation plans, policies and actions. As actors interact to pursue their individual or collective interests, these struggles turn into dynamic power interplay. In this article, we aim to show how power interplay shapes local adaptation plans of action (LAPAs) in Nepal to be short-term and reactive. We use an interactional framing approach through interaction analyses and observations to analyse how actors use material and ideational resources to pursue their interests. Material and ideational resources that an actor deploys include political authority, knowledge of adaptation science and national/local policy-making processes, financial resources and strong relations with international non-governmental organizations and donor agencies. We find that facilitators and local politicians have a very prominent role in meetings relating to LAPAs, resulting in short-termism of LAPAs. Findings suggest that there is also a lack of female participation contributing to short-term orientated plans. We conclude that such power interplay analysis can help to investigate how decision making on the temporal aspects of climate adaptation policy takes place at the local level.

Key Policy insights

- Short-termism of LAPAs is attributed to the power interplay between actors during the policy design process.
- Improved participation of the most vulnerable, especially women, can lead to the preparation of adaptation plans and strategies focusing on both the short and long-term.
- It is pertinent to consider power interplay in the design and planning of adaptation policy in order to create a level-playing field between actors for inclusive decision-making.
- Analysis of dynamic power interplay can help in investigating climate change adaptation controversies that are marked by uncertainties and ambiguities.

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Introduction

The frequency of climate-induced extreme events such as floods, droughts and landslides has increased in Nepal (Aksha, Juran, & Resler, 2018; Aryal, 2012). To reduce the impacts of these climate-induced events, the government of Nepal has been continuously preparing a set of progressive and forward-looking climate plans and policies (Vij, Biesbroek, Groot, & Termeer, 2018). Policy efforts include a national adaptation programme of action

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(NAPA), national adaptation plans (NAPs), and local adaptation plans of action (LAPAs[1]) that are designed to respond to community adaptation needs. LAPAs in Nepal are considered to provide a unique model for implementing adaptation strategies on-the-ground and bridging the gap between autonomous and planned adaptation[2] to reduce long-term climate risks (Regmi & Bhandari, 2012; Watts, 2012).

However, studies of local adaptation activities show that LAPAs are short-term in nature (Jones, Champalle, Chesterman, Cramer, & Crane, 2017; Ziervogel & Zermoglio, 2009). There are three main arguments in the literature why this is the case in Nepal. First, there is a lack of data at the sub-district level due to Nepal's topographic complexities, which make it difficult to project future climate scenarios at the local level (Mainali & Pricope, 2017; Tiwari, Kar, & Bhatla, 2018). Adaptation measures are therefore planned based on community knowledge, perceptions and expert engagement, without including reliable future climate scenarios and extreme event forecasting. Second, the LAPA framework has a large emphasis on implementing development activities and building low-cost infrastructure, such as small water storage tanks and gabion walls[3], to reduce the impacts of extreme events (NCCSP, 2016). Such initiatives may not necessarily contribute to long-term adaptation needs and reducing future risks. Third, LAPAs in Nepal are funded through international donor agencies in a project mode for a short period of 2–3 years (Regmi, Star, & Leal Filho, 2016). Financial limitations and shorter time duration of projects do not support long-term transformations (Burch, Shaw, Dale, & Robinson, 2014).

Apart from these arguments, the literature suggests there are underlying interests and priorities of actors that shape the short-term nature of LAPAs (Chaudhury et al., 2016; Funder, Mweemba, & Nyambe, 2018). During the process of designing LAPAs, actors interact with each other to pursue individual or collective interests creating dynamic power games, where certain interests are heard, and others are neglected (Dewulf et al., 2009). For instance, political actors attempt to prioritize tangible development activities as measures for short-term political gains by using authority, knowledge and financial resources (Morrison et al., 2017; Nawab & Nyborg, 2017). Such continuous power interplay influences how temporal issues are discussed and implemented on-the-ground. These debates add to the existing discussions about how national level adaptation policies focus on long-term adaptation, and LAPAs on short-term adaptation measures.

In the adaptation literature there is, however, a lack of empirical evidence of how such a dynamic power interplay takes place. There are a number of adaptation studies in least developed countries using a power perspective to study adaptation. For instance, Nightingale (2017), Nagoda and Nightingale (2017), Ojha et al. (2016) and Eriksen, Nightingale, and Eakin (2015) emphasize that institutions and organizations struggle over authority and recognition but overlook the process of human interactions between actors for shaping or reshaping adaptation policy efforts such as LAPAs. These studies provide limited insights into how actors use resources interchangeably and how their usage of resources can change with varying situations and over time. In this article, we want to address this gap and focus on dynamic power interplay, particularly how actors interact and deliberate to actually influence the design of LAPAs.

This article therefore aims to answer the following question: *how does power interplay among actors influence the design of LAPAs towards short-term (reactive) adaptation planning in Nepal?* The question is answered through interaction analyses and observations made during the ongoing policy design process to revise the LAPAs (see supplementary material, sub-section 2).

The remainder of this article is divided into three sections. The next section operationalizes the power interplay between actors, explaining material and ideational resources as key concepts. The methodology section introduces the Nepal case, data collection methods and analysis. Section 4 presents the results, discussing the role of different actors and resources used or not used during power interplay. Lastly, in the discussion section, we further interpret our key findings and propose concrete suggestions to support adaptation policy design processes and how to study these processes.

