

SM 1. Full results from quantitative and qualitative methods of short-term earthquake recovery dynamics by topic. Quantitative analytic methods include non-metric multidimensional scaling (NMDS) ordination and descriptive statistics; qualitative methods include content analysis. Data inputs for the NMDS are from a household survey conducted at 9 months (phase 1) and 1.5 years (phase 2) after the earthquakes (n=400; n=397). Data inputs for the content analysis include the household survey (n=400, n=397), in-depth interviews at phase 1 (n=40), focus groups at phase 2 (n=8), and research return workshops at 2.5 years (n=8). All locations mentioned were Village Development Committees (VDCs) as of January 2016 and not individual settlements.

Key topics	Quantitative results	Qualitative content analysis results
Inequality	<i>Demographics (structural violence)</i>	
	Households in Haku and camps, Buddhists, and households from the Tamang ethnic group were struggling the most.	Various tangible and intangible recovery dynamics bring to the forefront social inequalities that existed prior to the earthquakes; poor and geographically marginal experienced the worst earthquake impacts.
	Households from Aaru Chanaute, Hindus, and Newar, Brahmin, Chettri, other ethnic groups, and those that took microcredit loans had the best recovery outcomes.	Households perceive problems in accountability and transparency in government and NGO aid distribution.
	Households from Kashigaun, home owners, and larger household sizes were able to return to their homes and adapt their agropastoral practices the fastest.	Local governments felt that they had a lack of understanding of national government reconstruction policies and processes.
	Households in camps and temporary shelters were having difficulty adapting their agropastoral practices.	Historically marginalized ethnic groups, such as Tamang and Dalit, shared that they lacked a voice in government actions due to knowledge gaps.
	Households headed by males were less displaced than female headed households; household heads with an education level between class 5-10 had some better recovery outcomes.	
	Households with higher literacy were having better recovery outcomes, but less strong than other demographics.	
	Joint families, single families, and age of household head did not correlate with recovery outcomes	
	<i>Spatial inequalities</i>	
	Accessible households had less displacement and had an easier time adapting and restarting their agropastoral practices.	Inaccessible households and settlements lacked access to relief and recovery materials and programs.
	Households in inaccessible settlements mostly took loans from family and friends for reconstruction; those in accessible settlements primarily took bank and microcredit loans; some felt the government should forgive loans.	Government and aid community's perceptions of the condition of inaccessible settlements were assessed based on the condition of accessible settlements.
	Kashigaun was heading in a positive direction at phase 2, Gatlang in a negative direction, and Aaru Chanaute and Haku remained relatively stagnant.	Households perceived that government and aid community biased relief and recovery materials and programs towards charismatic tourist sites, such as Langtang.
	All settlements made strides to return to their place-based livelihoods at phase 2.	Road condition affected access to relief and recovery materials and programs.
	Variables primarily functioned non-linearly, with distinct negative recovery outcomes for households that remained in their villages and those displaced to camps.	Distance from the road head influenced rebuilding expenses, especially transportation costs for sand, cement, and rebar.
Differences existed in severity of landslides and impacts on livestock survival, health, behavior, and productivity.		

Hazard exposure, livelihood, and displacement	<i>Hazard exposure</i>	
Households with impeded access to grazing areas, firewood collection, forest product harvest, <i>bari</i> (non-irrigated) fields, and threats from landslides had the most negative recovery outcome.	Households and settlements were impacted by landslides across both phases.	Households were being prevented from returning to their agropastoral practices because of landslide threat.
Households with impeded access to grazing areas, firewood collection, forest product harvest, <i>bari</i> (non-irrigated) fields, and threats from landslides appeared to have worse recovery outcomes in phase 2.	Households perceived danger in returning to pastures, fields, and forests due to extreme earthquake impacts, such as those covered by landslides.	Households that remained in temporary shelters and camps were being exposed to new and existing hazards, such as windstorms and reactivated landslides.
Households with greater exposure to these hazards experienced difficulties in recovery across both phases; landslide risk and difficulties farming and herding increased in phase 2.	Households experienced a lack or scarcity of drinking water during short-term recovery.	Timber harvest to rebuild houses degraded certain local forests.
Households and communities with previous natural hazard experience returned to their primary homes and restarted their agropastoral practice faster.	<i>Place-based livelihood disruption</i>	
Households whose livelihoods focus on livestock (bovines, sheep/goats/pigs) and <i>bari</i> agriculture were struggling the most.	Herders, non-irrigated field <i>bari</i> farmers, and forest product harvesters had the most extreme impacts on their livelihoods across both phases, in part through continued hazard exposure.	Livestock had health and productivity issues.
Households with <i>khet</i> agriculture and those that participated in businesses and tourism ventures instead of agropastoralism had better recovery outcomes (contained non-linear association similar to demographics).	Households lost or changed their livelihood because of the expense in restarting after mitigating earthquake impacts.	Households that lacked diversity in their livelihood had more negative outcomes due to reliance on one modality with catastrophic impacts, such as herding and forest product harvest.
Households that were able to return to their homes and restart their agropastoral practice had distinct outcomes from those that continued to struggle with displacement in temporary shelters and camps.	Household labor issues included an inability to find farmers and herders who practice <i>parma</i> (to provide reciprocal labor).	Households that relied on breaking stones and gravel mining in the Budi Gandaki dam inundation zone were concerned that they may lose their livelihoods.
Households that owned livestock at phase 2 returned to herding faster and households were purchasing more low cost chickens than other more expensive livestock to replace what they lost.	Households lacked access to capital to start new businesses and had difficulty maintaining prior businesses.	Households felt that earthquakes reversed development progress.
Households utilized local knowledge of farming and pasture management in phase 1.	Households had their agropastoral livelihoods and entire settlements displaced.	

		<i>Displacement</i>
	Displacement from homes, settlements, and agropastoral ways of life influenced recovery outcomes and the speed of recovery (contained non-linear associations similar to demographics).	Camps were stagnant without new flows of funds or ideas.
	Lack of flow of new ideas in the camps across both phases.	Households displaced in their settlements and camps felt that they were living as outsiders in “other’s places” and were often forced to pay rent. Households in camps were having trouble adjusting to agropastoralism at lower altitudes and some elected to use pesticides to quicken yields; others unable to farm were conducting poorly compensated wage labor. Households in camps were having issues with raising children, procuring healthy food, and privacy. Households being resettled from the camps and the dam inundation zone wanted to be relocated together to continue to practice their culture. Certain households wanted to be relocated near their previous settlements to continue to practice place-based cultural traditions, such as communal blessings and cremations at funerals.
		<i>Place attachment</i>
Place attachment, uncertainty, and mental well-being	N/A	Households had strong place attachment to their physical homes and ancestral settlements; destruction thereof influenced negative mental well-being through daily re-traumatization. Newar households in Aarughat (Aaru Chanaute) had strong place attachment to the dam inundation zone.
	N/A	<i>Uncertainty towards the future</i>
	N/A	Households perceived the future as highly uncertain in all settlements, camps, and planned dam inundation zone, influencing mental health. Newar households in Aarughat (Aaru Chanaute) had uncertainty related to their resettlement due to the dam.
		<i>Mental well-being</i>
	N/A	New social constructions of <i>dukkha</i> (trouble/tension) and <i>pagal</i> (a mad person) emerged during recovery. Certain ethnic groups and religions of varying socio-economic statuses worked together and lived more in harmony in the short-term. Kashigaun and Aaru Chanaute households pooled government relief funds to provide food and basic shelter materials to all households over the short-term; both settlements traditionally practice forms of work exchange. Households cooperated in the recovery to help the most marginal, such as the elderly and children.