Operationalizing 'power interplay': deploying material and ideational resources

In this article we focus on what is happening during an interaction between actors, thereby theorizing power as an interactional phenomenon that forms a fundamental part of human relations (Rollins & Bahr, 1976). We take a relational construct to argue that power relations between actors are relations of struggle and competing frames

(Rein & Schön, 1996). Power is instituted dynamically in an interaction by the responses of other actors (Thornborrow, 2002). Throughout the article, we use the term 'power interplay' to grasp and explain relational and dynamic power. We define 'power interplay' as a dynamic interaction between individual policy actors who may represent groups, offices, governments, nation-states or other human aggregates tied in a certain relationship at a given moment (influenced by Dahl, 1957; Hayward & Lukes, 2008; Krott et al., 2014).

Power interplay can be studied by analysing the material and ideational resources actors have at their disposal and use in decision making (Avelino & Rotmans, 2011; Van Hulst & Yanow, 2016). For instance, subject expertise and authority used by an actor can shape the outcomes of a meeting (Purdy, 2012). Assigning roles to an actor can steer the process of the meeting in a certain direction. Similarly, some actors or groups are not able or allowed to participate in the interplay, as organizers or facilitators have the power to open up and close down policy processes (Torfing, Peters, Pierre, & Sorensen, 2012). Participation in policy processes is often governed by certain actors and may exclude participants who do not confirm to their norms (Young, 2002).

More specifically, *material resources* refer to financial capacity and human resources. Material resources are used by actors to influence policy processes through the availability of staff and finances, and by creating authority of certain actors over others (Orsini, 2013). Material resources can be of a structural nature (Fuchs & Lederer, 2007), but are used in interaction with other actors. Importantly, material resources can provide actors with agenda-setting and decision-making power during an interaction, along with power to exclude or include actors or ideas (Fuchs & Glaab, 2011).

Ideational resources refer to the ability to master, adapt and utilize ideas, knowledge and information, which enables actors to influence the policy design process (Orsini, 2013). Ideational resources consist of cognitive and normative dimensions (Carstensen & Schmidt, 2016). We refer to cognitive resources as technical aspects of the issue at stake. For example, a climatologist might use rainfall and temperature patterns to make a convincing argument that the climate is changing. Normative resources are the underlying values of knowledge used by an actor (Schmidt, 2002). For instance, to make cognitive knowledge accepted in

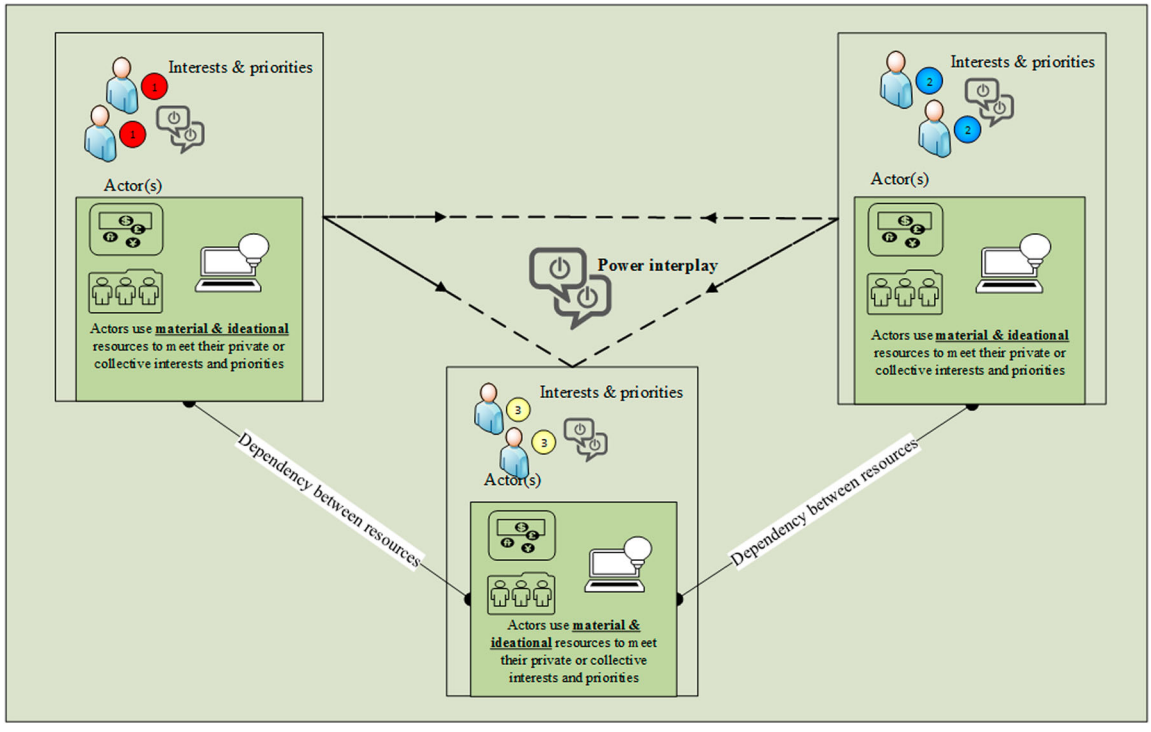

Figure 1. Power interplay between actors to discuss the temporal dimension in LAPAs.

society, actors might use a more relatable narrative, appealing to values and norms that resonate with the general public. Material and ideational resources are interdependent and are used simultaneously during interactions between actors.

In Figure 1, the green box represents the dynamic power interplay between actors with different interests and priorities in a policy arena. During the interactions, actors use material and ideational resources to influence each other's point of view, for example about focussing on long-term or short-term adaptation. In this article, we define *long-term* considerations as the ones that are intentionally planned, are for a period of more than 10 years, and include future challenges and needs (Pot, Dewulf, Biesbroek, van der Vlist, & Termeer, 2018; Vij et al., 2017). For example, climate policy integration with energy policy is a long-term consideration (Dupont & Oberthür, 2012). We define *short-term* considerations as those that are autonomous, generally for only 1–5 years and are project oriented. These are referred to as coping strategies (Smit, Burton, Klein, & Wandel, 2000).

In the process of interaction, actors can make use of both material and ideational resources in different configurations. For instance, an actor who wants access to material resources might cultivate specialized knowledge (an ideational resource) that other actors do not possess. With such an ideational resource, the actor gains more visibility and authority (material resources). Actors often exert more power with the coupling of material and ideational resources (Dare & Daniell, 2017). Clearly, material and ideational resources can strengthen or possibly weaken the power of an actor. For example, the success of a political campaign can be manipulated by using material and ideational resources, such as frequency of messages sent, media publicity and other costly public relations strategies. Whilst if the public has a general distrust for the political actor, investing material resources can negatively damage his/her reputation (Fuchs, 2005).

We selected Nepal, a least developed and climate vulnerable country, as a case region where efforts are ongoing to design and implement local adaptation measures. The following section will elaborate the context, rationale for case selection, data collection methods and analysis.

Methodology

Context

Nepal lies between India and China, accounting for 20% of the Himalayan area (Mittermeier et al., 2004). Analysis of historical disaster data shows that the frequency and intensity of disaster events are increasing in Nepal (Aryal, 2012). There are various climate-related hazards that impact Nepal such as cloudbursts, floods, droughts, landslides and wildfires (Pathak, Gajurel, & Mool, 2010). In response to these climate-related hazards, Nepal has prepared its National Adaptation Programme of Action (NAPA, 2010) and National Climate Change Policy (CCP, 2011). CCP (2011) and NAPA (2010) set the overarching frameworks that guide implementation of adaptation through LAPAs.

Apart from experiencing changes in the climate, Nepal is going through drastic political fluctuations. Nepal is a new democracy with rapidly changing administrative structures and an evolving constitution. With these changes, local level governance has been allocated more financial and administrative decision-making power (Payne & Basnyet, 2017). The previous focus of integrating local adaptation needs into national plans and vice-versa has to change under the new administration, as more emphasis is placed on local level decision-making and budgetary allocations. Consequently, Nepal's climate change support programme (NCCSP) has decided to change the design of LAPAs.

As part of this process, policy design meetings were conducted at both rural and urban municipality level, including in Dailekh district (Figure 2). This is one of 77 districts, located in the mid-western region of Nepal. According to climate change vulnerability mapping (NAPA vulnerability mapping, 2010), Dailekh district falls under the high vulnerability category (Figure 2), continuously facing the increasing impacts of floods, landslides and drought. Dailekh was selected due to a prior implementation of LAPAs and is the only government supported (NCCSP) LAPA pilot district (for socio-economic and cultural information on the case region see supplementary material). As the findings of these meetings will directly influence implementation of the national adaptation policy of Nepal, it is a logical choice for us to study the meetings in Dailekh district.

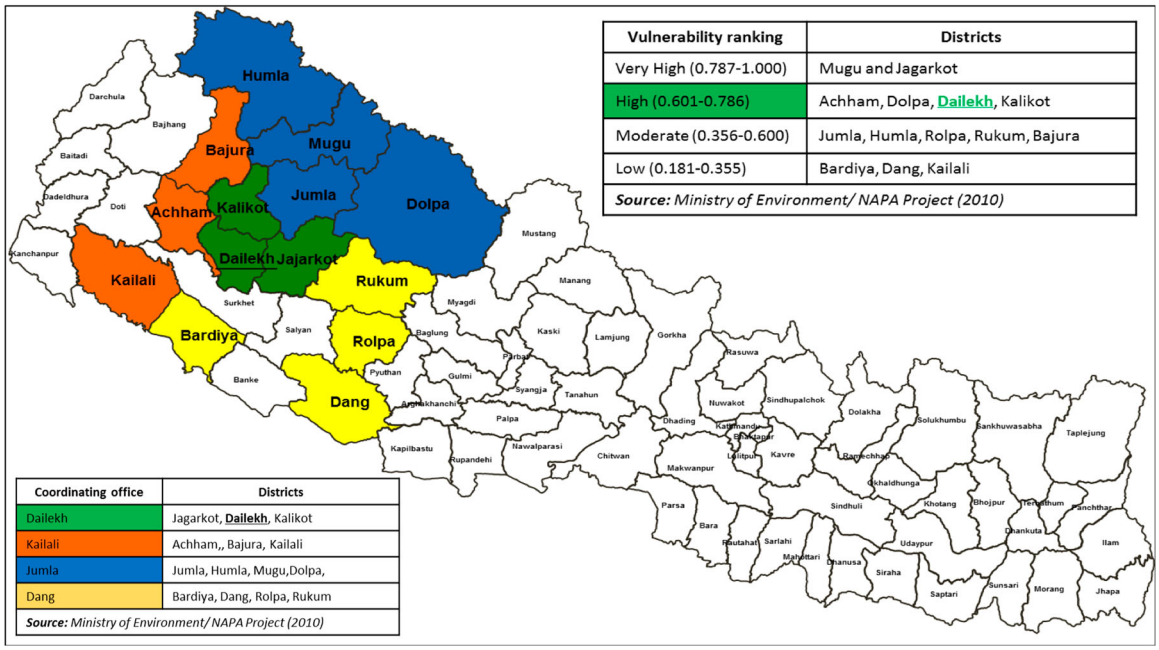

Figure 2. Climate vulnerability map of Nepal (Dailekh district underlined). *Source:* Nepal climate change support programme (NCCSP).

Data collection

To study the local level power interplay, we participated in a community meeting at the rural municipality level ($n = 1$), ward level meetings within the urban municipality ($n = 2$), a municipality level meeting ($n = 1$) and national level meetings ($n = 2$). These meetings were held in September 2017 (see Table 1). For the purpose of this article, we recorded discussions of the meetings, with almost 60 hours of data. While making observations, detailed notes were taken during the meetings about agreements, conflicts or conflict of interests on the issues of adaptation, disaster risk reduction, and temporal aspects (short or long term). Interactions based on the temporal aspects of LAPAs, type of adaptation activities to be implemented through LAPAs, and future risk reduction scenarios were noted. Key adaptation measures were focused on the agriculture and water sectors. Drought and flood resistant seeds, change in cropping patterns, and construction of check-dams and storage structures to reduce the negative impacts of climate change were considered as adaptation measures. We used the data to identify key moments that could help us to unpack the power interplay. These moments are based on excerpts that were extracted from the transcripts to highlight power interplay between actors.

The excerpts presented in the findings section were chosen based on at least two out of three criteria. First, the excerpts should relate to the temporal dimension of climate change adaptation or disaster risk reduction. Second, they should represent the interplay between the actors based on their ideational and material resources. Third, they should be a part of continuous conversations (minimum three responses), where actors deploy their ideational and material resources to contradict or consensually agree. Based on the criteria, we analysed the six meetings.

Data analysis

We analysed meetings using the interactional framing approach or interactional co-constructions approach, where we try to capture how different actors negotiate meanings or influence each other during an interaction (Dewulf et al., 2009). The interactional framing approach considers framing to be the dynamic enactment and shaping of meaning in ongoing interactions. Actors often have competing frames and they use material and ideational resources to influence other actors' frames and subsequently actions. The analysis is based on the

Table 1. Meeting details, purpose and participants.

Sr. No.	Meeting details (date and place)	Mentioned purpose	Types and number of participants*
1	National level LAPA design meeting – 20 November 2016 – Kathmandu, Nepal	To share lessons from experience of LAPA implementation so far	LAPA design team[a] (including facilitators); INGO participants; national level government officials; observers; intergovernmental bodies such as ICIMOD; Donor agency members. **Total participants = 32**
2	Urban ward level meeting – 5 September 2017 – Dailekh district, Nepal	Disaster risk assessment; inform participants about NCCSP –II and LAPAs	LAPA design team (including facilitators and community mobilizers); community members; local bureaucrats; local politicians; observers. **Total participants = 26**
3	Urban ward level meeting – 6 September 2017 – Dailekh district, Nepal	Disaster risk assessment; inform participants about NCCSP –II and LAPAs; future adaptation needs; adaptation prioritization	LAPA design team (including facilitators); community members; local bureaucrats; local politicians; observers; LAPA design team (community mobilizers). **Total participants = 17**
4	Rural ward level meeting – 7 September 2017 – Naumule rural municipality, Dailekh district, Nepal	Disaster risk assessment; inform participants about NCCSP –II and LAPAs; future adaptation needs; adaptation prioritization	LAPA design team (including facilitators); community members; local bureaucrats; local politicians; observers; LAPA design team (community mobilizers). **Total participants = 26**
5	District level meeting – 8 September 2017 – Dailekh, Dailekh district, Nepal	To share lessons of the pilot of LAPA process in Dailekh; future adaptation needs; adaptation prioritization	LAPA design team (including facilitators); community members; local bureaucrats; local politicians; observers; district level elected bureaucrats and politicians; LAPA design team (community mobilizers). **Total participants = 30**
6	National level LAPA design meeting – 21 September 2017 – Kathmandu, Nepal	To share lessons of the pilot of LAPA process in Dailekh	LAPA design team (including facilitators); INGO participants; national level government officials; observers; Donor agency members LAPA design team (community mobilizers). **Total participants = 40**

*No of participants are based on the registered participants at the beginning of each meeting.
[a]Design team includes facilitators, representatives from international non-governmental organization, local consultant, consultants hired by donor agencies and community mobilizers.

transcripts of the discussions and the observations made during the meetings. The analysis was conducted in two steps. First, we identified agreeable or disagreeable interactions related to the temporal dimension of LAPAs. Second, we selected excerpts of such interactions to show how actors arrived at the (dis)agreement over short-term adaptation planning, by analysing the use of material and ideational resources in deliberations. For example, we analysed how certain actors were dominating the discussion using their position or on the basis of who gets to speak first in the meetings (based on authority), gender, the setting of the meeting, and language used. Along with the analysis, observations are used to interpret the power interplay between the actors.

Results

In this section, we present key results of our analysis from the above-mentioned meetings (Table 1). Each subsection is structured as follows. First, we set the context of each meeting, followed by the excerpt of the interaction between the actors. Tables 2–4 below highlight material and ideational resources deployed during the interplay in each interaction. Lastly, we interpret the interplay based on the excerpts using our conceptual framework.

Different interests and priorities of actors

At the beginning of meeting 2, a facilitator presented a general description of past adaptation efforts in Nepal. The setting of the meeting was formal, chaired by a ward level politician, with allocated speaking time for all the invited key actors. After setting the context, the meeting proceeded with risk assessment exercises. During the discussion on LAPAs, two competing frames emerged that led to the formation of two groups. The first group (Group 1) outlined the debate around the importance of LAPAs and how can they support the communities in reducing the

impacts of climate-induced landslides and floods in the district. Climate adaptation measures discussed aim to return the community to the same or higher level of well-being as they would have if the climate or environmental impacts had not happened. The first group included facilitators, consultants, representatives of international non-governmental organizations (INGOs) and some local politicians. The second group (Group 2) was inclined towards development activities required in the ward. Development activities refer to strategies that are pre-requisite for human well-being, without considering the impacts of climate change and disasters (Wiggins & Wiggins, 2006). This group included local politicians, retired local bureaucrats and community members.

Excerpt 1:

Facilitator[4](Group 1) --> … We here specifically want to discuss about climate change-induced disasters. As previously mentioned by you all, there are three major disasters – landslide, flood and drought. Through your input, it looks like that these disasters have affected agriculture, livestock and water availability in the ward. Most affected groups are Dalit [lower caste people], poor, single women and people whose houses are on the hill slopes. Is this correct?

Facilitator aims to confirm from the participants.

Local politician (Group 2) --> Yes that is correct, but we can solve this problem. There are barren lands in our area, I saw in Ilam district, there were no barren lands. We have plenty of empty land in the schools, can we not plant trees there? It can create better studying environment in school for students and teachers.

In response to the local politician's (group 2) answer, the facilitator said:

Facilitator (Group 1) --> Since, the government/ donor agency is giving the money to spend on climate-related disaster activities; we have to focus on climate change issues, rather than on development activities such as planting trees in schools …

The two groups used different material and ideational resources to influence each other about different framings of adaptation and the purpose attached to LAPAs. The facilitator uses his specialised knowledge on climate change and disasters management (ideational resource – cognitive), the formal setting of the meeting (material resource), preparation of the meeting and the questions to influence the other actor to keep the discussion focused on disaster management (ideational resource – cognitive). The local politician uses his political authority (material resource) to influence other actors to agree with his proposed solution, oriented towards development activities, as he inherently wants to show tangible results by using adaptation funds for planting trees in the school. The above excerpt shows that the local politician opts for development-oriented strategies, while the facilitator is focusing on disaster management. However, neither is focusing on long-term adaptation planning nor discussing the future impacts of planting trees. Further, it can be argued that planting of trees can increase the adaptive capacity of the local community, but there was no discussion of this. Instead the explanation by the local politician was to create a better environment for students and teachers to study and the facilitator in his question was specifically concerned about the more vulnerable groups in the ward.

In excerpt 1, the facilitator immediately shifted the onus onto the government and donor agency. With his response, the facilitator overpowered the local politician by using the knowledge of funds and policies (ideational resource – cognitive). The facilitator brought back the focus of the meeting to LAPAs but showed disapproval of the intentions and framing of development activities pushed by the local politician. The facilitator did not use this opportunity to shift the discussion from long-term development to long-term adaptation. The interaction between the two groups of actors demonstrates how material and ideational resources are used simultaneously. The facilitator is using both ideational (adaptation knowledge and norms of LAPAs) and material resources (formal setting of the meeting) to overpower the argument of the local politician, who is only using the material resource (positional authority).

As the actors in the two groups use material and ideational resources to influence each other, we could observe power interplay between the two groups and how it influences the discussions around LAPAs.

Is the LAPA preparation process just window-dressing?

Meeting 3 was organized at the urban ward level, focusing on risk assessment and to understand the adaptation priorities of the community. During the meeting, communities indicated that they are affected by multiple

disasters including floods, landslides and droughts. During the exercise, participants prioritized landslides as the most important. As there were few local community members present, facilitators discussed government planning processes and expectations of the community with local politicians.

Excerpt 2:

Facilitator --> Sometimes community doesn't understand our theme. Our focus is to identify soft measures that can be used for adaptation and disaster risk reduction. Adaptation planning is lacking within the community. We have to go on at urgency basis rather than long-term and short-term plans, as long-term cannot be planned by community. Local people have existing knowledge, so we can mobilize them for immediate or short-term. It is a bit different from developmental works and focus is more on climate change. We take climate-induced disasters such as flood and landslides and we try to focus on the activities which may help reduce the risks from climate-induced disasters. First, let us divide the households into four risk categories.

The participants started to categorize the households.

Local politician, ward 6[5] --> We have finished the categorization, the results suggest that 80% of the community members are vulnerable to landslides, for which there is a need of large investment for slope stabilization and repairs. (Figure 3, see supplementary material – Appendix A)

Facilitator --> Can you all re-check the categories, as most of the people are in the high risk? Please do a similar categorization based on economic status and assets.

Local politician, ward 6 --> "We have categorized the households into four risk categories – low risk, medium risk, high risk, very high risk. But we cannot do it again, we are leaving the workshop, as we have more important things to do during the day" (Figure 4, see supplementary material – Appendix A)

Facilitator -->We will continue the categorization of the households. Let us finish it quickly.

The facilitators acknowledge the importance of participants' local knowledge, but do not agree that they can be part of the long-term adaptation planning process. Facilitators argue that the local communities do not recognize complex government policy processes and intricate donor agency norms. Facilitators consider their knowledge and experience (ideational resource – cognitive) of working with donor agencies and government to be notable as compared to communities' experience of adapting to a changing climate. The facilitators conclude that knowledge on climate change adaptation and future planning is low among participants. With such a strong opinion, the facilitators fail to engage with the participants in long-term adaptation discussions. The interaction shows that the claim (ideational resource – normative) of the politician to bring large infrastructural investment is valued and supported by the community members. As soon as the politician leaves the meeting, the community members followed him. However, the facilitators continued to complete the exercise with a couple of participants (Figure 5, see supplementary material – Appendix A).

The facilitators during meeting 3 wanted to assess the risk among households and capture tangible adaptation strategies, which can be implemented through LAPAs to reduce the impacts of floods and landslides. However, with 80% of households falling under the high-risk category, the LAPAs will have to invest in large protective infrastructure. This seems to fall outside the scope of LAPAs, as these aim to provide support to only soft and small interventions to improve the resilience of the communities. The difference between what people expect and what is anticipated by facilitators represents a conflict of interests.

Table 2. Material and ideational resources deployed for power interplay during meeting 2.

Actors	Material Resources	Ideational Resources	Dynamic power interplay
Meeting facilitator	(1) Formal setting of the meeting	(1) Knowledge of climate change induced disasters (cognitive); (2) Prior preparation of the questions to keep the other actor and the discussion on disaster reduction (cognitive); (3) Knowledge of the requirement of funding agencies and government agencies (cognitive)	• Interplay is between two framing of adaptation – development vs. disaster risk reduction. • Simultaneous use of material and ideational resources by facilitator shows the dynamic interplay.
Local Politicians (Group 2)	(1) Authority	–	

Facilitators requested the participants to redo the categorization, keeping in mind each household's socio-economic status. This was done in order to complete the set tasks and to achieve pre-defined results of risk categorization. The facilitators are using a defined process (material resource) to steer the meeting, even if the majority of the participants disagree or do not participate in the process. The facilitators are using their authority (material resource) and knowledge about policy processes (ideational resource) to design the LAPAs for Nepal.

On the contrary, when the local politician felt that his claim of bringing large infrastructural investment was not given importance, he left the meeting and other community members followed (material resource). It seems that such meetings with only a few powerful participants cannot be successful. LAPA meetings should be conducted with multiple stakeholders, especially with strong community representation to discuss both short and long-term adaptation strategies.

Overall, it became clear that the design team including the facilitators had already decided that LAPAs are for short-term and small investment adaptation measures. During the interplay the facilitators overpowered the local politician and local community, using both material and ideational resources.

Participation by women in long-term adaptation planning

In the below excerpt, we show the design team's structural power over the policy design process. This demonstrates how the design of LAPA meetings can shape power interplay, and conversely helps to explain the inclusion and exclusion of certain actors and their ideas in the meeting. Inclusion or exclusion of actors is either influenced by (non) usage of material and ideational resources, or due to the organizers' intention of including and excluding actors using material and ideational resources.

Meeting 5 was inaugurated by the municipal chairperson of Dailekh. Municipal level politicians and bureaucrats were present at the meeting. In the opening speech, the municipal chairperson emphasized the importance of focussing on climate change and the role of communities in reducing its impacts. The chairperson also specifically mentioned that bringing in women's perspective is very important for adaptation planning. Women are highly dependent on the land, water and forest resources for everyday household chores and also have rich experience in planning of these resources.

After the opening speech, the local consultant (also a facilitator) presented the municipal officials with preliminary findings about the LAPA design study. During the presentation, the municipal chairperson interrupted with a question on female participation in the LAPA design meetings. A presentation slide indicated that there was low female participation in the ward level meetings.

Excerpt 3:

Chairperson, Municipality --> It looks like you have not included tribal women of ward 11 in your designing process.

Consultant --> We could not find them in ward 11.

Chairperson, Municipality --> But it seems that you all did not even go to tribal habitation, there are some tribal women in ward 11. It is important to include them in the planning as they are one of the most vulnerable and are highly dependent

Table 3. Material and ideational resources deployed for power interplay during meeting 3.

Actors	Material Resources	Ideational Resources	Dynamic power interplay
Meeting facilitator	(1) Control over the process of the meeting	(1) Knowledge of LAPA design process (2) Knowledge about adaptation policy-making process (cognitive)	• Interplay between actors for (dis) agreement of different implementation strategies to reduce the risk of climate-change induced disasters • Actors using different material and ideational resources in the same meeting
Local Politician	(1) Authority to decline the request of the facilitators to continue participating in the meeting	(1) Claim for large infrastructure investment agreed by the public (normative)	
Community	(2) Ability to decline participation in the meeting	(2) Knowledge on disaster risk in ward 6 (cognitive)	

on the forest, water and agriculture. Men have migrated from villages; therefore, women need to participate and can plan for the future …

Consultant --> But we have the say of the local representatives of ward 11 in our discussions.

The participation of women was never brought out as a concern in LAPA design meetings. It was discussed because the municipal chairperson could clearly see the unequal participation and he could use his authority (material resource) to make this point. The design team was always steering the meetings (material resources) and the issue of participation by women was never discussed. During the district level meeting, the design team was overpowered by the authority of the chairperson.

Low participation by women can be related to two factors. First, not enough time was spent on mobilization and awareness about the planning meetings before the workshops, which might have raised women's participation. During a national level meeting, participation constraints were discussed, highlighting that there was not enough time and money for community mobilization. It was also observed that there were only two male community mobilizers for the pilot period. Second, as men have migrated from rural areas, there is an increase in household workload on women that does not allow women to participate in the workshop for long hours. In a few workshops where women participated, they could not stay for the entire duration of the meeting, because of household responsibilities. This represents low material resources at the household level for women, resulting in low participation.

It was also observed that women barely interacted during the discussions. Men, using their position in society (material resource) could easily overpower women, not providing enough chances to speak during the meetings, and limiting the discussion towards their ideas of development needs and short-term adaptation planning (See Figure 4, see supplementary material). The participants list shows that female participation in the meetings was low, and from lower caste as compared to the men, further making it difficult for women to be part of the interplay.

With limited participation by women, the male representatives from the community were able to participate and pursue their interests. The interests of women were not discussed, nor were they part of the power interactions. Lack of material resources for women have led to no power interplay between the female participants and other actors. Based on this premise, it can be anticipated that men with interests in short-term political gains were mostly dominating the interplay (including the facilitators), leaving behind women who could plan for both short and long-term adaptation needs.

Discussion

We started this article by stating that there is a lack of evidence on how dynamic power interplay can influence the designing of LAPAs. We argued that actors use different material and ideational resources in their power interplay, resulting in the short-term nature of LAPAs. In this section, we further interpret our key findings.

We observed that facilitators play a very crucial role in LAPA design meetings and thus adaptation planning at the local level (Purdy, 2012). Facilitators' authority in the meetings (material resource), knowledge on

Table 4. Material and ideational resources deployed for power interplay during meeting 5.

Actors	Material Resources	Ideational Resources	Dynamic power interplay
Consultant (facilitator)	(1) Control over the process of the meeting	–	• Interplay between consultant and municipality chairperson regarding the issue of weak women participation
Municipality Chairperson	(1) Political authority (position)	–	• Facilitator changes his resource usage as compared to previous excerpts
Male participants	(1) Position in the society (2) Higher caste	–	• Lack of material resources among women to participate in policy processes
Female participants	(1) Lack of material resources at the household level to participate	–	

adaptation, the pre-defined facilitation process (ideational resources) and ability to question and direct the meetings influence the policy design, as their role is socially acknowledged and legitimized (Thornborrow, 2002). Van Lieshout, Dewulf, Aarts, and Termeer (2017) show that actors in a position of asking questions can control the conversations in a meeting. Aspects such as the choice of meeting location, who participates and who does not also play an important role in shaping the interplay between the actors, putting facilitators in a powerful position as compared to the participants. Similarly, Hajer (2005) discusses how the setting of a meeting influences participation in a policy-making process. In all cases, the setting of the LAPA meetings created two groups of competing frames, as demonstrated in excerpt 1. Further, manipulation of the setting of the policy deliberation is referred to as 'staging', as highlighted in excerpt 2. In this case, the facilitator manipulated the results of risk categorization based on the setting of the policy process.

We observed that local politicians in meetings 2 and 3 used their political authority to overpower the discussion on the temporal aspects of adaptation, pushing for short-term actions. The examples highlight that authority (material resource) can influence the process of adaptation planning (see also Nightingale, 2017). The authority among these actors represents their strength to gain control over other material and ideational resources (Tables 2–4). In a politically charged and disaster-prone environment, adoption of long-term planning becomes a challenge not only because of insufficient resources, but the power interplay around those scarce resources. It binds the local politicians to behave and respond in a certain way which is ensuring short-term political gains and keeping themselves in a position of control and authority.

Another point that emerges is the process of selecting the design team. The local communities were not involved in the selection of the design team nor were they represented in it. In this case, it becomes difficult to claim ownership and political citizenship over these policy processes, which are targeting community level actions. These processes clearly indicate that adaptation is currently under the realm of nation-state, INGO and development actors. As suggested in the literature, building capacity (e.g. climate change knowledge and strategies) of local actors (including local bureaucrats, politicians and farmers) involved in policy design is crucial, as is increasing time and financial resources for local planning processes (Khanal, Wilson, Lee, & Hoang, 2017). Discussion about adaptation strategies with no explicit consideration of long-term consequences can lead to maladaptation or weak adaptive capacity of the community. However, integrating adaptation with the development paradigm in Nepal can build adaptive capacity and avoid maladaptation (Lutz, Muttarak, & Striessnig, 2014; McGray, Hammill, Bradley, Schipper, & Parry, 2007).

Weak female participation was observed in the LAPA design workshops. Inclusion of women in LAPA design meetings is important for both moral and pragmatic reasons. This is supported by the literature. Women are not only marginalized and worst affected by extreme weather events, but they also possess local ecological, social and political knowledge which can inform and contribute significantly to adaptation planning (Nelson, Meadows, Cannon, Morton, & Martin, 2002). Moreover, Fisher argues that due to certain roles and responsibilities in society, women have evolved as better long-term planners as compared to men. Using Herbert Simon's work, Fisher further illustrates that, due to women's collaborative abilities, empathetic behaviour and higher social skills, they can assess multiple, complex scenarios and plot a long-term course. For example, having closer ties with family and children can help women to envisage long-term planning better than men (Musinguzi, Natugonza, Efitre, & Ogutu-Ohwayo, 2017). Improved participation and capacity building of women on the issues of climate change adaptation should therefore benefit communities to focus on long-term thinking in preparing local adaptation plans. Christoff, Lewis, Lu, and Sommer (2017) also argue that climate change adaptation programmes focusing on technology and innovation, practical skills enhancement, and connections with local NGOs can further improve women's social standing and political participation.

Lastly, our results show how power and politics play out in policy processes. Considering the power interplay between actors, we argue that actors give different meanings to a problem, based on their individual and collective interests and priorities. Such an analysis of dynamic power interplay can enhance the applicability of policy processes that are power-sensitive, which is particularly the case when a complex concept such as adaptation is operationalized and implemented locally. Analysis of power interplay can also help in investigating climate change adaptation controversies that are marked by uncertainties and ambiguities. Currently, the literature argues that barriers to adaptation in the least developed countries are mostly because of lack of resources and capacity (Phuong, Biesbroek, & Wals, 2018). However, in this article, we show that it is also because of the

power interplay between different actors. Analysis of power interplay is rather complex in nature but surely can help in clarifying issues and challenges around designing local adaptation policy processes.

Conclusion

In this article, we addressed the question of how actors' power interplay influences the LAPA design towards short-term (reactive) adaptation planning in Nepal. We demonstrated that the actors' interplay is directed by the use of material and ideational resources such as political authority, knowledge of adaptation and climate science, financial resources to conduct adaptation plan meeting, and relations with INGOs and donor agencies.

Analysis of power interplay also shows that actors ascribe different meanings to LAPAs. Different actors in meetings deploy material and ideational resources to adjust or counter other actors to realign the adaptation framing or policy design (Avelino & Rotmans, 2011). For example, the facilitators aim to create short-term and immediate adaptation plans, while the local political actors aimed for more development-oriented action plans. Material and ideational resources are interdependent and are used simultaneously during the interaction, between the actors in a group or between the two groups of actors. For such scenarios, it becomes pertinent to analyse policy processes, considering dynamic power interplay as a central feature of the policy process (Van Hulst & Yanow, 2016). Such an analysis can help in designing power sensitive decision-making processes that support long-term adaptation planning. Understanding the power dynamics in adaptation decision making will support integrating short and long-term adaptation actions.

Notes

1. LAPAs were prepared to provide the effective delivery of adaptation services to the most climate vulnerable areas and people of Nepal. It is expected that LAPAs will integrate climate adaptation and resilience aspects in local and national plans, through a bottom-up approach. The concept of LAPAs emerged during the NAPA preparatory process in Nepal, as various stakeholders emphasized local adaptation measures and priorities. NAPA and NAPs are prepared at the national level under the UNFCCC guidelines.
2. Autonomous adaptation measures are considered to be those actions that are undertaken by affected communities without the direct intervention of a public agency; planned adaptation consist of deliberate policy strategies and actions on the part of public agencies to reduce the impact of climate change (Forsyth & Evans, 2013; Parry et al., 2007).
3. The gabion wall is made of stacked stones (small or big) tied together with wire to reduce/control erosion and water flow. Gabion walls are usually angled back towards the slope, rather than staked vertically. For more details please see (https://web.mst.edu/~rogersda/umrcourses/ge441/online_lectures/retention_structures/GE441-Lecture6-3.pdf).
4. We translated the excerpts as literally as possible. Ellipsis (…) is used to bring clarity, as excerpts are part of conversations.
5. The politicians participating in this meeting are different from those mentioned in the meeting 2.

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